

Study Title

Updated bioinformatics analysis for risks of allergenicity and toxicity of proteins encoded by the two genes introduced into genetically engineered mosquitoes (*Aedes aegypti*), strain OX513A for production of sterile males to reduce vector transmission of important human diseases

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Study Completed On

8 January, 2017

Report Amended 4 May, 2017, inserting missing part of Table 6 and Table 7

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Laboratory Project ID

Study Number: REG Oxitec OX513A_2

Summary:

Genetically modified (GM) *Aedes aegypti* mosquitoes were developed by Oxitec Limited by the insertion of a single contiguous DNA segment comprising two genes to produce male mosquitoes that carry a lethal dominant trait under control of a promoter that allows successful reproduction only in cultured conditions in the presence of tetracycline. The intended use of the mosquitoes is to provide population control over wild-populations of *Aedes aegypti* mosquitoes to reduce the dissemination of human viruses that cause significant disease. The current report is an update of the September 2013 bioinformatics report on amino acid sequence comparison to known allergens and toxins. One gene encodes the fluorescent red protein (DsRed2) from an Anthozoan species (corals and sea anemones) that has been used as a visible selection marker in a number of plant transformation events (Jach et al., 2001; Dietrich and Maiss, 2002; Wenck et al., 2003; Mirabella et al., 2004; Stuitje et al., 2003). The second gene regulates the reproductive development of the mosquitoes by production of a protein with a tetracycline-repressible transcriptional activator fused to and controlling a segment of a *Herpes simplex* virus VP16 protein. The second gene is a dominant lethal trait as the large majority of males and females carrying this trait die before functional adulthood. The engineered male mosquitoes are released into the environment to breed with normal females, but production of the next generation of progeny fails to develop to adulthood (Gossen and Bujard, 1992; Gong et al., 2005; Phuc et al., 2007; Kongmee et al., 2010, Fu et al., 2010).

Regulatory agencies in countries where the genetically modified mosquitoes might be released will have to evaluate potential human safety issues that might be presented by the GM mosquitoes. Although the safety assessment process for genetically modified organisms (GMOs) is normally applied in consideration of the safety of the organism for food use, as that is the majority of GMO's currently seen by regulators, in this case regulators may consider risks to humans that may be exposed to mosquito proteins through bites by female GM mosquitoes (males do not bite). Potential exposure routes include: worker exposure to female mosquitoes during mosquito rearing; incomplete sex separation leading to release of some homozygous female OX513A mosquitoes together with the males; incomplete penetrance of the lethal trait leading to production of some functional heterozygous female adult OX513A mosquitoes among the offspring of the released homozygous OX513A males and wild females. The exposure would be expected to occur through bites and saliva, not through dietary exposure (in humans). The primary risk of severe reactions would be assumed to be from the transfer of a protein that causes systemic allergic reactions in allergic individuals rather than sensitization de novo. Thus a bioinformatics evaluation to ensure the newly expressed proteins are not allergens and are not highly identical to allergens as described here, was used as an important evaluation step to minimize potential risks for humans. Results from the current evaluation were similar to those of the 2013 report (REG Oxitec OX513A, 2013). The current study did not uncover any concerns of potential allergenicity, allergenic cross-reactivity or potential toxicity that would demonstrate a need for further testing regarding safety of DsRed2 or tTAV.

1.0 Introduction

Oxitec Limited, UK has developed genetically modified *Aedes aegypti* mosquitoes by inserting DNA encoding two proteins in transgenic strain OX513A, using the LA513 transposon - also known as OX513 (Phuc *et al.*, 2007). One protein DsRed2 (Matz *et al.*, 1999; Jach *et al.*, 2001; Dietrich and Maiss, 2002; Wenck *et al.*, 2003; Stuitje *et al.*, 2003; Mirabella *et al.*, 2004; Phuc *et al.*, 2007) was used as a marker protein for efficient selection of recombinant mosquitoes. The second protein is the recombinant tetracycline repressible transcriptional activator protein (tTAV) described by Phuc *et al.* (2007). The purpose is to produce homozygous male mosquitoes carrying a dominant lethal gene that prevents the successful development of progeny from wild-type females mating with the GM males into adults Phuc *et al.*, 2007). Since this species is a vector for Dengue Fever and Yellow Fever as well as other arboviral diseases such as Zika virus, there is an urgent need to reduce the reproductive success of this mosquito as one mechanism to reduce human disease. Laboratory and field trials have been conducted to evaluate the effectiveness of this system (Bargielowski *et al.*, 2011; Lacroix *et al.*, 2012, Harris *et al.*, 2011, Harris *et al.*, 2012). More recent field trials in the Cayman Islands and Brazil have demonstrated local positive impact and no significant negative impact of releasing the transgenic mosquitoes (Carvalho *et al.*, 2015) which have now been approved for general use in Brazil (Paes de Andrade *et al.*, 2016).

The human safety component of GM organisms (GMOs) normally focuses on the safety of food produced from the GMO (Codex, 2009e) and mosquitoes are not consumed as food by humans. However, the female mosquitoes must feed on the blood of mammal hosts (usually humans in the case of *Aedes aegypti*) in order to provide nutritional requirements for egg production. Proteins in the saliva of mosquitoes are known to cause allergic reactions in humans. In addition, there is a potential for a toxic protein to be introduced through a mosquito bite.

While it would be important to consider whether one or both of the newly introduced proteins (DsRed2 or tTAV) in this GM mosquito might be present in saliva of GM mosquitoes, the primary evaluation should be whether the proteins are known to be allergens or toxins, or whether they are nearly identical to any known allergen or toxic protein. That is why Oxitec Limited requested a bioinformatics analysis of the two expressed proteins. In 2013 bioinformatics studies were performed and reported on DsRed2 and tTAV regarding potential similarities to allergens and toxins (Goodman, 2013). Since it is possible that new reports of allergy or toxicity have been reported since then, the bioinformatics searches were repeated in December, 2016 and January 2017. This report describes the sequences, the datasets, the methods and the results of the bioinformatics evaluation of the DsRed2 and tTAV proteins, using the amino acid sequence information provided by Oxitec as the query sequences.

2.0 Purpose

The purpose of this study is to perform an evaluation of the potential allergenicity and toxicity of the DsRed2 and tTAV proteins that are encoded by the genes introduced in OX513A mosquitoes (*Aedes aegypti*) based on published literature about the source of the genes and bioinformatics (sequence comparisons) of proteins with known allergens and toxins. The intent is to guide decisions regarding whether additional safety tests would be needed for evaluating these proteins as potential sources of allergy or toxicity if there is any human exposure through the bite of the female mosquitoes.

3.0 Methods

3.1 Scientific literature search strategies. The PubMed database (<http://www.ncbi.nlm.nih.gov/pubmed>) maintained by the U.S. National Library of Medicine was used as the primary data source for scientific literature on allergy and toxicity. The primary question is whether the source of the gene is a common cause of allergy or toxicity. The data (authors, publication, date and abstracts) from searches were saved to files for review. All publication abstracts were manually reviewed and any likely relevant publications suggesting adverse health risks were investigated further by reading the journal articles.

3.1.1 Search for allergenicity. Search terms “gene source” AND “allergen” as well as “gene source” AND “allergy” were used on 8 January, 2017.

3.1.2 Search for toxicity. Search terms “gene source” AND “toxin” as well as “gene source” AND “toxic” were used on 8 January, 2017.

3.2 Amino acid sequences of query proteins. The mosquito transfection clone construct used to develop OX513A was described in Phuc et al., 2007.

3.2.1 DsRed2. The DsRed2 amino acid sequence from OX513A was supplied by Oxitec Limited (Table 1) and is identical to the protein expressed by the transient expression vector pX-DR, GI:237652127 (Chen et al., 2009) except for an additional three amino acids at the N-terminus that was added in constructing the mosquito insertion transposon (personal communication, C. Beech, 17 May, 2013).

3.2.2 tTAV. The tTAV amino acid sequence from OX513A was supplied from Oxitec Limited (Table 1) and is 100% identical to GI: 60542785, Accession AJ865387, from Gong et al., 2005 and Phuc et al., 2007.

Table 1 Amino acid sequences of the novel OX513A transgenic event mosquito proteins.

Protein (in OX513A) Common name of nearest source organism <i>Latin name</i>	Protein name Nearest published sequence GI: Protein length (aa) Percent ID to Oxitec [native publication]	Protein sequence for OX513A proteins (supplied by Oxitec Ltd.)
DsRed2 Coral <i>Discosoma sp.</i>	DsRed GI:55976617 225 amino acids 97% (219/225 aa) [Matz et al., 1999]	1 MARMASSENV ITEFMREFKVR MEGTVNGHEF EIEGEGEGRP YEGHNTVKLK 51 VTKGGPLPFA WDILSPQFQY GSKVYVKHPA DIPDYKKLSF PEGFKWERVM 101 NFEDGGVATV TQDSSLQDGC FIYKVKFIGV NFPDGPVMQ KKTMGWEAST 151 ERLYPRDGLV KGETHKALKL KDGGHYLVEF KSIYMAKKPV QLPGYYYVDA 201 KLDITSHNED YTIVEQYERT EGRHHLFL
tTAV GI: 60542785 Synthetic construct from two proteins Bacterial tetracycline repressor <i>Escherichia coli</i> <i>Herpes simplex virus 1 (human)</i>	Tetracycline repressor protein (3-208 aa) GI:486188873 Transactivating tegument protein (211-338 aa)	1 MGSRLDKSKV INSALELLNE VGIEGLTTRK LAQKLGVEQP TLYWHVKNKR 51 ALLDALAIEM LDRHHTHFCP LEGESWQDFL RNNAKSFRCA LLSHRDGAKV 101 HLGTRPTEKQ YETLENQLAF LCQQGFSLEN ALYALSAVGH FTLGCVLEDQ 151 EHQVAKERE TPTTDSMPPL LRQATLELDH QGAEP AFLFG LELIICGLEK 201 QLKCESGSGP AYSRARTKNN YGSTIEGLLD LPDDDAPEEA GLAAPRLSFL 251 PAGHTRRLST APPTDVSLGD ELHLDGEDVA MAHADALDDF DLDMLGDGDS 301 PPGGFTPHDS APYGALDMAD FEFEQMFTDA LGIDEYGG

3.3 Sequence database search strategies.

The AllergenOnline version 16 (<http://www.allergenonline.org/>) and the NCBI Entrez Protein (<http://www.ncbi.nlm.nih.gov/BLAST/>) databases were used as the protein amino acid data sources for the sequence comparisons for allergens and toxins (110,290,500 sequences on 20 December, 2016). The AllergenOnline database was updated in 27 January 2016 and is maintained by the Food Allergy Research and Resource Program of the University of Nebraska. Protein entries in the Entrez search and retrieval system is compiled and maintained by the

NCBI of the National Institutes of Health (U.S.A.). The database is potentially updated or modified daily, and therefore the date of sequence searches by BLASTP is relevant to the dataset used in the BLASTP searches. BLASTP and FASTA3 are unique computer algorithms that provide similar local alignments and results if the appropriate scoring matrices and criteria are used.

3.3.1 FASTA3 overall search of AllergenOnline. The potential sequential and inferred structural similarities of the DsRed2 and tTAV proteins were evaluated using version 16 of AllergenOnline.org.

3.3.2 FASTA3 of AllergenOnline by 80 aa segments. This short segment search is based on the recommendation of Codex (2003). The rationale is that this might help in identifying structural motifs, much shorter than the intact protein, which might contain a conformational IgE binding epitope. It should also help to identify potentially cross-reactive proteins that are not true homologues of an allergen that have significant local identities that might provide an immunological target for IgE antibodies in those with allergies to the matched allergen. A match of >35% with a known allergen will suggest further testing for possible cross-reactivity.

3.3.3 BLASTP of NCBI Entrez with “allergen” as keyword limit. The BLASTP is available on the NCBI Entrez website (<http://www.ncbi.nlm.nih.gov/BLAST/>). The current version is BLASTP 2.6.0+ (13 December, 2016). A BLASTP search was used comparing the DsRed2 and tTAV query sequences against the entire Entrez Protein database, with a limit option selected to query entries for “allergen”, to align only with proteins identified as allergens. The purpose of this BLASTP search is to ensure that a significant match with a newly discovered allergenic sequence that has not yet been entered into AllergenOnline is not overlooked. Evaluation of the *E* value, the length of the alignment and the percent identity of any identified match is necessary to judge the significance of any alignment using BLASTP.

3.3.4 BLASTP of NCBI Entrez without keyword limit. The purpose of this BLASTP search is to compare the DsRed2 and tTAV proteins to all known protein sequences to evaluate whether there are other similar proteins from other organisms that might provide information of safe exposure to homologues of this protein.

3.3.5 BLASTP of NCBI Entrez with “toxin” as keyword limit. The purpose of this BLASTP search is to identify matches to known toxic proteins (toxins) and if alignments share significant identities, to determine potential risks that would require further testing. The sequences of the DsRed2 and tTAV proteins were compared to the NCBI Entrez database using “toxin” as a keyword search limit.

4.0 Results and Discussion. The summary results for the PubMed search using the various protein sources and search terms, and the amino acid sequences of the DsRed2 and tTAV proteins, are presented here.

4.1 PubMed Searches. The PubMed scientific literature database was searched for evidence that the DsRed2 and tTAV proteins are linked to allergy or toxicity. The search demonstrated that there is no published evidence that the two proteins are allergens or toxins for mammals and no evidence that implies there might be an association with allergenicity or toxicity. An important consideration of the safety assessment related to potential toxicity, is an understanding of the mechanism of action of the newly expressed protein. If the protein is an enzyme, potential biological impacts of any new metabolites should be considered. If the inserted DNA or new protein is a transcription or translational regulator, potential targets or measured effects in source organisms or other host organisms should be considered. Identical or nearly identical genes introduced in OX513A mosquitoes have been inserted in transgenic animals, plants or arthropods by many scientists and the proteins have been expressed within cells of various tissues of the hosts, without adverse impacts (e.g., for DsRed2 see Ryu et al., 2013; for tetracycline repressible transactivator protein see Gong et al., 2005). Since these proteins have been produced directly within the cells of diverse eukaryotic species without obvious toxic effects, it is highly unlikely that incidental exogenous exposure by any route (ingestion, inhalation or injection) would have adverse biological impacts on human or mammalian health.

4.1.1 Allergenicity.

The terms “*Discosoma*” AND “allergen” as well as “*Discosoma*” AND “allergy” were used to search PubMed for evidence of allergy from the source organism of the DsRed2 protein, *Discosoma sp.* No references were listed when “allergen” was used. Two references were listed when “allergy” was used (Teterina et al., 2010; Tawfik et al., 2008), but in both cases the studies used the DsRed protein as a fluorescent label to study disease processes and there was no causal relationship with allergy.

Literature searches to evaluate the potential allergenicity (and toxicity) of the source for the TAV protein are somewhat complex. The source of the gene/protein for the tetracycline repressor protein (amino acids 3-208 of TAV) part of the protein is the Tn10 plasmid in *E. coli* (Gossen and Bujard, 1992; Altschmeid et al., 1988), which is produced as a fusion protein with the *Herpes simplex* virus protein 16 C by the design of the gene construct (Gong et al., 2005, Phuc et al., 2007).

The *E. coli* bacterium has been used as a cloning and expression host for many allergens and toxins. In addition, some strains of *E. coli* are known to produce toxins. Therefore it was expected that simple searches of “*E. coli*” AND “allergen” or “toxin” would find many irrelevant publications. A search of the terms “*Escherichia coli*” AND “allergen” in PubMed returned 781 publications. Since it is not possible to efficiently read 781 publications for evidence of allergenicity, an additional term, “tetracycline” was used to refine the source since tTAV is a tetracycline repressible transactivator. Only one publication was found then, Nishihara et al., 1998, describing the design of a transgenic bacterium that included regulatory expression of a cedar pollen allergen, Cry j 2 in *E. coli*. The results suggest that there are no natural allergens in *E. coli*. In order to ensure that the addition of the third term was not too restrictive, an additional strategy was used. Since, the sequence of the tTAV is identical to, or nearly identical to tetracycline repressible transactivator proteins that have been cloned from a few species of bacteria including *Salmonella sp.*, *Shigella sp.*, *Acinetobacter sp.*, and of the taxonomic family Enterobacteriaceae, a search was performed using “*Acinetobacter*” AND “allergen” as alternative search terms. Eight publications were identified. Roggenbuck et al. (2016) describes a murine model of allergy, without connection to human allergy. Haahtela et al. (2015) evaluated allergic human populations in Finland and the Karelia region in Russia and included looking at bacterial populations as possible anti-inflammatory mediators. Fyhrquist et al. (2014) suggested that *Acinetobacter* species on the skin suppress allergic inflammation. Jadhav et al. (2013) found *Acinetobacter sp.* associated with isolates of nosocomial infections in a number of patients in hospitals, along with many other microbes, without any connection to allergy. Qiu et al. (2011) published data from a study demonstrating that an intentional lung infection with *Acinetobacter baumannii* reversed the Th2 response of eosinophilia and “allergic response” to ovalbumin in a mouse model. Skorska et al. (2007) tested skin prick tests and IgE responses against a number of gram negative and gram positive microbes commonly found in organic dust, using subjects who work in a poultry hatchery in Poland. The brief report did not detail proteins or specific data, only a trend that more workers showed positive precipitin reactions extracts (typically an IgG antibody complex reaction, indicating Th1 response) to *Escherichia coli* and *Acinetobacter baumannii* along with other fungi and bacteria than control subjects. Valerio et al. (2005) demonstrated by PCR of 16S ribosomal DNA, that a few bacterial species were present in cultures and culture medium of the allergenic house dust mite (*Dermatophagoides farinae* and *Dermatophagoides pteronyssinus*), including *Acinetobacter sp.*, however the prevalence was low and no proteins were identified or relationship to allergenicity in looking for the source of endotoxin in the allergenic mite cultures. Dutkiewicz et al. (2002) measured IgE levels to extracts of a number of bacterial species using sera from workers in a potato processing facility to evaluate potential causes of work-related asthma. Although *Acinetobacter calcoaceticus* was mentioned, there was no reference to it as an important target for IgE, whereas some other bacteria were implicated.

Interestingly there is little evidence in the literature for microbial proteins causing allergic reactions, so the importance of the few reports on bacterial precipitin antibody binding reactions to bacterial proteins is not obvious (RE Goodman, personal observations). A search with “Acinetobacter” AND “allergy” listed 48 references. An attempt to focus on the protein was performed by inclusion of a third term “tetracycline repressor protein”, and did not identify any publications. An evaluation of the entire list of 48 publications demonstrated that most reported identification of *Acinetobacter spp.* and other microbes in a study group, often from an institute of allergy, or in some cases (e.g. Renz et al., 2011), an animal model was used to demonstrate that an infection with *Acinetobacter spp.* may suppress allergic responses. Other research points to the conclusion that exposure to *Acinetobacter spp.* protects individuals against allergy possibly due to the lipopolysaccharide content that skews reactions toward a Th1 response (Debarry et al., 2010).

The terms “Herpes” AND “VP16” AND “Allergy” were used to evaluate the source of the transactivating portion of tTAV, with nine articles found. However all nine were only listed as they are from investigators at the National Institute of Allergy and Infectious Diseases. They did not demonstrate a relationship between the Herpes simplex VP16 and allergy. A search with “Herpes” AND “VP16” AND “allergen” yielded no publications.

Thus, a search of the literature for publications linking the source organisms, *Discosoma sp.*, *Escherichia coli*, the surrogate source (*Acinetobacter sp.*), and *Herpes simplex* did not uncover evidence that would implicate the sources or the proteins used in OX513A as likely allergens.

4.1.2 Toxicity. A search of PubMed using the taxonomic organism names for the taxonomic sources of the DsRed2 and tTAV along with the terms “toxin” or “toxicity” AND the protein (“DsRed2” or “tTAV”) were reviewed.

For “Discosoma” AND “toxin”, one reference was found, Kosa and Zador (2013) who used the DsRed2 protein as a marker for transfection of muscles in rats. There was no evidence of toxicity from this report. For “Discosoma” AND “toxic” only one publication was found. Shaner et al. (2004) described development of different fluorescent probes by altering the amino acid sequence of the DsRed protein, but there was no reference to toxicity. A further search with “DsRed2” found 217 publications and rapid review did not indicate toxicity. Instead the publications demonstrate that the DsRed2 protein can be expressed in various cells of transgenic mice and transfected mouse cells that have been used for various physiological or toxicological studies without apparent toxicity. For example, a study by Ryu et al. (2013) reported successful transformation and use of transgenic mice

with the DsRed2 reporter in a chimeric situation with maintenance of polyclonal tissues having cells that are from EGFP transformed or DsRed2 transformed mice, with no reported toxicity. These were generated by mating two lines of transgenic mice, one with DsRed2 and one with EGFP. The mice were surviving and healthy. In addition, Nordin et al. (2013) demonstrated that the OX513A mosquito larvae, which do express both the DsRed2 and tTAV proteins can be consumed by two species of fly larvae (*Toxorhynchites spp.*) without apparent toxicity. From this literature search, there does not appear to be published evidence that the DsRed2 protein is toxic to microbes, fungi, insects, plants or mammals.

The tTAV protein is a fusion of two proteins. The tetracycline repressible transactivator protein is from *E. coli*. The second of the fusion protein is from the *Herpes simplex* virus. The first search with “*Escherichia coli*” AND “toxin” returned over 30,537 publications. Adding the term “tetracycline” reduced that to 257 publications, still a large number. Scanning titles of the 257 reveals that most are related to specific virulence factors or outbreaks of disease in livestock. Addition of the term “transactivator” removed all but one of the 257 publications. Paulus (1997) described tetracycline regulated expression of the diphtheria toxin A gene in human glioma cells using a rTA element. The toxicity was related to the toxicity of the toxin A gene. These results demonstrate that while the specific bacterium is associated with toxic responses, there is no obvious indication that the tetracycline activator protein is associated with toxicity.

As in the search for allergens, an additional search was performed using the *Acinetobacter sp.* as a search term since the proteins are 99% identical and the species are from the same family of bacteria. The intent was again to verify whether other researchers who study this species might have uncovered toxicity associated with the protein. A search with “*Acinetobacter*” AND “toxin” found 290 publications. There is ample evidence that the organism, *Acinetobacter sp.* is an opportunistic pathogen and that it does produce toxins such as lipopolysaccharide. However, limiting the search by including AND “tetracycline” reduced the publication list to two papers related to antibiotic resistance (Modarresi et al., 2015 and Loeffelholz et al., 1987). Addition of “transactivator” reduced the list to one (Modarresi et al., 2015). Finally, “*Acinetobacter*” AND “tetracycline repressor protein” identified only three publications, Modarresi et al, 2015, Hong and Park (2014) and Thompson et al. (2007), none of which identified toxicity associated with this protein.

The VP16 protein of *Herpes simplex* virus is a transcriptional regulator that functions by binding to specific DNA sequences (TAATGARAT consensus sequence) present in virus genes that are up-regulated in the early cycle

of viral infection (Simmen et al. 1997). It functions within the cell and is not expected to be taken up by eukaryotic cells or be active in cells that do not express the protein. In order to consider possible toxicity the terms “Herpes” AND “toxicity” returned 1508 references. Herpes AND “toxin” were search in PubMed, returning references and 369 references. Adding “VP16” as a search term reduced the number to 7 and 9 references respectively. The publications were searched for evidence of toxicity related to VP16 and no direct evidence was found. The studies generally relate to attempts to use *Herpes simplex* virus as a transfection vector for efficient gene transfer to mice for mechanistic studies or possibly to humans to treat disease. The vectors have caused toxicity, thus a small number of publications are identified in this search. The conclusion of reading those publications that seemed most relevant was negative, that is, no direct toxicity associated with the VP16 protein.

The combined search information failed to identify any evidence that the proteins fused to provide the complete tTAV protein or the DsRed2 proteins have any known toxicity.

4.2 Sequence comparison of the DsRed2 and tTAV proteins in OX513A to allergens. The amino acid sequences of the DsRed2 protein and the tTAV protein (Table 1) were compared to known allergens using both a full-length FASTA alignment search and a sliding window of 80 comparisons against AllergenOnline.org, version 16. Additionally, a BLASTP search was performed against the NCBI database using keyword search limits of “allergen” and “toxin”.

4.2.1 Full length FASTA3 vs. AllergenOnline. Results of the full length FASTA3 searches of the DsRed2 protein against AllergenOnline version 16 did not identify any significant alignment with an allergen. Scoring results for the DsRed2 protein showing alignments with *E* scores less than 1 are shown in Table 3 and demonstrate no significant matches with any allergen. The low-level alignment with various sequences of the same carrot PR-10 protein are insignificant matches. Their identities (%) are markedly below the level that is likely to indicate cross-reactivity (< 50% identity, Aalberse, 2000) and it is also below the 35% identity level suggested by Codex (2003) as a match that may possibly be cross-reactive. Thus, there is no scientific basis for assuming the DsRed2 protein is sufficiently similar to any allergen to suspect cross-reactivity and there is no rationale for performing serum IgE tests based on overall alignment, the most predictive bioinformatics comparison.

Table 2. Overall FASTA3 search of AllergenOnline.org database with the DsRed2 protein (225 amino acids).
Only proteins identified with matches to allergens or putative allergens in AllergenOnline.org version 16, having an *E* score smaller than 1 are shown. None of the results were significant using the criteria of >35% identity over alignments of at least 80 amino acids.

Sequence GI #	Organism	Description	Length aa	E score	% Identity	aa Alignment length
302379155	<i>Daucus carota</i> carrot	Pathogenesis Related protein (Bet v 1 like)	154	0.23	23.2	125
302379157	<i>Daucus carota</i> carrot	Pathogenesis Related protein (Bet v 1 like)	154	0.36	23.2	125
302379159	<i>Daucus carota</i> carrot	Pathogenesis Related protein (Bet v 1 like)	154	0.36	23.2	125
19912791	<i>Daucus carota</i> carrot	Pathogenesis Related protein (Bet v 1 like)	154	0.42	23.2	125
302379151	<i>Daucus carota</i> carrot	Pathogenesis Related protein (Bet v 1 like)	154	0.42	23.2	125
302379153	<i>Daucus carota</i> carrot	Pathogenesis Related protein (Bet v 1 like)	154	0.58	23.2	125

Similarly, the tTAV protein amino acid sequence does not show any significant FASTA alignment to any known allergen in the AllergenOnline.org database (Table 3). The only alignment was to tropomyosin of the sea snail or whelk (*Neptunea polycostata*) and at only 22.1% identity with an *E* score of 0.053, which is considered irrelevant for potential cross-reactivity.

Table 3. Overall FASTA3 search of AllergenOnline.org database with the tTAV protein (338 amino acids).

Only proteins identified with matches to allergens or putative allergens in AllergenOnline.org version 16, having an *E* score smaller than 1 are shown. None of the results were significant using the criteria of >35% identity over alignments of at least 80 amino acids. In addition to testing the complete 338 aa tTAV protein, the 208 aa tetracycline repressor protein and the VP16 127 aa proteins were tested independently and only the N-terminal 208 aa segment of the intact tTAV aligned with tropomyosin of sea snail. The complete tTAV alignment is shown here.

Sequence GI #	Organism	Description	Length aa	E score	% Identity	aa Alignment length
219806590	<i>Neptunea polycostata</i> Sea snail (whelk)	Tropomyosin	284	0.053	22.1	181

4.2.2 Sliding 80-amino acid window FASTA3 vs. AllergenOnline.org database. Results of the comparisons of the DsRed2 and tTAV protein sequences were tested against all of the sequences in Allergenonline.org version 16. The comparisons did not identify any possible match of > 35% identity with any known allergen in the database. Thus the risk of cross-reactions for allergic individuals is very low, and the data indicate there is no reason to perform serum IgE testing as there is not a target allergen to suspect cross-reactivity. Tables 5 and 6 give an indication of the results obtained for DsRed2 and tTAV proteins respectively.

Table 4. Scanning 80-mer Sliding Window Search Results for DsRed2 protein

80mer Sliding Window Search Results

Database	AllergenOnline Database v16 (January 27, 2016)
Input Query	> DsRed2 MARMASSENVITEFMRFKVRMEGTVNGHEFEIEGEGEGRPYEGHNTVKLKVTKGGPLPFA WDILSPQFQYGSKVYVKKHPADIPDYKKLSFPEGFKWERVMNFEDGGVATVTQDSSLQDGC FIYKVKFIGVNFPSDGPVMQKKTMGWEASTERLYPRDGVKGETHKALKLKDGGHYLVF KSIYMAKKEVQLPGYYYVDAKLDITSHNEDYTIVEQYERTEGRHHLFL
Length	228
Number of 80 mers	149
Number of Sequences with hits	0

No Matches of Greater than 35% Identity Found

AllergenOnline Database v16 (January 27, 2016)

Table 5. Scanning 80-mer Sliding Window Search Results for tTAV protein of OX513A**80mer Sliding Window Search Results**

Database	AllergenOnline Database v16 (January 27, 2016)
Input Query	> tTAV MGSRLDKSKVINSALELLNEVGIEGLITTRKLAQKLGVEQPTLYWHVKNKRALLDALAIEM LDRHHTHFCPLGESWQDFLRNNAKSFRCALLSHRDGAKVHLGTRPTEKQYETLENQLAF LCQQGSFLENALYALS AVGHFTLGCVLEDQEHQVAKEERETPTTDSMPLLRQAIELFDH QGAEPAFLFGLELIICGLEKQLKCESGSGPAYSRARTKNNYGSTIEGLLDLPDDDAPEEA GLAAPRLSFLPAGHTRRLSTAPFTDVSLGDELHLDGEDVAMAHADALDDFDLMDLGDGDS PGPGFTPHDSAPYGALDMADFEFEQMTDALGIDEYGG
Length	338
Number of 80 mers	259
Number of Sequences with hits	0

No Matches of Greater than 35% Identity Found

AllergenOnline Database v16 (January 27, 2016)

4.2.3 Eight amino acid match. Because some countries still require a search for any exact match of 8 or more contiguous amino acids between the GM protein and any known allergen, that comparison was performed using AllergenOnline.org database, version 16. Both the DsRed2 and the tTAV full length sequences were copied into the AllergenOnline.org search query box and tested. The results of these searches were negative.

4.2.4 BLASTP of NCBI Entrez using “allergen”. The full-length amino acid sequences of the DsRed2 and tTAV proteins were compared to sequences in NCBI-Entrez, which were designated as “allergen” in the NCBI database on 20 December, 2016.

The top two aligned matches to DsRed2 have (Tables 6) have significantly small *E* scores, suggesting some evolutionary homology. However, the identity matches are low (27% in a 191 amino acid alignment to a recombinant

pollen allergen Cry j 1 fused to a green fluorescent protein and 24% in a 191 amino acid alignment to cockroach allergen Bla g 1 fused to a green fluorescent protein). The low identity match is not considered a likely indication of allergic cross-reactivity (Aalberse, 2000). But importantly, the two matched sequences are synthetic constructs that include a green fluorescent marker protein that was originally derived from *Aequorea victoria* (GI:634009) described by Tsien (1998). The alignments of DsRed2 to those two synthetic constructs were only in the region of the green fluorescent protein, which is not known to cause allergies.

Table 6. BLASTP of NCBI Entrez with DsRed2 using the keyword “allergen”. The scoring alignments with *E* scores below 10 are shown for this DsRed2 protein vs. all proteins labeled with the keyword “allergen” in the NCBI Entrez database on 20 December, 2016, using BLASTP. The sequence identities are low and / or the length of alignments are very short, indicting unlikely homology and that the overall structure is unlikely to be similar. Thus even if the NCBI sequence is a proven allergen, there is very little likelihood of cross-reactivity by the DsRed2 protein.

Sequence GI#	Organism	Description	Length aa	<i>E</i> score	% identity	aa Alignment length
223005744	<i>Synthetic construct</i> <i>Cryptomer japonica</i> AND GFP origin <i>Aequorea victoria</i>	Synthetic construct of T cell epitopes of the Cry j 1 (<i>Cryptomer japonica</i>) and green fluorescent protein	412	1e-16	25	212
529482053	<i>Synthetic construct</i> <i>Blatella germanica</i> AND GFP origin <i>Aequorea victoria</i>	Synthetic construct of cockroach allergen Bla g 1 and green fluorescent protein	416	1e-14	24	212
116333554	<i>Lactobacillus brevis</i>	Hypothetical protein LVIS_0955	321	0.34	36	50

	bacteria					
156370878	<i>Nematostella vectensis</i> Sea anemone	Predicted protein sea anemone MD-2 like protein	299	3.1	32	38
493609361	<i>Oscillochloris trichoides</i> bacteria	Allergen V5/Tpx-1 family protein	495	4.0	29	77
403416894	<i>Fibroporia radiculosa</i> Brown rot fungus	Predicted protein MD-2 like protein	524	4.1	57	30

The tTAV protein only showed one very minor alignment by BLASTP limited by “allergen” (Table 7). This alignment is insignificant and does not represent an indication of possible cross-reactivity as described by Aalberse (2000) and Goodman et al. (2008).

Table 7. BLASTP of NCBI Entrez with tTAV using the keyword “allergen”. The only identified scoring alignments with *E* scores below 10 is shown for this tTAV. The sequence identities are low and / or the length of alignments are very short, indicating unlikely homology and that the overall structure is unlikely to be similar. Thus even if the NCBI sequence is a proven allergen, there is very little likelihood of cross-reactivity by the tTAV protein.

Sequence GI#	Organism	Description	Length aa	E score	% identity	aa Alignment length
493199135	<i>Treponema vincentii</i> Spirochete	Hypothetical protein, SCP like protein	221	1.7	55	20

4.2.5 BLASTP of NCBI without keyword limit. The full-length of the DsRed2 and tTAV proteins were compared to all sequences in NCBI-Entrez database on 20 December, 2016. The DsRed2 protein has 100 alignments of over 80% identity, mostly with synthetic constructs of transfection vectors as it is a marker gene/protein. Similarly, tTAV has many alignments of near-100% identity with synthetic constructs with partial alignments to tetracycline repressor proteins and with *Herpes simplex* 1 VP16. Because so many entries in NCBI show synthetic constructs that researchers are using for transfecting various organisms, it is difficult to trace out the origin of the proteins. The original literature on constructs is necessary to evaluate the origins (see the Introduction and Section 4.1 for references).

4.3 BLASTP of NCBI Entrez with “toxin”. The full-length sequences of the DsRed2 and tTAV proteins were compared to sequences in NCBI-Entrez, which were designated as “toxin” in the NCBI database on 20 December, 2016. The top aligned proteins with E scores smaller than 10 are shown for each of the two proteins (Tables 8– 9).

DsRed2. The best scoring alignment with DsRed2 was to synthetic constructs. For the best aligned protein, the primary alignment of 99% identity is to a 225 amino acid portion of the synthetic protein construct that is from a red fluorescent protein (DsRed1) that is in the Green Fluorescent protein family, with a secondary poor alignment of 25% identity over 215 amino acids to the green fluorescent protein (Liu et al. 2011). The second best aligned sequence was a similar construct by the same authors (Liu et al., 2011), using slightly different order and sequences. The construct was used to transform cells for tests of physiological function. There is no evidence that the red fluorescent portion of the protein (with nearly 100% identity to DsRed2) is toxic. The third sequence with the next best alignments is a similar synthetic construct for testing cell physiology using a botulinum toxin substrate, by a different group, but with two green fluorescent proteins rather than one green and one red (Itoh et al., 2002). The fourth protein sequence with an alignment is another cloning construct with a green fluorescent protein and with a botulinum toxin in the same construct (Band et al. 2010). Other similar synthetic constructs also were identified with statistically significant (small *E* score) alignments, but no claim of toxicity to the proteins.

Table 8. BLASTP of NCBI Entrez “toxin” with DsRed2 from OX513A. The best 10 scoring alignments to putative toxins shown in the NCBI Entrez database on 20 December, 2016, were identified by BLASTP with the full-length sequence of the DsRed2 protein from OX513A.

Sequence Accession #	Organism	Description	Length aa	E score	% identity	aa Alignment length
ACB71132.1	Synthetic construct Primary alignment	EGFP-Pak1-Rac1-dsRed1-CAAX fusion with Rac related to a botulinum toxin substrate Alignment only to red fluorescent protein peptide	798	7e-162	99	225
ACB71132.1	Synthetic construct Secondary alignment	EGFP-Pak1-Rac1-dsRed1-CAAX fusion with Rac related to a botulinum toxin substrate Alignment only to green fluorescent protein peptide	798	2e-14	25	215
ACA13260.1	Synthetic construct Primary alignment	dsRed1/Pak1/Rac1/ECFP fusion protein Alignment to red fluorescent protein	775	1e-161	99	225
ACA13260.1	Synthetic construct Secondary alignment	dsRed1/Pak1/Rac1/ECFP fusion protein Alignment to green fluorescent protein	775	9e-14	24	215
ANJ65877.1	Synthetic construct	Hypothetical protein vBEcoSST28624_45 Lambda phage-like virus	238	1e-17	47	218
ANJ65616.1	Synthetic construct	Hypothetical protein vBEcoSST28624_45 Lambda phage-like virus	262	2e-17	25	218
ACW82468.1	Synthetic construct	deltaLC-GFP-BoNT/A rev	1230	9e-16	27	191
BAS53446.1	Synthetic construct	Enhanced green fluorescent protein	239	1e-15	27	191
BAC16311.1	Synthetic construct	Raichu-1011x, fluorescent protein	763	2e-15	28	188
BAC16311.1	Synthetic construct Secondary alignment	Raichu-1011x, fluorescent protein	763	6e-14	26	191

tTAV. The best scoring alignment with tTAV was to a tetracycline repressor protein TetR from *Escherichia fergussonii* (Table 9). The alignment is very significant, however the bacteria is considered a source of toxicity. But the TetR protein has very high identity with the TetR proteins of many species of bacteria. It is also a regulatory protein expressed in the bacteria, which acts on the DNA of the bacteria to suppress or promote expression of bacterial proteins. It is not known to be taken up by cells of other organisms and cause any toxic effects. The next alignment is almost identical to the first and from another species of the genus. Running a BLAST comparison of these two proteins demonstrates very high identity matches with many cloned gene/proteins as the activity is useful for tetracycline dependent gene regulation, as used in OX513A. There were quite a few alignments of much lower length and identity, all beginning near the N-terminus of the tTAV protein. However, there was also a very poor alignment to a segment of tTAV beginning at amino acid 224, but that was also a transcriptional regulator. No evidence was found of homology of the tTAV protein to a true toxin.

Table 9. BLASTP of NCBI Entrez “toxin” with tTAV protein from OX513A. The seven best scoring alignments to putative toxins shown in the NCBI Entrez database on 20 December, 2016, were identified by BLASTP with the full-length sequence of the tTAV protein from OX513A. There were many alignments with *E* scores less than 10 using this sequence and the term “toxin” by BLASTP. However, in many cases it is clear that the sequence is “identified” as a toxin due to the toxicity of the source organism (from a number of toxic bacteria). Importantly, only a few sequences had high identity matches over any extensive length of sequence. Those were evaluated further here.

Sequence GI#	Organism	Description	Length aa	<i>E</i> score	% identity	aa Alignment length
YP_002456171.1	<i>Escherichia coli</i> bacteria	Tetracycline repressor protein TetR	208	2e-151	99	208
EYV85918.1	<i>Escherichia coli</i> bacteria	Tetracycline repressor protein TetR	207	5e-151	100	206
EIL40625.1	<i>Escherichia coli</i> bacteria	Tetracycline repressor protein TetR	197	3e-143	100	196
EJF02820.1	<i>Escherichia coli</i> bacteria	Tetracycline repressor protein TetR	141	2e-82	90	136
EDV63388.1	<i>Escherichia coli</i> bacteria	Tetracycline repressor protein class A from transposon 1721	219	3e-66	53	202
KJD70371.1	<i>Escherichia coli</i> bacteria	Tetracycline repressor protein TetR	216	3e-65	51	210
EIL27135.1	<i>Escherichia coli</i> bacteria	Tetracycline repressor protein TetR	225	4e-65	51	210

4.4 Bioinformatics summary for the DsRed2 and tTAV proteins of OX513A. Although the results of literature searches to the sources of the genes transferred into OX513A were challenging due to the some extensive annotations that suggest allergy or toxicity associated with the source organisms, careful evaluation of the abstracts and publications as well as refined searches did not identify publications with sufficient evidence to suspect the DsRed2 or tTAV proteins represent risks of allergy or toxicity.

None of the results from the bioinformatics searches of the DsRed2 or tTAV protein amino acid sequences indicate that these proteins represent a risk of allergy or toxicity that is greater than a typical dietary protein. There were no matches of either protein to known allergens with more than 50% identity over the full-length. There were no matches of >35% identity over 80 or more amino acid segments compared to known or putative allergens. There were no identical matches of 8 or more contiguous amino acid segments. These highly conservative comparisons did not identify sequence similarities that would suggest the proteins are allergens or are sufficiently similar to an allergen to cause cross-reactions. They did not identify matches to proteins that have clear evidence of toxicity.

5.0 Conclusions

No convincing evidence was found to suggest that the DsRed2 protein or the tTAV protein expressed in the OX513A mosquitoes represent risks of allergy or toxicity to humans (or other mammals). Based on the guidelines of the Codex Alimentarius Commission (2003 and 2009), and on common practices for evaluation of potential risks of allergy or toxicity from GMO (plants, animals or microbes), there is no reason to perform additional tests to evaluate potential risks of allergy or toxicity for these proteins. Although the guidelines are intended primarily evaluating potential food safety concerns regarding potential risks from genetically engineered organisms, the same safety evaluation process is scientifically sound as an approach for evaluating other potential routes of exposure, namely via airway (inhalation of insect body parts) or through insect bites (e.g. mosquito saliva). There is no evidence that these proteins pose any risk of eliciting allergic or toxic reactions.

6.0 References

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7.0 Appendix 1, AllergenOnline Database, version 16, 105 pages; 27 January, 2016 (see attached PDF).

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Acarus siro	Mite	Aca s 13	Aero Mite	Acarus Aca s 13	131	118638268	9
Acarus siro	Mite	Unassigned	Aero Insect	Acarus siro Group 4 allergen	517	118638278	9
Actinidia arguta	Hardy Kiwi	Unassigned	Food Plant	Actinidia arguta kiwellin	213	441482362	14
Actinidia arguta	Hardy Kiwi	Unassigned	Food Plant	Actinidia arguta kiwellin	213	441482364	14
Actinidia arguta	Hardy Kiwi	Unassigned	Food Plant	Actinidia arguta kiwellin	213	441482366	14
Actinidia chinensis	Kiwi	Unassigned	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	380	190358935	9
Actinidia chinensis	Kiwi	Act c 1	Food Plant	Actinidia Act c 10 LTP	15	378548410	13
Actinidia chinensis	Kiwi	Act c 5.0102	Food Plant	Actinidia Act c 5 kiwellin	213	441482354	14
Actinidia chinensis	Kiwi	Act c 8.0101	Food Plant	Actinidia Act c 8 Act d 8 PR-10	159	281552896	11
Actinidia chinensis	Kiwi	Unassigned	Food Plant	Actinidia Act d 2 thaumatin like protein	20	68064399	7
Actinidia chinensis	Kiwi	Unassigned	Food Plant	Actinidia Act d 2 thaumatin like protein	225	441482370	14
Actinidia deliciosa	Kiwi	Act d 1	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	380	15984	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	380	166317	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act c 1 Act d 1 Actinidin	380	193806686	12
Actinidia deliciosa	Kiwi	Act d 8.0101	Food Plant	Actinidia Act c 8 Act d 8 PR-10	157	281552898	11
Actinidia deliciosa	Kiwi	Act d 10.0201	Food Plant	Actinidia Act d 10 LTP	92	378548411	13
Actinidia deliciosa	Kiwi	Act d 10.0101	Food Plant	Actinidia Act d 10 LTP	92	378405189	13
Actinidia deliciosa	Kiwi	Act d 11	Food Plant	Actinidia Act d 11 Kirola MLP	150	332319679	12
Actinidia deliciosa	Kiwi	Act d 2.0101	Food Plant	Actinidia Act d 2 thaumatin like protein	225	71057064	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 2 thaumatin like protein	201	146737976	9
Actinidia deliciosa	Kiwi	Act d 4.0101	Food Plant	Actinidia Act d 4 Phytocystatin	116	40807635	7
Actinidia deliciosa	Kiwi	Act d 5.0101	Food Plant	Actinidia Act d 5 kiwellin	189	85701136	7
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	213	441482346	14

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	213	441482348	14
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	213	441482350	14
Actinidia deliciosa	Kiwi	Unassigned	Food Plant	Actinidia Act d 5 kiwellin	213	441482352	14
Actinidia deliciosa	Kiwi	Act d 9.0101	Food Plant	Actinidia Act d 9, profilin	109	100	16
Actinidia eriantha	Climber (plant)	Unassigned	Food Plant	Actinidia eriantha kiwellin	213	441482356	14
Actinidia eriantha	Climber (plant)	Unassigned	Food Plant	Actinidia eriantha kiwellin	213	441482358	14
Actinidia eriantha	Climber (plant)	Unassigned	Food Plant	Actinidia eriantha kiwellin	213	441482360	14
Aedes aegypti	Yellow fever mosquito	Aed a 1	Venom or Salivary	Aedes Aed a 1 apyrase	562	556272	7
Aedes aegypti	Yellow fever mosquito	Unassigned	Venom or Salivary	Aedes Aed a 1 apyrase	562	193806340	10
Aedes aegypti	Yellow fever mosquito	Aed a 2	Venom or Salivary	Aedes Aed a 2	321	205525919	9
Aedes aegypti	Yellow fever mosquito	Aed a 3	Venom or Salivary	Aedes Aed a 3	253	2114497	7
Aedes aegypti	Yellow fever mosquito	Unassigned	Venom or Salivary	Aedes Aed a 3	273	94468546	7
Agrostis alba	Bent grass	Unassigned	Aero Plant	Agrostis Agr a 1	26	320606	7
Agrostis alba	Bent grass	Unassigned	Aero Plant	Agrostis Agr a 1	35	75139987	7
Agrostis alba	Bent grass	Unassigned	Aero Plant	Agrostis Agr a 1	35	75139989	7
Alnus glutinosa	Alder	Aln g 1	Aero Plant	Alnus Aln g 1	160	261407	7
Alnus glutinosa	Alder	Aln g 1.0101	Aero Plant	Alnus Aln g 4	85	3319651	7
Alternaria alternata	Fungus	Alt a 1.0101	Aero Fungi	Alternaria Alt a 1	157	1842045	7
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 1	115	21913174	7
Alternaria alternata	Fungus	Alt a 1.0102	Aero Fungi	Alternaria Alt a 1	157	45680856	7
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 1	133	390980892	13
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 1	130	508123617	15

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Alternaria alternata	Fungus	Alt a 10.0101	Aero Fungi	Alternaria Alt a 10 ADH	497	76666767	7
Alternaria alternata	Fungus	Alt a 12	Aero Fungi	Alternaria Alt a 12 Ribosomal BP P1	110	1350779	7
Alternaria alternata	Fungus	Alt a 13.0101	Aero Fungi	Alternaria Alt a 13	231	74611808	10
Alternaria alternata	Fungus	Alt a 3	Aero Fungi	Alternaria Alt a 3 HSP	152	14423730	7
Alternaria alternata	Fungus	Alt a 4	Aero Fungi	Alternaria Alt a 4 thioredoxin	436	85701160	7
Alternaria alternata	Fungus	Alt a 5	Aero Fungi	Alternaria Alt a 5 ribosomal P2	113	1850540	7
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 5 ribosomal P2	113	1173071	10
Alternaria alternata	Fungus	Alt a 6	Aero Fungi	Alternaria Alt a 6 enolase	438	14423684	7
Alternaria alternata	Fungus	Alt a 7.0101	Aero Fungi	Alternaria Alt a 7 flavodoxin	204	1168402	9
Alternaria alternata	Fungus	Alt a 8.0101	Aero Fungi	Alternaria Alt a 8 (mannitol dehydrogenase)	266	37780013	8
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Alt a 8 (mannitol dehydrogenase)	266	118595439	8
Alternaria alternata	Fungus	Alt a 14.0101	Aero Fungi	Alternaria MnSOD Alt a 14	191	529279957	15
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria Nuc Transport 2	124	21748153	7
Alternaria alternata	Fungus	Unassigned	Aero Fungi	Alternaria TCTP IgE binding	169	112824341	11
Amaranthus retroflexus	Common Amaranth	Ama r 2.0101	Aero Plant	Amaranthus Ama r 2 Proflin	133	227937304	10
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0101	Aero Plant	Ambrosia Amb a 1	396	113475	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0201	Aero Plant	Ambrosia Amb a 1	398	113476	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0301	Aero Plant	Ambrosia Amb a 1	397	113477	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0401	Aero Plant	Ambrosia Amb a 1	392	113478	7
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0303	Aero Plant	Ambrosia Amb a 1	397	166443	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	396	302127810	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0202	Aero Plant	Ambrosia Amb a 1	398	302127812	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0304	Aero Plant	Ambrosia Amb a 1	397	302127814	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0305	Aero Plant	Ambrosia Amb a 1	397	302127816	12

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Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	397	302127818	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	397	302127820	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	397	302127822	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0402	Aero Plant	Ambrosia Amb a 1	387	302127824	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 1	397	302127826	12
Ambrosia artemisiifolia	Short ragweed	Amb a 1.0502	Aero Plant	Ambrosia Amb a 1	397	302127828	12
Ambrosia artemisiifolia	Short ragweed	Amb a 10.0101	Aero Plant	Ambrosia Amb a 10	160	62249491	7
Ambrosia artemisiifolia	Short ragweed	Amb a 2	Aero Plant	Ambrosia Amb a 2	397	113479	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	164	285005079	11
Ambrosia artemisiifolia	Short ragweed	Amb a 4.0101	Aero Plant	Ambrosia Amb a 4	164	291197394	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	111	291482306	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	140	291482308	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	134	291482310	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	96	291482314	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	110	291482316	12
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 4	116	291482318	12
Ambrosia artemisiifolia	Short ragweed	Amb a 6	Aero Plant	Ambrosia Amb a 6	118	14285595	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	133	34851182	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	131	34851180	7
Ambrosia artemisiifolia	Short ragweed	Unassigned	Aero Plant	Ambrosia Amb a 8 profilin	131	34851178	7
Ambrosia artemisiifolia	Short ragweed	Amb a 8.0101	Aero Plant	Ambrosia Amb a 8 profilin	133	62249502	7
Ambrosia artemisiifolia	Short ragweed	Amb a 8.0102	Aero Plant	Ambrosia Amb a 8 profilin	133	62249512	7
Ambrosia artemisiifolia	Short ragweed	Amb a 9.0101	Aero Plant	Ambrosia Amb a 9	83	62249470	7
Ambrosia artemisiifolia	Short ragweed	Amb a 9.0102	Aero Plant	Ambrosia Amb a 9	83	62249481	7
Ambrosia artemisiifolia (elatior)	Short ragweed	Amb a 3	Aero Plant	Ambrosia Amb a 3	101	416636	7

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Ambrosia artemisiifolia (elator)	Short ragweed	Amb a 5	Aero Plant	Ambrosia Amb a 5 Ra5	45	114090	7
Ambrosia psilostachya	Western ragweed	Amb p 5.0101	Aero Plant	Ambrosia Amb a 5 Ra5	77	515953	7
Ambrosia psilostachya	Western ragweed	Unassigned	Aero Plant	Ambrosia Amb a 5 Ra5	77	515954	7
Ambrosia psilostachya	Western ragweed	Amb p 5.0201	Aero Plant	Ambrosia Amb a 5 Ra5	77	515955	7
Ambrosia psilostachya	Western ragweed	Unassigned	Aero Plant	Ambrosia Amb a 5 Ra5	77	515956	7
Ambrosia psilostachya	Western ragweed	Unassigned	Aero Plant	Ambrosia Amb a 5 Ra5	77	515957	7
Ambrosia trifida	Giant ragweed	Amb t 5	Aero Plant	Ambrosia Amb t 5 Ra5G	73	114091	7
Amphioctopus fangsiao	Octopus	Unassigned	Food Animal	Amphioctopus arginine kinase	348	340742817	12
Anacardium occidentale	Cashew	Ana 0 1.0102	Food Plant	Anacardium Ana o 1	536	21666498	7
Anacardium occidentale	Cashew	Ana 0 1.0101	Food Plant	Anacardium Ana o 1	538	21914823	7
Anacardium occidentale	Cashew	Ana o 2	Food Plant	Anacardium Ana o 2	457	25991543	7
Anacardium occidentale	Cashew	Ana o 3	Food Plant	Anacardium Ana o 3	138	24473800	7
Ananas comosus	Pineapple	Ana c 2.0101	Aero Plant	Ananas Ana c 2 Bromelain precursor	351	75277440	7
Ananas comosus	Pineapple	Ana c 1.0101	Food Plant	Ananas profilin Ana c 1	131	75306610	10
Anisakis pegreffii	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	264	442577845	14
Anisakis pegreffii	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	264	442577847	14
Anisakis pegreffii	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	264	442577849	14
Anisakis pegreffii	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 2 paramyosin	869	442577833	14

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Anisakis simplex	Parasitic fish worm	Ani s 1	Food Animal	Anisakis Ani s 1 protease inhibitor	194	47605452	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 1 protease inhibitor	163	442577863	14
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 1 protease inhibitor	163	442577865	14
Anisakis simplex	Parasitic fish worm	Ani s 10.0101	Food Animal	Anisakis Ani s 10	231	272574378	11
Anisakis simplex	Parasitic fish worm	Ani s 11.0101	Food Animal	Anisakis Ani s 11	307	323575361	12
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 11	160	323575363	12
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 11	287	323575365	12
Anisakis simplex	Parasitic fish worm	Ani s 12.0101	Food Animal	Anisakis Ani s 12	295	323575367	12
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	264	442577851	14
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	264	442577853	14
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 12	264	442577855	14
Anisakis simplex	Parasitic fish worm	Ani s 2	Food Animal	Anisakis Ani s 2 paramyosin	473	8453086	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 2 paramyosin	869	42559536	9
Anisakis simplex	Parasitic fish worm	Ani s 3	Food Animal	Anisakis Ani s 3 tropomyosin	284	14423976	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 3 tropomyosin	284	350285785	13

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Anisakis simplex	Parasitic fish worm	Ani s 4	Food Animal	Anisakis Ani s 4	14	47605398	7
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 4	115	110346534	8
Anisakis simplex	Parasitic fish worm	Ani s 5.0101	Food Animal	Anisakis Ani s 5 SXP/RAL-2 family protein	152	121308878	8
Anisakis simplex	Parasitic fish worm	Ani s 7.0101	Food Animal	Anisakis Ani s 7 UA3-recognized allergen	1096	119524036	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676636	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676682	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676684	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676686	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676688	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676690	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676692	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676694	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676696	9
Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis Ani s 8 SXP/RAL-2 family protein 2	150	155676698	9
Anisakis simplex	Parasitic fish worm	Ani s 9.0101	Food Animal	Anisakis Ani s 9	147	157418806	9

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Anisakis simplex	Parasitic fish worm	Unassigned	Food Animal	Anisakis simplex troponin-like	161	6065738	7
Anthoxanthum odoratum	Sweet vernal grass	Unassigned	Aero Plant	Anthoxanthum Ant o 1	26	320607	7
Anthoxanthum odoratum	Sweet vernal grass	Ant o 1.0101	Aero Plant	Anthoxanthum Ant o 1	32	75139986	7
Anthoxanthum odoratum	Sweet vernal grass	Unassigned	Aero Plant	Anthoxanthum Ant o 1	32	75139990	7
Apis cerana	Indian honeybee	Unassigned	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	134	7435005	7
Apis cerana cerana	Indian honeybee	Api c 1.0101	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	134	12958583	15
Apis dorsata	Giant honeybee	Api d 1.0101	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	134	47117012	7
Apis dorsata	Giant honeybee	Unassigned	Venom or Salivary	Apis Api m 4 Melittin	26	126955	7
Apis mellifera	Honeybee	Api m 1	Venom or Salivary	Apis Api m 1 Api d 1 Api c 1	167	24418862	7
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	223	94471622	7
Apis mellifera	Honeybee	Api m 10.0101	Venom or Salivary	Apis Api m 10 icarapin	175	94471624	7
Apis mellifera	Honeybee	Api m 2	Venom or Salivary	Apis Api m 2	382	585279	7
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 3 acid phosphatase	388	208342441	10
Apis mellifera	Honeybee	Api m 3.0101	Venom or Salivary	Apis Api m 3 acid phosphatase	388	74835477	12
Apis mellifera	Honeybee	Api m 4.0101	Venom or Salivary	Apis Api m 4 Melittin	70	5622	7

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Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 4 Melittin	27	69552	7
Apis mellifera	Honeybee	Api m 5.0101	Venom or Salivary	Apis Api m 5 dipeptidylpeptidase	775	187281543	15
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 6	92	94400907	7
Apis mellifera	Honeybee	Unassigned	Venom or Salivary	Apis Api m 6	94	88770352	10
Apis mellifera	Honeybee	Api m 11.0101	Venom or Salivary	Apis mellifera	Api m 11	416	58585070
Apis mellifera	Honeybee	Api m 11.0201	Venom or Salivary	Apis mellifera	Api m 11	423	62910925
Apis mellifera	Honeybee	Api m 12.0101	Venom or Salivary	Apis mellifera Api m 12	1770	29329817	15
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	12	594708629	16
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	19	594708627	16
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	25	594708625	16
Apis mellifera carnica	Honeybee	Unassigned	Venom or Salivary	Apis Api m 10 icarapin	41	594708623	16
Apium graveolens	Celery	Api g 1.0101	Food Plant	Apium Api g 1	154	1346568	7
Apium graveolens	Celery	Api g 1.0201	Food Plant	Apium Api g 1	159	14423646	9
Apium graveolens	Celery	Api g 2.0101	Food Plant	Apium Api g 2	118	256600126	12
Apium graveolens	Celery	Api g 4	Food Plant	Apium Api g 4	134	4761578	7
Apium graveolens	Celery	Api g 5.0101	Food Plant	Apium Api g 5	86	33300920	10
Apium graveolens Rapaceum Group	Celery	Api g 6.0101	Food Plant	Apium graveolens Api g 6 LTP 2	67	550540827	15

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Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Agglutinin (lectin)	273	253289	7
Arachis hypogaea	Peanut	Ara h 1	Food Plant	Arachis Ara h 1	614	1168390	7
Arachis hypogaea	Peanut	Ara h 1	Food Plant	Arachis Ara h 1	626	1168391	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	299	46560474	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	303	46560472	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	428	46560476	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	619	312233063	12
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	418	375332427	13
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 1	418	347447588	13
Arachis hypogaea	Peanut	Ara h 2.0201	Food Plant	Arachis Ara h 2	172	26245447	7
Arachis hypogaea	Peanut	Ara h 2.0101	Food Plant	Arachis Ara h 2	169	31322017	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 2	156	15418705	10
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 2	158	224747150	10
Arachis hypogaea	Peanut	Ara h 3.0101	Food Plant	Arachis Ara h 3 Glycinin	507	3703107	7
Arachis hypogaea	Peanut	Ara h 3.0201	Food Plant	Arachis Ara h 3 Glycinin	530	5712199	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	538	21314465	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	219	22135348	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	512	112380623	8
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	530	199732457	10
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	510	224036293	10
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 3 Glycinin	512	312233065	12
Arachis hypogaea	Peanut	Ara h 5	Food Plant	Arachis Ara h 5	131	5902968	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 5	131	284810529	11
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 5	131	431812555	14
Arachis hypogaea	Peanut	Ara h 6	Food Plant	Arachis Ara h 6	129	5923742	7
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 6	144	17225991	7

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Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 6	127	159163254	9
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 6	145	75114094	10
Arachis hypogaea	Peanut	Ara h 7.0101	Food Plant	Arachis Ara h 7	160	5931948	7
Arachis hypogaea	Peanut	Ara h 7.0201	Food Plant	Arachis Ara h 7	164	158121995	10
Arachis hypogaea	Peanut	Ara h 8.0101	Food Plant	Arachis Ara h 8	157	37499626	7
Arachis hypogaea	Peanut	Ara h 8.0201	Food Plant	Arachis Ara h 8	153	145904610	9
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 8	157	169786740	9
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis Ara h 8	157	110676574	12
Arachis hypogaea	Peanut	Ara h 9.0101	Food Plant	Arachis Ara h 9 LTP isoallergens	116	161087230	10
Arachis hypogaea	Peanut	Ara h 9.0201	Food Plant	Arachis Ara h 9 LTP isoallergens	92	161610580	10
Arachis hypogaea	Peanut	Ara h 10.0101	Food Plant	Arachis hypogaea Ara h 10	169	113200509	15
Arachis hypogaea	Peanut	Ara h 10.0102	Food Plant	Arachis hypogaea Ara h 10	150	52001239	15
Arachis hypogaea	Peanut	Ara h 11.0101	Food Plant	Arachis hypogaea Ara h 11	137	71040655	15
Arachis hypogaea	Peanut	Unassigned	Food Plant	Arachis hypogaea Ara h 11	137	122218540	16
Argas reflexus	European pigeon tick	Arg r 1	Venom or Salivary	Argas Arg r 1	159	58371884	7
Argas reflexus	European pigeon tick	Unassigned	Venom or Salivary	Argas Arg r 1	144	322812205	12
Artemisia vulgaris	Mugwort	Art v 1	Aero Plant	Artemisia Art v 1	132	27818335	7
Artemisia vulgaris	Mugwort	Art v 2.0101	Aero Plant	Artemisia Art v 2	162	148887203	9
Artemisia vulgaris	Mugwort	Art v 3.0101	Aero Plant	Artemisia Art v 3	37	73621307	7
Artemisia vulgaris	Mugwort	Art v 3.0201	Aero Plant	Artemisia Art v 3	114	189544578	11
Artemisia vulgaris	Mugwort	Art v 3.0202	Aero Plant	Artemisia Art v 3	116	189544584	11
Artemisia vulgaris	Mugwort	Art v 3.0301	Aero Plant	Artemisia Art v 3	117	189544590	11
Artemisia vulgaris	Mugwort	Unassigned	Aero Plant	Artemisia Art v 3	117	189544595	11
Artemisia vulgaris	Mugwort	Art v 4.0101	Aero Plant	Artemisia Art v 4	133	25955969	15
Artemisia vulgaris	Mugwort	Art v 4.0201	Aero Plant	Artemisia Art v 4	133	25955971	15

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Artemisia vulgaris	Mugwort	Art v 6.0101	Aero Plant	Artemisia Art v 6 pectate lyase	396	62530263	8
Artemisia vulgaris	Mugwort	Art v 5.0101	Aero Plant	Artemisia mugwort Art v 5	82	62530265	15
Arthroderma benhamiae	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri m 4	726	23894232	7
Arthroderma benhamiae	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri r 2	292	23894240	7
Arthroderma benhamiae	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri r 2	404	23894244	7
Arthroderma vanbreuseghemii	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri m 4	726	219687753	10
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	134	2735096	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	134	2735098	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	133	2735102	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	133	2735106	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	267	2735108	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	267	2735110	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	267	2735112	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	134	2735114	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	134	2735118	7
Ascaris lumbricoides	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	134	2735100	7
Ascaris lumbricoides	Parasitic roundworm	Asc l 3.0101	Worm (parasite)	Ascaris tropomyosin Asc l 3	287	224016002	10

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Ascaris suum	Parasitic roundworm	Asc s 1	Worm (parasite)	Ascaris Asc s 1	68	299550	7
Ascaris suum	Parasitic roundworm	Asc s 1	Worm (parasite)	Ascaris Asc s 1	1365	77416849	7
Ascaris suum	Parasitic roundworm	Unassigned	Worm (parasite)	Ascaris Asc s 1	134	343197079	12
Ascaris suum	Parasitic roundworm	Asc s 13.0101	Worm (parasite)	Ascaris lumbricoides/suum Glutathione S-transfera	206	1170109	15
Aspergillus flavus	Fungus	Unassigned	Aero Fungi	Aspergillus Oryzin Asp o 13, fl 13	403	74665726	7
Aspergillus fumigatus	Fungus	Asp f 1	Aero Fungi	Aspergillus Asp f 1	125	3021324	7
Aspergillus fumigatus	Fungus	Asp f 1	Aero Fungi	Aspergillus Asp f 1	150	9280360	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 1	176	54039254	7
Aspergillus fumigatus	Fungus	Asp f 10	Aero Fungi	Aspergillus Asp f 10	395	963013	7
Aspergillus fumigatus	Fungus	Asp f 11	Aero Fungi	Aspergillus Asp f 11	178	5019414	7
Aspergillus fumigatus	Fungus	Asp f 18.0101	Aero Fungi	Aspergillus Asp f 18 and Asp n 18	495	2143220	7
Aspergillus fumigatus	Fungus	Asp f 2	Aero Fungi	Aspergillus Asp f 2	250	664852	7
Aspergillus fumigatus	Fungus	Asp f 2	Aero Fungi	Aspergillus Asp f 2	310	83300352	7
Aspergillus fumigatus	Fungus	Asp f 22	Aero Fungi	Aspergillus Asp f 22	438	13925873	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 22	438	83288046	7
Aspergillus fumigatus	Fungus	Asp f 23.0101	Aero Fungi	Aspergillus Asp f 23	392	21215170	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 23	392	83305621	7
Aspergillus fumigatus	Fungus	Asp f 27.0101	Aero Fungi	Aspergillus Asp f 27	163	91680605	7
Aspergillus fumigatus	Fungus	Asp f 28.0101	Aero Fungi	Aspergillus Asp f 28	108	91680607	7
Aspergillus fumigatus	Fungus	Asp f 29.0101	Aero Fungi	Aspergillus Asp f 29	110	91680609	7
Aspergillus fumigatus	Fungus	Asp f 3	Aero Fungi	Aspergillus Asp f 3	168	2769700	7
Aspergillus fumigatus	Fungus	Asp f 34.0101	Aero Fungi	Aspergillus Asp f 34	185	133920236	8
Aspergillus fumigatus	Fungus	Asp f 4	Aero Fungi	Aspergillus Asp f 4	286	3005839	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 4	322	83300369	7
Aspergillus fumigatus	Fungus	Asp f 5	Aero Fungi	Aspergillus Asp f 5	634	3776613	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 5	634	85541646	11
Aspergillus fumigatus	Fungus	Asp f 6	Aero Fungi	Aspergillus Asp f 6	221	1648970	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 6	210	83305645	7
Aspergillus fumigatus	Fungus	Asp f 7	Aero Fungi	Aspergillus Asp f 7	270	83300389	7
Aspergillus fumigatus	Fungus	Asp f 8	Aero Fungi	Aspergillus Asp f 8	111	6686524	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 8	111	83305635	7
Aspergillus fumigatus	Fungus	Asp f 9	Aero Fungi	Aspergillus Asp f 9	302	2879890	7
Aspergillus fumigatus	Fungus	Unassigned	Aero Fungi	Aspergillus Endo-chitosanase	238	74629604	16
Aspergillus fumigatus Af293	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 2	304	66849502	7
Aspergillus fumigatus Af293	Fungus	Unassigned	Aero Fungi	Aspergillus Endo-chitosanase	242	74666748	16
Aspergillus fumigatus var. RP-2014	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 4	322	666434194	16
Aspergillus fumigatus var. RP-2014	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 7	270	666431137	16
Aspergillus niger	Fungus	Unassigned	Aero Fungi	Aspergillus Asp f 18 and Asp n 18	533	289172	7
Aspergillus niger	Fungus	Asp n 14	Aero Fungi	Aspergillus Asp n 14	804	2181180	7
Aspergillus niger	Fungus	Asp n 14	Aero Fungi	Aspergillus Asp n 14	804	4235093	7
Aspergillus oryzae	Fungus	Asp o 21	Aero Fungi	Aspergillus Asp o 21	499	94706935	7
Aspergillus oryzae	Fungus	Asp o 21.0101	Aero Fungi	Aspergillus Asp o 21	499	166531	15
Aspergillus oryzae	Fungus	Asp o 13	Aero Fungi	Aspergillus Oryzin Asp o 13, fl 13	403	129235	7
Aspergillus versicolor	Fungus	Unassigned	Aero Fungi	Aspergillus versicolor serine protease	403	294441150	16
Bacillus lentus	Bacteria	Unassigned	Bacteria airway	Bacillus lentus subtilisin	269	267048	9

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Bacillus licheniformis	Bacteria	Unassigned	Bacteria airway	Bacillus licheniformis subtilisin	379	135016	9
Bacillus licheniformis	Bacteria	Unassigned	Bacteria airway	Bacillus licheniformis subtilisin	374	11127680	9
Bacillus sp.	Bacteria	Unassigned	Bacteria airway	Bacillus lentus Esperase	361	1225905	9
Balanus rostratus	Crustacean	Unassigned	Food Animal	Balanus r tropomyosin	284	125659386	9
Bassia scoparia	summer cypress	Unassigned	Aero Plant	Bassia scoparia	Koc s 1	167	914410012
Batillus cornutus	Japanese turban shell	Unassigned	Food Animal	Batillus Tur c1	284	219806588	10
Bertholletia excelsa	Brazil nut	Ber e 1	Food Plant	Bertholletia Ber e 1	146	112754	7
Bertholletia excelsa	Brazil nut	Ber e 2	Food Plant	Bertholletia Ber e 2	465	30313867	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula glutathione S-transferase	237	573005958	16
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	51	320545	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	534898	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	534900	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	534910	7
Betula pendula	European white birch	Bet v 1.1601	Aero Plant	Betula Bet v 1	160	1321714	7
Betula pendula	European white birch	Bet v 1.1701	Aero Plant	Betula Bet v 1	160	1321716	7
Betula pendula	European white birch	Bet v 1.1801	Aero Plant	Betula Bet v 1	160	1321718	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Betula pendula	European white birch	Bet v 1.1502	Aero Plant	Betula Bet v 1	160	1321720	7
Betula pendula	European white birch	Bet v 1.1901	Aero Plant	Betula Bet v 1	160	1321722	7
Betula pendula	European white birch	Bet v 1.2001	Aero Plant	Betula Bet v 1	160	1321724	7
Betula pendula	European white birch	Bet v 1.2101	Aero Plant	Betula Bet v 1	160	1321726	7
Betula pendula	European white birch	Bet v 1.2201	Aero Plant	Betula Bet v 1	160	1321728	7
Betula pendula	European white birch	Bet v 1m/n	Aero Plant	Betula Bet v 1	160	1168710	7
Betula pendula	European white birch	Bet v 1.0108	Aero Plant	Betula Bet v 1	160	1542861	7
Betula pendula	European white birch	Bet v 1.0109	Aero Plant	Betula Bet v 1	160	1542863	7
Betula pendula	European white birch	Bet v 1.0110	Aero Plant	Betula Bet v 1	160	1542865	7
Betula pendula	European white birch	Bet v 1.0111	Aero Plant	Betula Bet v 1	160	1542867	7
Betula pendula	European white birch	Bet v 1.0112	Aero Plant	Betula Bet v 1	160	1542869	7
Betula pendula	European white birch	Bet v 1.0113	Aero Plant	Betula Bet v 1	160	1542871	7
Betula pendula	European white birch	Bet v 1.0114	Aero Plant	Betula Bet v 1	160	1542873	7
Betula pendula	European white birch	Bet v 1.2301	Aero Plant	Betula Bet v 1	160	2414158	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	2564220	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	2564222	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	2564224	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	2564228	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006928	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006945	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006953	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006955	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006957	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006959	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006961	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006965	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	160	4006967	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	4376216	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	4376219	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	4376220	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	4376221	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	4376222	7
Betula pendula	European white birch	Bet v 1 b1	Aero Plant	Betula Bet v 1	160	4590392	7
Betula pendula	European white birch	Bet v 1 b2	Aero Plant	Betula Bet v 1	160	4590394	7
Betula pendula	European white birch	bet v 1 b3	Aero Plant	Betula Bet v 1	160	4590396	7
Betula pendula	European white birch	Bet v 1.0701	Aero Plant	Betula Bet v 1	160	1168706	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	11514622	7
Betula pendula	European white birch	Bet v 1x	Aero Plant	Betula Bet v 1	21	30908931	7
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	38492423	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	43	239734	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	120	4006963	7
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	120	4006947	7
Betula pendula	European white birch	Bet v 1.0203	Aero Plant	Betula Bet v 1	160	452742	8
Betula pendula	European white birch	Bet v 1	Aero Plant	Betula Bet v 1	159	159162097	9

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	159	560188693	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	159	550544347	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	160	565807648	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	159	560188694	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	159	560188692	15
Betula pendula	European white birch	Bet v 1.0101	Aero Plant	Betula Bet v 1	160	17938	15
Betula pendula	European white birch	Bet v 1.0102	Aero Plant	Betula Bet v 1	160	452732	15
Betula pendula	European white birch	Bet v 1.0103	Aero Plant	Betula Bet v 1	160	452734	15
Betula pendula	European white birch	Bet v 1.0104	Aero Plant	Betula Bet v 1	160	452736	15
Betula pendula	European white birch	Bet v 1.0106	Aero Plant	Betula Bet v 1	160	452740	15
Betula pendula	European white birch	Bet v 1.0107	Aero Plant	Betula Bet v 1	160	452744	15
Betula pendula	European white birch	Bet v 1.0201	Aero Plant	Betula Bet v 1	160	450885	15
Betula pendula	European white birch	Bet v 1.0202	Aero Plant	Betula Bet v 1	160	452730	15
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1	159	661918055	16
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 1b	51	320546	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 2	133	157830684	9
Betula pendula	European white birch	Bet v 2.0101	Aero Plant	Betula Bet v 2	133	166953	11
Betula pendula	European white birch	Unassigned	Aero Plant	Betula Bet v 2	133	576017922	15
Betula pendula	European white birch	Bet v 3.0101	Aero Plant	Betula Bet v 3	205	488605	15
Betula pendula	European white birch	Bet v 4.0101	Aero Plant	Betula Bet v 4	85	809536	15
Betula pendula	European white birch	Bet v 6.0102	Aero Plant	Betula Bet v 6	308	10764491	7
Betula pendula	European white birch	Bet v 7	Aero Plant	Betula Bet v 7	173	21886603	7
Betula platyphylla	Japanese white birch	Unassigned	Aero Plant	Betula Bet v 1	160	12583681	7
Betula platyphylla	Japanese white birch	Unassigned	Aero Plant	Betula Bet v 1	160	12583683	7
Betula platyphylla	Japanese white birch	Unassigned	Aero Plant	Betula Bet v 1	160	12583685	7
Betula sp.	Birch	Unassigned	Aero Plant	Betula Bet v 1	51	298736	7
Betula sp.	Birch	Unassigned	Aero Plant	Betula Bet v 1b	51	298737	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella chymotrypsin-like	252	757943154	16
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella 36 kDa allergen	20	544618	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella 36 kDa allergen	25	544619	7
Blattella germanica	German	Unassigned	Aero Insect	Blattella arginine kinase	356	221602737	10

	cockroach						
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Blattella germanica	German cockroach	Bla g 1.0201	Aero Insect	Blattella Bla g 1	492	4240395	7
Blattella germanica	German cockroach	Bla g 1.0101	Aero Insect	Blattella Bla g 1	412	4572592	7
Blattella germanica	German cockroach	Bla g 11.0101	Aero Insect	Blattella Bla g 11 alpha Amylase	515	85002763	15
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 2	330	62738637	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 2	352	145105726	9
Blattella germanica	German cockroach	Bla g 2.0101	Aero Insect	Blattella Bla g 2	352	1176397	11
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 2	334	315113421	12
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 3	657	262272875	11
Blattella germanica	German cockroach	Bla g 3.0101	Aero Insect	Blattella Bla g 3	657	262272877	11
Blattella germanica	German cockroach	Bla g 4	Aero Insect	Blattella Bla g 4	182	1166573	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	182	144952778	9
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	181	212675308	10
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	191	194350815	11
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 4	190	194350817	11

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella Bla g 5	200	144952780	9
Blattella germanica	German cockroach	Bla g 5.0101	Aero Insect	Blattella Bla g 5	200	2326190	11
Blattella germanica	German cockroach	Bla g 6.0101	Aero Insect	Blattella Bla g 6	151	82704032	8
Blattella germanica	German cockroach	Bla g 6.0201	Aero Insect	Blattella Bla g 6	151	82704034	8
Blattella germanica	German cockroach	Bla g 6.0301	Aero Insect	Blattella Bla g 6	154	82704036	8
Blattella germanica	German cockroach	Bla g 7.0101	Aero Insect	Blattella Bla g 7	284	8101069	7
Blattella germanica	German cockroach	Unassigned	Aero Insect	Blattella delta GST	216	161137518	11
Blomia tropicalis	Mite	Blo t 1	Aero Mite	Blomia Blo t 1.01	221	14276828	7
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 1.02	333	33667928	8
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 1.02	333	2	8
Blomia tropicalis	Mite	Blo t 10.0101	Aero Mite	Blomia Blo t 10	284	156938889	9
Blomia tropicalis	Mite	Blo t 11	Aero Mite	Blomia Blo t 11	875	21954740	7
Blomia tropicalis	Mite	Unassigned	Aero Insect	Blomia Blo t 12	69	723586656	16
Blomia tropicalis	Mite	Blo t 12	Aero Mite	Blomia Blo t 12	144	902012	7
Blomia tropicalis	Mite	Blo t 13	Aero Mite	Blomia Blo t 13.01	130	1377859	7
Blomia tropicalis	Mite	Blo t 21.0101	Aero Insect	Blomia Blo t 21	129	60679570	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	129	111120432	8
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	129	111494253	8
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	129	111120424	8
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 21	129	111120428	8
Blomia tropicalis	Mite	Blo t 3.0101	Aero Mite	Blomia Blo t 3	266	25989482	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 3	266	33667930	8
Blomia tropicalis	Mite	Unassigned	Aero Insect	Blomia Blo t 4 alpha amylase	506	33667932	8
Blomia tropicalis	Mite	Blo t 5	Aero Mite	Blomia Blo t 5	134	4204917	7
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	134	111120436	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	134	111120450	9
Blomia tropicalis	Mite	Unassigned	Aero Mite	Blomia Blo t 5	119	160285626	9
Blomia tropicalis	Mite	Unassigned	Aero Insect	Blomia Blo t 7 non_iuis allergen	192	33667936	8
Blomia tropicalis	Mite	Unassigned	Aero Insect	Blomia Blo t 8	236	37958149	8
Blomia tropicalis	Mite	Blo t 8.0101	Aero Insect	Blomia Blo t 8	236	256665455	11
Bombus pennsylvanicus	Bumblebee	Bom p 1.0101	Venom or Salivary	Bombus Bom p 1	136	47117013	12
Bombus pennsylvanicus	Bumblebee	Bom p 4.0101	Venom or Salivary	Bombus Bom p 4 protease	243	75009997	12
Bombus terrestris	Bumblebee	Bom t 1.0101	Venom or Salivary	Bombus Bom t 1	136	14423832	7
Bombus terrestris	Bumblebee	Unassigned	Venom or Salivary	Bombus Bom t 4 protease	20	313471465	12
Bombyx mori	Silkworm	Bomb m 1.0101	Aero Insect	Bombyx Bomb m 1	355	82658675	15
Bos grunniens mutus	Yak	Unassigned	Food Animal	Bos Bos d 11 beta casein	259	942073448	16
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	93	162650	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	214	162794	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	76	162927	7
Bos taurus	Bovine	Bos d 9.0101	Food	Bos Alpha-s1 casein	214	30794348	8

			Animal				
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	205	159793197	9
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	172	159793201	9
Bos taurus	Bovine	Unassigned	Food Animal	Bos Alpha-s1 casein	129	159793217	9
Bos taurus	Bovine	Bos d 10.0101	Food Animal	Bos Bos d 10	222	27806963	15
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 11 beta casein	224	162797	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 11 beta casein	224	162805	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 11 beta casein	224	459292	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 12	190	162811	7
Bos taurus	Bovine	Bos d 12.0101	Food Animal	Bos Bos d 12	190	27881412	15
Bos taurus	Bovine	Unassigned	Aero Animal	Bos Bos d 2	172	2497701	9
Bos taurus	Bovine	Bos d 3	Aero Animal	Bos Bos d 3	101	2493414	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 4	142	295774	7
Bos taurus	Bovine	Bos d 4.0101	Food Animal	Bos Bos d 4	142	163283	15
Bos taurus	Bovine	Bos d 5	Food Animal	Bos Bos d 5	178	520	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 5	14	162750	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 5	178	125910	9
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 5	178	195957138	10
Bos taurus	Bovine	Bos d 6	Food Animal	Bos Bos d 6	607	162648	7
Bos taurus	Bovine	Unassigned	Food Animal	Bos Bos d 6	607	3336842	7
Bos taurus	Bovine	Unassigned	Vaccine	Bos collagen alpha2	1364	27806257	11
Bos taurus	Bovine	Unassigned	Food Animal	Bos lactotransferrin	708	30794292	8
Brassica juncea	Mustard	Bra j 1	Food Plant	Brassica Bra j 1 2S albumin	129	32363444	9
Brassica napus	Rape	Bra n 1	Food Plant	Bra n 1	125	75107016	9
Brassica napus	Rape	Unassigned	Aero Plant	Bra n Bra r 2	83	2129801	7
Brassica napus	Rape	Unassigned	Aero Plant	Bra n Bra r 2	83	2129802	7
Brassica napus	Rape	Unassigned	Food Plant	Brassica napus 2S albumin	109	26985163	7
Brassica oleracea var. oleracea	Wild cabbage	Unassigned	Aero Plant	Brassica Bra o 3 LTP full length	112	922434456	16
Brassica rapa	Turnip	Unassigned	Aero Plant	Bra n Bra r 2	80	2129805	7
Brassica rapa	Turnip	Bra r 1.0101	Food Plant	Brassica Bra r 1	178	17697	9
Brassica rapa	Turnip	Bra r 5.0101	Food Plant	Brassica Calcim binding protein Group I	79	1255540	15
Brassica rapa subsp. rapa	Turnip	Unassigned	Aero Plant	Bra n Bra r 2	83	59800146	7
Brassica rapa subsp. rapa	Turnip	Bra r 2.0101	Contact	Brassica Bra r 2	91	32363456	9
Candida albicans	Yeast	Cand a 1.0101	Contact	Candida Cand a 1 Alcohol	350	608690	15

				dehydrogenase			
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Candida albicans	Yeast	Cand a 3.0101	Contact	Candida Cand a 3 Peroxisomal protein	236	37548637	7
Candida albicans	Yeast	Unassigned	Contact	Candida Enolase 1	440	232054	7
Canis familiaris	Dog	Can f 1.0101	Aero Animal	Canis Can f 1 Lipocalin	174	2598974	11
Canis familiaris	Dog	Can f 2	Aero Animal	Canis Can f 2 Lipocalin	177	29292272	7
Canis familiaris	Dog	Can f 2	Aero Animal	Canis Can f 2 Lipocalin	179	29292274	7
Canis familiaris	Dog	Can f 2.0101	Aero Animal	Canis Can f 2 Lipocalin	180	2598976	11
Canis familiaris	Dog	Can f 3	Aero Animal	Canis Can f 3 Serum albumin	265	633938	7
Canis familiaris	Dog	Can f 3	Aero Animal	Canis Can f 3 Serum albumin	585	3319897	7
Canis familiaris	Dog	Can f 3.0101	Aero Animal	Canis Can f 3 Serum albumin	608	22531688	15
Canis familiaris	Dog	Can f 4.0101	Aero Animal	Canis Can f 4 epithelial 18 kDa	174	262232390	12
Canis familiaris	Dog	Unassigned	Aero Animal	Canis Can f 4 epithelial 18 kDa	174	625295108	16
Canis familiaris	Dog	Can f 5.0101	Aero Animal	Canis Can f 5	260	868	15
Canis familiaris	Dog	Can f 6.0101	Aero Animal	Canis Can f 6 Lipocalin	190	374092884	13
Cannabis sativa	Hemp	Can s 3.0101	Aero Plant	Cannabis LTP Can s 3	91	571256597	15
Capsicum annuum	Bell pepper	Cap a 1	Food Plant	Capsicum Cap a 1	246	16609959	7
Capsicum annuum	Bell pepper	Cap a 2	Food Plant	Capsicum Cap a 2	131	16555785	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Carica papaya	Papaya	Unassigned	Food Plant	Carica Car p 1	345	129614	9
Carpinus betulus	Hornbeam	Car b 1.0102	Aero Plant	Carpinus Car b 1	159	402745	7
Carpinus betulus	Hornbeam	Car b 1.0103	Aero Plant	Carpinus Car b 1	160	1545875	7
Carpinus betulus	Hornbeam	Car b 1.0104	Aero Plant	Carpinus Car b 1	160	1545877	7
Carpinus betulus	Hornbeam	Car b 1.0105	Aero Plant	Carpinus Car b 1	160	1545879	7
Carpinus betulus	Hornbeam	Car b 1.0108	Aero Plant	Carpinus Car b 1	160	1545893	7
Carpinus betulus	Hornbeam	Car b 1.0301	Aero Plant	Carpinus Car b 1	161	1545895	7
Carpinus betulus	Hornbeam	Car b 1.0302	Aero Plant	Carpinus Car b 1	161	1545897	7
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	40	239735	7
Carpinus betulus	Hornbeam	Car b 1.0113	Aero Plant	Carpinus Car b 1	160	167472845	10
Carpinus betulus	Hornbeam	Car b 1.0109	Aero Plant	Carpinus Car b 1	160	167472837	10
Carpinus betulus	Hornbeam	Car b 1.0112	Aero Plant	Carpinus Car b 1	160	167472843	10
Carpinus betulus	Hornbeam	Car b 1.0111	Aero Plant	Carpinus Car b 1	160	167472841	10
Carpinus betulus	Hornbeam	Car b 1.0110	Aero Plant	Carpinus Car b 1	160	167472839	10
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	80	1008578	12
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	80	1008579	12
Carpinus betulus	Hornbeam	Unassigned	Aero Plant	Carpinus Car b 1	80	1008580	12
Carpinus betulus	Hornbeam	Car b 1.0101	Aero Plant	Carpinus Car b 1	159	402743	15
Carpinus betulus	Hornbeam	Car b 1.0106	Aero Plant	Carpinus Car b 1	160	1545881	15
Carpinus betulus	Hornbeam	Car b 1.0107	Aero Plant	Carpinus Car b 1	160	1545889	15
Carpinus betulus	Hornbeam	Car b 1.0201	Aero Plant	Carpinus Car b 1	159	402747	15
Carya illinoensis	Pecan	Car i 1.0101	Food Plant	Carya Car i 1 Seed storage protein	143	28207731	7
Carya illinoensis	Pecan	Car i 4.0101	Food Plant	Carya Car i 4 11s legumin	505	158998780	14
Carya illinoensis	Pecan	Unassigned	Food Plant	Carya Car i 4 11s legumin	505	158998782	14
Caryota mitis	Fishtail Palm	Unassigned	Aero Plant	Caryota profilin	131	121277849	8
Castanea sativa	European	Cas s 1	Aero Plant	Castanea Cas s 1	160	16555781	7

	chestnut						
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Castanea sativa	European chestnut	Unassigned	Aero Plant	Castanea Cas s 1	159	212291466	10
Castanea sativa	European chestnut	Cas s 1.0101	Aero Plant	Castanea Cas s 1	159	212291464	10
Castanea sativa	European chestnut	Unassigned	Aero Plant	Castanea Cas s 1	159	212291468	10
Castanea sativa	European chestnut	Cas s 5	Food Plant	Castanea Cas s 5	316	1359600	7
Castanea sativa	European chestnut	Unassigned	Food Plant	Castanea Cas s 5	298	307159110	12
Catharanthus roseus	Madagascar periwinkle	Unassigned	Aero Plant	Catharanthus cyclophilin	178	659835152	16
Cavia porcellus	Domestic guinea pig	Cav p 1	Aero Animal	Cavia Cav p 1	15	32469617	7
Cavia porcellus	Domestic guinea pig	Cav p 2.0101	Aero Animal	Cavia Cav p 2	170	325910590	12
Cavia porcellus	Domestic guinea pig	Cav p 3.0101	Aero Animal	Cavia Cav p 3 lipocalin	170	325910592	12
Chamaecyparis obtusa	Japanese cypress	Cha o 1.0101	Aero Plant	Chamaecyparis Cha o 1	375	1514943	7
Chamaecyparis obtusa	Japanese cypress	Unassigned	Aero Plant	Chamaecyparis Cha o 2	514	47606004	7
Chamaecyparis obtusa	Japanese cypress	Unassigned	Aero Plant	Chamaecyparis Cha o 2	419	114841683	8
Charybdis feriatus	Crab	Cha f 1.0101	Food Animal	Charybdis Cha f 1	264	7024506	7
Chenopodium album	Pigweed	Che a 1	Aero Plant	Chenopodium Che a 1	168	22074346	7
Chenopodium album	Pigweed	Che a 2	Aero Plant	Chenopodium Che a 2	131	29465666	7

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Chenopodium album	Pigweed	Unassigned	Aero Plant	Chenopodium Che a 2	133	238886048	11
Chenopodium album	Pigweed	Che a 3	Aero Plant	Chenopodium Che a 3	86	29465668	7
Chionoecetes opilio	Snow Crab	Unassigned	Food Animal	Chionoecetes tropomyosin	284	308191588	12
Chironomus kiiensis	Midge	Chi k 10	Aero Insect	Chironomus Chi k 10	285	7321108	7
Chironomus thummi thummi	Midge	Chi t 1.01	Aero Insect	Chironomus Chi t 1	151	121219	7
Chironomus thummi thummi	Midge	Chi t 1.02	Aero Insect	Chironomus Chi t 1	151	121227	7
Chironomus thummi thummi	Midge	Chi t 2.0101	Aero Insect	Chironomus Chi t 2	158	2506460	7
Chironomus thummi thummi	Midge	Chi t 3.0601	Aero Insect	Chironomus Chi t 3	161	56405052	7
Chironomus thummi thummi	Midge	Chi t 3.0901	Aero Insect	Chironomus Chi t 3	151	121237	7
Chironomus thummi thummi	Midge	Chi t 3.0501	Aero Insect	Chironomus Chi t 3	161	121244	7
Chironomus thummi thummi	Midge	Chi t 3.0701	Aero Insect	Chironomus Chi t 3	161	56405054	7
Chironomus thummi thummi	Midge	Chi t 3.0702	Aero Insect	Chironomus Chi t 3	161	121248	7
Chironomus thummi thummi	Midge	Chi t 3.0801	Aero Insect	Chironomus Chi t 3	162	121249	7
Chironomus thummi thummi	Midge	Chi t 3.0301	Aero Insect	Chironomus Chi t 3	161	56405306	7
Chironomus thummi thummi	Midge	Chi t 3.0101	Aero Insect	Chironomus Chi t 3	160	1707908	7
Chironomus thummi thummi	Midge	Chi t 3.0401	Aero Insect	Chironomus Chi t 3	161	1707911	7

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Chironomus thummi thummi	Midge	Chi t 3.0201	Aero Insect	Chironomus Chi t 3	162	2506461	7
Chironomus thummi thummi	Midge	Chi t 4	Aero Insect	Chironomus Chi t 4	151	121256	7
Chironomus thummi thummi	Midge	Chi t 9	Aero Insect	Chironomus Chi t 9	151	121259	7
Citrus limon	Lemon	Cit l 3.0101	Food Plant	Citrus LTP Cit s 3/Cit l 3	20	52783176	7
Citrus sinensis	Navel orange	Cit s 1.0101	Food Plant	Citrus Cit s 1	25	52782810	7
Citrus sinensis	Navel orange	Cit s 2.0101	Food Plant	Citrus Cit s 2	131	56000996	7
Citrus sinensis	Navel orange	Unassigned	Food Plant	Citrus LTP Cit s 3/Cit l 3	20	52783177	7
Citrus sinensis	Navel orange	Cit s 3	Food Plant	Citrus LTP Cit s 3/Cit l 3	91	50199132	7
Cladosporium cladosporioides	Fungus	Cla c 14.0101	Aero Fungi	Cladosporium Cla c 14	325	301015198	15
Cladosporium cladosporioides	Fungus	Cla c 9.0101	Aero Fungi	Cladosporium Cla c 9 Davidiella	388	148361511	11
Clupea harengus	Atlantic herring	Clu h 1.0101	Food Animal	Clupea Clu h 1	109	242253963	11
Clupea harengus	Atlantic herring	Clu h 1.0201	Food Animal	Clupea Clu h 1	110	242253965	11
Clupea harengus	Atlantic herring	Clu h 1.0301	Food Animal	Clupea Clu h 1	109	242253967	11
Cochliobolus lunatus	Fungus	Cur l 3.0101	Aero Fungi	Cochliobolus (Curvularia) Cur l 3	108	14585755	15
Cochliobolus lunatus	Fungus	Cur l 2.01	Aero Fungi	Cochliobolus (Curvularia) enolase Cur l 2.01	440	14585753	8
Cochliobolus lunatus	Fungus	Cur l 4.0101	Aero Fungi	Curvularia Cur l 4	506	193507493	15
Coffea arabica	Coffee	Cof a 3.0101	Food Plant	Coffea Cof a 3	65	494319676	15
Coffea arabica	Coffee	Cof a 1.0101	Food Plant	Coffea Cof a 1	263	296399179	15
Coffea arabica	Coffee	Cof a 2.0101	Food Plant	Coffea Cof a 2	80	494319674	15

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Coprinus comatus	Shaggy mane	Cop c 1	Food Fungi	Coprinus Cop c 1	81	4538529	7
Corylus avellana	European hazelnut	Cor a 1.0103	Aero Plant	Corylus Cor a 1	160	22684	7
Corylus avellana	European hazelnut	Cor a 1.0104	Aero Plant	Corylus Cor a 1	160	22686	7
Corylus avellana	European hazelnut	Cor a 1.0102	Aero Plant	Corylus Cor a 1	160	22690	7
Corylus avellana	European hazelnut	Cor a 1.0201	Aero Plant	Corylus Cor a 1	160	1321731	7
Corylus avellana	European hazelnut	Cor a 1.0301	Aero Plant	Corylus Cor a 1	160	1321733	7
Corylus avellana	European hazelnut	Cor a 1.0401	Food Plant	Corylus Cor a 1	161	5726304	7
Corylus avellana	European hazelnut	Cor a 1.0402	Food Plant	Corylus Cor a 1	161	11762102	7
Corylus avellana	European hazelnut	Cor a 1.0403	Food Plant	Corylus Cor a 1	161	11762104	7
Corylus avellana	European hazelnut	Cor a 1.0404	Food Plant	Corylus Cor a 1	161	11762106	7
Corylus avellana	European hazelnut	Cor a 1.0101	Food Plant	Corylus Cor a 1	160	22688	15
Corylus avellana	European hazelnut	Cor a 11	Food Plant	Corylus Cor a 11	448	19338630	7
Corylus avellana	European hazelnut	Cor a 12.0101	Food Plant	Corylus Cor a 12	159	49617323	15
Corylus avellana	European hazelnut	Cor a 13.0101	Food Plant	Corylus Cor a 13 Oleosin	140	29170509	7
Corylus avellana	European hazelnut	Cor a 14.0101	Food Plant	Corylus Cor a 14 2S albumin	147	226437844	11

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Corylus avellana	European hazelnut	Cor a 2.0101	Aero Plant	Corylus Cor a 2 profilins	131	12659206	7
Corylus avellana	European hazelnut	Cor a 2.0102	Aero Plant	Corylus Cor a 2 profilins	131	12659208	7
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	131	576017879	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	133	576017878	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	133	576017819	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	131	576017779	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	133	576017777	15
Corylus avellana	European hazelnut	Unassigned	Food Plant	Corylus Cor a 2 profilins	133	576017776	15
Corylus avellana	European hazelnut	Cor a 8	Food Plant	Corylus Cor a 8	115	13507262	7
Corylus avellana	European hazelnut	Unassigned	Aero Plant	Corylus Cor a 9	514	557792009	16
Corylus avellana	European hazelnut	Cor a 9	Food Plant	Corylus Cor a 9	515	18479082	7
Crangon crangon	Shrimp	Cra c 1.0101	Food Animal	Crangon Cra c 1 tropomyosin	284	238477263	12
Crangon crangon	Shrimp	Cra c 2.0101	Food Animal	Crangon Cra c 2 arginine kinase	356	238477265	12
Crangon crangon	Shrimp	Cra c 4.0101	Food Animal	Crangon Cra c 4 sarcoplasmic calcium-binding prote	193	238477327	12
Crangon crangon	Shrimp	Cra c 5.0101	Food Animal	Crangon Cra c 5 myosin light chain	153	238477331	12

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Crangon crangon	Shrimp	Cra c 6.0101	Food Animal	Crangon Cra c 6 troponin C	150	238477333	12
Crangon crangon	Shrimp	Cra c 8.0101	Food Animal	Crangon Cra c 8 triosephosphate isomerase	249	238477329	12
Crassostrea gigas	American oyster	Unassigned	Food Animal	Crassostrea Tropomyosin	233	15419048	7
Crassostrea gigas	American oyster	Unassigned	Food Animal	Crassostrea Tropomyosin	284	219806594	10
Crassostrea virginica	Eastern oyster	Unassigned	Food Animal	Crassostrea Tropomyosin	160	3668408	7
Crocus sativus	Saffron crocus	Cro s 2.0101	Aero Plant	Crocus profilin Cro s 2	131	58700651	7
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria class IV chitinase	281	56550550	7
Cryptomeria japonica	Japanese cedar	Cry j 1.0102	Aero Plant	Cryptomeria Cry j 1	374	493634	8
Cryptomeria japonica	Japanese cedar	Cry j 1.0101	Aero Plant	Cryptomeria Cry j 1	374	493632	15
Cryptomeria japonica	Japanese cedar	Cry j 1.0103	Aero Plant	Cryptomeria Cry j 1	374	516728	15
Cryptomeria japonica	Japanese cedar	Cry j 2	Aero Plant	Cryptomeria Cry j 2	514	1171004	7
Cryptomeria japonica	Japanese cedar	Cry j 2	Aero Plant	Cryptomeria Cry j 2	514	24898904	7
Cryptomeria japonica	Japanese cedar	Cry j 2	Aero Plant	Cryptomeria Cry j 2	514	24898906	7
Cryptomeria japonica	Japanese cedar	Cry j 2	Aero Plant	Cryptomeria Cry j 2	514	24898908	7
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841607	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841617	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841629	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841635	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841641	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841653	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841657	8
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841663	8

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	514	114841665	8
Cryptomeria japonica	Japanese cedar	Cry j 2.0101	Aero Plant	Cryptomeria Cry j 2	514	506858	9
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Cry j 2	65	123299282	9
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria Isoflavone reductase-like protein	306	19847822	7
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria pollen allergen CJP-8	165	291621332	12
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria pollen allergen CPA63	472	293329689	12
Cryptomeria japonica	Japanese cedar	Unassigned	Aero Plant	Cryptomeria thaumatin like Cry j 3.8	225	139002766	8
Cucumis melo	Muskmelon	Cuc m 1	Food Plant	Cucumis Cuc m 1	731	807698	7
Cucumis melo	Muskmelon	Unassigned	Food Plant	Cucumis Cuc m 2	131	31559374	7
Cucumis melo	Muskmelon	Cuc m 2	Food Plant	Cucumis Cuc m 2	131	58263793	7
Cucumis melo	Muskmelon	Cuc m 3.0101	Food Plant	Cucumis Cuc m 3	41	46396595	9
Cucumis melo var. inodorus	Muskmelon	Unassigned	Food Plant	Cucumis Cuc m 3	151	171464770	9
Cucumis melo var. reticulatus	Netted muskmelon	Unassigned	Food Plant	Cucumis Cuc m 2	131	57021110	7
Cupressus arizonica	Arizona Cypress	Cup a 1	Aero Plant	Cupressus Cup a 1/Cup s 1	346	6562326	7
Cupressus arizonica	Arizona Cypress	Cup a 1	Aero Plant	Cupressus Cup a 1/Cup s 1	367	19069497	7
Cupressus arizonica	Arizona Cypress	Unassigned	Aero Plant	Cupressus Cup a 1/Cup s 1	347	118197955	8
Cupressus arizonica	Arizona Cypress	Unassigned	Aero Plant	Cupressus Cup a 4	165	261865475	11
Cupressus arizonica	Arizona Cypress	Unassigned	Aero Plant	Cupressus Cup s 3	199	9929163	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0101	Aero Plant	Cupressus Cup a 1/Cup s 1	367	8101711	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0102	Aero Plant	Cupressus Cup a 1/Cup s 1	367	8101713	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0103	Aero Plant	Cupressus Cup a 1/Cup s 1	367	8101715	7
Cupressus sempervirens	Mediterranean	Cup s 1.0104	Aero Plant	Cupressus Cup a 1/Cup s 1	367	8101717	7

	Cypress						
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Cupressus sempervirens	Mediterranean Cypress	Cup s 1.0105	Aero Plant	Cupressus Cup a 1/Cup s 1	367	8101719	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 3.0102	Aero Plant	Cupressus Cup s 3	225	38456228	7
Cupressus sempervirens	Mediterranean Cypress	Cup s 3.0101	Aero Plant	Cupressus Cup s 3	225	38456226	11
Cynodon dactylon	Bermuda grass	Cyn d 1	Aero Plant	Cynodon Cyn d 1	25	451274	7
Cynodon dactylon	Bermuda grass	Cyn d 1	Aero Plant	Cynodon Cyn d 1	38	451275	7
Cynodon dactylon	Bermuda grass	Cyn d 1	Aero Plant	Cynodon Cyn d 1	34	691726	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0204	Aero Plant	Cynodon Cyn d 1	244	10314021	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0201	Aero Plant	Cynodon Cyn d 1	244	15384338	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0202	Aero Plant	Cynodon Cyn d 1	262	16076693	7
Cynodon dactylon	Bermuda grass	Cyn d 1	Aero Plant	Cynodon Cyn d 1	262	16076695	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0203	Aero Plant	Cynodon Cyn d 1	262	16076697	7
Cynodon dactylon	Bermuda grass	Cyn d 1.0101	Aero Plant	Cynodon Cyn d 1	246	7687901	10
Cynodon dactylon	Bermuda grass	Cyn d 12	Aero Plant	Cynodon Cyn d 12	131	2154730	7
Cynodon dactylon	Bermuda grass	Unassigned	Aero Plant	Cynodon Cyn d 7	71	1247373	7
Cynodon dactylon	Bermuda grass	Unassigned	Aero Plant	Cynodon Cyn d 7	73	1247375	7
Cynodon dactylon	Bermuda grass	Cyn d 7	Aero Plant	Cynodon Cyn d 7	82	1871507	7
Cynodon dactylon	Bermuda grass	Unassigned	Aero Plant	Cynodon Group 4 like-allergen FAD-linked oxidoredu	522	41393750	7
Cyprinus carpio	Carp	Cyp c 1.0101	Food Animal	Cyprinus Cyp c 1 Parvalbumin	109	17977825	7
Cyprinus carpio	Carp	Cyp c 1.0201	Food Animal	Cyprinus Cyp c 1 Parvalbumin	109	17977827	7
Dactylis glomerata	Orchard grass	Dac g 1	Aero Plant	Dactylis Dac g 1	264	18093991	7
Dactylis glomerata	Orchard grass	Dac g 1.0101	Aero Plant	Dactylis Dac g 1	240	33149333	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Dactylis glomerata	Orchard grass	Dac g 2	Aero Plant	Dactylis Dac g 2	196	1093120	7
Dactylis glomerata	Orchard grass	Dac g 2	Aero Plant	Dactylis Dac g 2	122	4007040	7
Dactylis glomerata	Orchard grass	Dac g 3	Aero Plant	Dactylis Dac g 3	96	1825459	7
Dactylis glomerata	Orchard grass	Dac g 4.0101	Aero Plant	Dactylis Dac g 4	55	32363463	9
Dactylis glomerata	Orchard grass	Dac g 5	Aero Plant	Dactylis Dac g 5	290	14423124	7
Dactylis glomerata	Orchard grass	Dac g 5	Aero Plant	Dactylis Dac g 5	265	18093971	7
Daucus carota	Carrot	Unassigned	Food Plant	Daucus cyclophilin	171	373939374	13
Daucus carota	Carrot	Dau c 1.0101	Food Plant	Daucus Dau c 1	168	1335877	7
Daucus carota	Carrot	Dau c 1.0102	Food Plant	Daucus Dau c 1	154	1663522	7
Daucus carota	Carrot	Dau c 1.0103	Food Plant	Daucus Dau c 1	154	2154732	7
Daucus carota	Carrot	Dau c 1.0104	Food Plant	Daucus Dau c 1	154	2154734	7
Daucus carota	Carrot	Dau c 1.0105	Food Plant	Daucus Dau c 1	154	2154736	7
Daucus carota	Carrot	Dau c 1.0201	Food Plant	Daucus Dau c 1	154	18652047	7
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	154	19912791	7
Daucus carota	Carrot	Dau c 1.0301	Food Plant	Daucus Dau c 1	154	302379147	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	154	302379149	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	154	302379151	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	154	302379153	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	154	302379155	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	154	302379157	12
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 1	154	302379159	12
Daucus carota	Carrot	Dau c 4	Food Plant	Daucus Dau c 4	134	18652049	7
Daucus carota	Carrot	Dau c 5.0101	Food Plant	Daucus Dau c 5 isoflavone reductase	306	373939378	13
Daucus carota	Carrot	Unassigned	Food Plant	Daucus Dau c 5 isoflavone reductase	306	373939376	13
Davidiella tassiana	Fungus	Cla h 10	Aero Fungi	Cladosporium / Davidiella Cla h 10	496	76666769	7
Davidiella tassiana	Fungus	Cla h 5.0101	Aero Fungi	Cladosporium / Davidiella Cla h 5	111	5777795	10

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Davidiella tassiana	Fungus	Cla h 6	Aero Fungi	Cladosporium / Davidiella Cla h 6	440	467660	7
Davidiella tassiana	Fungus	Cla h 6	Aero Fungi	Cladosporium / Davidiella Cla h 6	440	6015094	7
Davidiella tassiana	Fungus	Cla h 7.0101	Aero Fungi	Cladosporium / Davidiella Cla h 7	204	467629	10
Davidiella tassiana	Fungus	Cla h 8.0101	Aero Fungi	Cladosporium / Davidiella Cla h 8	267	37780015	8
Davidiella tassiana	Fungus	Cla h 9.0101	Aero Fungi	Cladosporium / Davidiella Cla h 9 vacuolar serine	518	60116876	10
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella Heat shock 70 kDa protei	643	729764	7
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella Hydrophobin	105	22796153	7
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella putative hydrolase	274	76446100	10
Davidiella tassiana	Fungus	Unassigned	Aero Fungi	Cladosporium / Davidiella Putative nuclear transpo	125	21748151	7
Dermatophagoides farinae	House dust mite	Der f 13.0101	Aero Mite	Dermatophagoides Der f 13	131	37958167	11
Dermatophagoides farinae	House dust mite	Der f 15	Aero Mite	Dermatophagoides Der f 15 Der p 15	555	5815436	7
Dermatophagoides farinae	House dust mite	Der f 16	Aero Mite	Dermatophagoides Der f 16	480	21591547	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 20 / Der p 20	356	37785884	8
Dermatophagoides farinae	House dust mite	Der f 20.0201	Aero Mite	Dermatophagoides Der f 20 / Der p 20	356	156938897	9
Dermatophagoides farinae	House dust mite	Der f 20.0101	Aero Mite	Dermatophagoides Der f 20 / Der p 20	356	685432792	15
Dermatophagoides farinae	House dust mite	Der f 24.0101	Aero Mite	Dermatophagoides Der f 24 and Der p 24 Ubiquinol	118	477541860	14
Dermatophagoides	House dust mite	Der f 25.0101	Aero Mite	Dermatophagoides Der f 25	247	442565872	14

farinae							
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Dermatophagoides farinae	House dust mite	Der f 25.0201	Aero Mite	Dermatophagoides Der f 25	247	685432812	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 27	427	37958175	8
Dermatophagoides farinae	House dust mite	Der f 27.0101	Aero Mite	Dermatophagoides Der f 27	427	685432794	15
Dermatophagoides farinae	House dust mite	Der f 28.0101	Aero Mite	Dermatophagoides Der f 28	659	442565876	14
Dermatophagoides farinae	House dust mite	Der f 28.0201	Aero Mite	Dermatophagoides Der f 28	654	685432788	15
Dermatophagoides farinae	House dust mite	Der f 29.0101	Aero Mite	Dermatophagoides Der f 29	164	37958141	8
Dermatophagoides farinae	House dust mite	Der f 30.0101	Aero Mite	Dermatophagoides Der f 30	171	442565878	14
Dermatophagoides farinae	House dust mite	Der f 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	321	730035	7
Dermatophagoides farinae	House dust mite	Der f 1.0101	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	321	27530349	7
Dermatophagoides farinae	House dust mite	Der f 1.0102	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	276	76097507	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	321	156106765	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	263	37958161	12
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	305	387178006	13
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	303	305387429	15

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Dermatophagoides farinae	House dust mite	Der f 1.0108	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	321	119633260	15
Dermatophagoides farinae	House dust mite	Der f 1.0109	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	321	119633262	15
Dermatophagoides farinae	House dust mite	Der f 1.0110	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	321	119633264	15
Dermatophagoides farinae	House dust mite	Der f 10.0101	Aero Mite	Dermatophagoides Der p 10 / Der f 10	299	1359436	7
Dermatophagoides farinae	House dust mite	Der f 11	Aero Mite	Dermatophagoides Der p 11 / Der f 11	692	13785807	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 11 / Der f 11	876	685432820	16
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 14 / Der f 14	341	729979	7
Dermatophagoides farinae	House dust mite	Der f 14.0101	Aero Mite	Dermatophagoides Der p 14 / Der f 14	349	1545803	7
Dermatophagoides farinae	House dust mite	Der f 2.0102	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	217306	7
Dermatophagoides farinae	House dust mite	Der f 2.0103	Aero Mite	Dermatophagoides Der p 2 / Der f 2	138	217308	7
Dermatophagoides farinae	House dust mite	Der f 2.0105	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	17978844	7
Dermatophagoides farinae	House dust mite	Der f 2.0108	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	55859470	7
Dermatophagoides farinae	House dust mite	Der f 2.0107	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	55859468	7
Dermatophagoides farinae	House dust mite	Der f 2.0106	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	55859466	7
Dermatophagoides farinae	House dust mite	Der f 2.0109	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	76097511	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	256631558	11
Dermatophagoides farinae	House dust mite	Der f 2.0112	Aero Mite	Dermatophagoides Der p 2 / Der f 2	140	37958157	12
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	387178018	13
Dermatophagoides farinae	House dust mite	Der f 2.0101	Aero Mite	Dermatophagoides Der p 2 / Der f 2	138	217304	15
Dermatophagoides farinae	House dust mite	Der f 2.0116	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	124696217	15
Dermatophagoides farinae	House dust mite	Der f 3	Aero Mite	Dermatophagoides Der p 3 / Der f 3	232	1314736	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 3 / Der f 3	259	163638970	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 3 / Der f 3	259	218203816	10
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 3 / Der f 3	259	218203818	10
Dermatophagoides farinae	House dust mite	Der f 3.0101	Aero Mite	Dermatophagoides Der p 3 / Der f 3	259	1311457	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 6 / Der f 6	20	404371	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 6 / Der f 6	279	218203826	10
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 6 / Der f 6	279	218203828	10
Dermatophagoides farinae	House dust mite	Der f 6.0101	Aero Mite	Dermatophagoides Der p 6 / Der f 6	279	6808530	11
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 7 / Der f 7	213	37958165	8

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 7 / Der f 7	213	218203832	10
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 7 / Der f 7	213	685432798	16
Dermatophagoides farinae	House dust mite	Der f 18	Aero Mite	Dermatophagoides farinae Der f 18 Der p 18	462	27550039	7
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 21 Chew	136	140089314	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 21 Chew	136	140089316	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 21 Chew	136	140089320	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 21 Chew	136	140089322	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 21 Chew	136	140089324	9
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides farinae Der f 21 Chew	136	140089326	9
Dermatophagoides farinae	House dust mite	Der f 21.0101	Aero Mite	Dermatophagoides farinae Der f 21 Chew	136	567768173	15
Dermatophagoides farinae	House dust mite	Unassigned	Aero Mite	Dermatophagoides Profilin	130	685432824	16
Dermatophagoides microceras	House dust mite	Der m 1.0101	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	30	127205	7
Dermatophagoides pteronyssinus	House dust mite	Der p 15.0101	Aero Mite	Dermatophagoides Der f 15 Der p 15	532	67975089	7
Dermatophagoides pteronyssinus	House dust mite	Der p 15.0102	Aero Mite	Dermatophagoides Der f 15 Der p 15	558	78128018	7
Dermatophagoides pteronyssinus	House dust mite	Der p 20.0101	Aero Mite	Dermatophagoides Der f 20 / Der p 20	356	188485735	10

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Dermatophagoides pteronyssinus	House dust mite	Der p 24.0101	Aero Mite	Dermatophagoides Der f 24 and Der p 24 Ubiquinol	118	922664427	16
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der f 30	180	15072346	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725560	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725562	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725564	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725566	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725568	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725570	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725572	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725574	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725576	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725578	7
Dermatophagoides pteronyssinus	House dust mite	Der p 1	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	21725580	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	216	61608445	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	83754033	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	223	157696052	9
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	222	223365887	10
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	320	195933901	10
Dermatophagoides pteronyssinus	House dust mite	Der p 1.0124	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	302	256095986	11
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	96	387592	11
Dermatophagoides pteronyssinus	House dust mite	Der p 1.0101	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	320	511953	12
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	304	387178004	13
Dermatophagoides pteronyssinus	House dust mite	Der p 1.0113	Aero Mite	Dermatophagoides Der p 1 Der f 1 Der m 1	302	76097505	15
Dermatophagoides pteronyssinus	House dust mite	Der p 10	Aero Mite	Dermatophagoides Der p 10 / Der f 10	284	2353266	7
Dermatophagoides pteronyssinus	House dust mite	Der p 10.0101	Aero Mite	Dermatophagoides Der p 10 / Der f 10	284	2440053	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 10 / Der f 10	281	80553470	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 10 / Der f 10	284	208970286	10
Dermatophagoides pteronyssinus	House dust mite	Der p 11.0101	Aero Mite	Dermatophagoides Der p 11 / Der f 11	875	37778944	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 13	131	302035350	12
Dermatophagoides pteronyssinus	House dust mite	Der p 14.0101	Aero Mite	Dermatophagoides Der p 14 / Der f 14	1662	20385544	7

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Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21465915	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725582	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725584	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725586	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725588	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725590	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725592	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725594	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725596	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725600	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725602	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	21725604	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	76097509	7
Dermatophagoides pteronyssinus	House dust mite	Der p 2.0114	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	99644635	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	130	110560872	9

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Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	157829757	9
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	145	164415595	9
Dermatophagoides pteronyssinus	House dust mite	Der p 2.0101	Aero Mite	Dermatophagoides Der p 2 / Der f 2	145	9280543	10
Dermatophagoides pteronyssinus	House dust mite	Der p 2.0110	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	256095984	11
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	387178014	13
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	129	387178008	13
Dermatophagoides pteronyssinus	House dust mite	Der p 21.0101	Aero Mite	Dermatophagoides Der p 21	140	85687540	7
Dermatophagoides pteronyssinus	House dust mite	Der p 23.0101	Aero Mite	Dermatophagoides Der p 23 Peritrophin-like protein	90	171466145	14
Dermatophagoides pteronyssinus	House dust mite	Der p 3	Aero Mite	Dermatophagoides Der p 3 / Der f 3	261	511476	7
Dermatophagoides pteronyssinus	House dust mite	Der p 4	Aero Mite	Dermatophagoides Der p 4	496	5059162	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 4	19	1351935	7
Dermatophagoides pteronyssinus	House dust mite	Der p 5.0102	Aero Mite	Dermatophagoides Der p 5	132	913285	7
Dermatophagoides pteronyssinus	House dust mite	Der p 5	Aero Mite	Dermatophagoides Der p 5	132	28798085	7
Dermatophagoides pteronyssinus	House dust mite	Der p 5.0101	Aero Mite	Dermatophagoides Der p 5	148	9072	15
Dermatophagoides pteronyssinus	House dust mite	Der p 6	Aero Mite	Dermatophagoides Der p 6 / Der f 6	20	1352239	7

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Dermatophagoides pteronyssinus	House dust mite	Der p 7.0101	Aero Mite	Dermatophagoides Der p 7 / Der f 7	215	1045602	7
Dermatophagoides pteronyssinus	House dust mite	Der p 7	Aero Mite	Dermatophagoides Der p 7 / Der f 7	215	10189811	7
Dermatophagoides pteronyssinus	House dust mite	Der f 7.0101	Aero Mite	Dermatophagoides Der p 7 / Der f 7	213	1311689	10
Dermatophagoides pteronyssinus	House dust mite	Der p 8.0101	Aero Mite	Dermatophagoides Der p 8	219	807138	7
Dermatophagoides pteronyssinus	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 8	219	60920878	7
Dermatophagoides pteronyssinus	House dust mite	Der p 18.0101	Aero Mite	Dermatophagoides farinae Der f 18 Der p 18	462	67975085	7
Dermatophagoides siboney	House dust mite	Unassigned	Aero Mite	Dermatophagoides Der p 2 / Der f 2	146	86450747	7
Dolichovespula arenaria	Yellow jacket	Dol a 5.0101	Venom or Salivary	Dolichovespula Venom allergen 5	203	156719	11
Dolichovespula maculata	Whiteface hornet	Dol m 1.02	Venom or Salivary	Dolichovespula Dol m 1 Phospholipase A1B	303	1709542	7
Dolichovespula maculata	Whiteface hornet	Dol m 1.0101	Venom or Salivary	Dolichovespula Dol m 1 Phospholipase A1B	317	288917	8
Dolichovespula maculata	Whiteface hornet	Dol m 2.0101	Venom or Salivary	Dolichovespula Dol m 2 Hyaluronidase	331	511604	11
Dolichovespula maculata	Whiteface hornet	Dol m 5.0101	Venom or Salivary	Dolichovespula Venom allergen 5	227	156715	11
Dolichovespula maculata	Whiteface hornet	Dol m 5.02	Venom or Salivary	Dolichovespula Venom allergen 5	212	552080	11
Epicoccum nigrum	Fungus	Epi p 1.0101	Aero Fungi	Epicoccum Epi p 1	18	24636820	9
Equus caballus	Horse	Equ c 1.0101	Aero Animal	Equus Equ c 1	187	1575778	11

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Equus caballus	Horse	Equ c 2.0101	Aero Animal	Equus Equ c 2	29	3121755	7
Equus caballus	Horse	Equ c 2.0102	Aero Animal	Equus Equ c 2	19	3121756	7
Equus caballus	Horse	Equ c 3.0101	Aero Animal	Equus Equ c 3	607	399672	7
Equus caballus	Horse	Equ c 4.0101	Aero Animal	Equus Equ c 4 and Equ c 5	228	126514234	8
Erimacrus isenbeckii	Horsehair crab	Unassigned	Food Animal	Erimacrus tropomyosin	284	125995169	8
Erimacrus isenbeckii	Horsehair crab	Unassigned	Food Animal	Erimacrus tropomyosin	284	125995171	8
Eriocheir sinensis	Chinese mitten crab	Unassigned	Food Animal	Eriocheir tropomyosin	284	134305330	8
Euphausia pacifica	North Pacific Krill	Unassigned	Food Animal	Euphausia	284	156712754	9
Euphausia superba	Krill	Unassigned	Food Animal	Euphausia	284	156712752	9
Euroglyphus maynei	House dust mite	Eur m 1.0101	Aero Mite	Euroglyphus Eur m 1	321	3941388	7
Euroglyphus maynei	House dust mite	Unassigned	Aero Mite	Euroglyphus Eur m 1	327	3941390	7
Euroglyphus maynei	House dust mite	Eur m 2.0102	Aero Mite	Euroglyphus Eur m 2	135	3941386	7
Euroglyphus maynei	House dust mite	Eur m 2.0101	Aero Mite	Euroglyphus Eur m 2	145	3941384	11
Evynnis japonica	Crimson seabream	Unassigned	Food Animal	Evynnis parvalbumin	109	327342663	12
Evynnis japonica	Crimson seabream	Unassigned	Food Animal	Evynnis parvalbumin	108	327342661	12
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum BW 8 kDa protein	133	17907758	7
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum esculentum 13S globulins IgE binding	453	584592120	15

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Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum esculentum 13S globulins IgE binding	453	584592116	15
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Fag e 2 Fag t 2	127	61970231	7
Fagopyrum esculentum	Buckwheat	Fag e 2.0101	Food Plant	Fagopyrum Fag e 2 Fag t 2	149	83416591	7
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	565	29839254	9
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	504	29839255	9
Fagopyrum esculentum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	538	29839419	9
Fagopyrum esculentum	Buckwheat	Fag e 3.0101	Food Plant	Fagopyrum vicilin-like protein	136	146217148	9
Fagopyrum tataricum	Buckwheat	Unassigned	Food Plant	Fagopyrum BW 8 kDa protein	133	144228127	8
Fagopyrum tataricum	Buckwheat	Fag t 2.0101	Food Plant	Fagopyrum Fag e 2 Fag t 2	149	320445237	12
Fagopyrum tataricum	Buckwheat	Unassigned	Food Plant	Fagopyrum Legumin-like protein	515	113200131	9
Fagus sylvatica	European Beech	Unassigned	Aero Plant	Fagus Fag s 1	160	212291472	10
Fagus sylvatica	European Beech	Fag s 1	Aero Plant	Fagus Fag s 1	160	212291470	10
Fagus sylvatica	European Beech	Unassigned	Aero Plant	Fagus Fag s 1	160	212291474	10
Farfantepenaeus aztecus	Brown shrimp	Pen a 1	Food Animal	Farfantepenaeus Pen a 1	284	73532979	7
Felis catus	Cat	Fel d 1	Aero Animal	Felis Fel d 1 Chain 1	88	1364212	7
Felis catus	Cat	Fel d 1	Aero Animal	Felis Fel d 1 Chain 1	92	1364213	7
Felis catus	Cat	Fel d 1	Aero Animal	Felis Fel d 1 Chain 1	92	1169665	7
Felis catus	Cat	Fel d 1.0101	Aero Animal	Felis Fel d 1 Chain 1	92	163825	7
Felis catus	Cat	Unassigned	Aero Animal	Felis Fel d 1 Chain 1	88	114326420	8
Felis catus	Cat	Unassigned	Aero Animal	Felis Fel d 1 chain 2	107	395407	8

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Felis catus	Cat	Fel d 1.0101	Aero Animal	Felis Fel d 1 chain 2	109	163823	12
Felis catus	Cat	Fel d 2.0101	Aero Animal	Felis Fel d 2	608	886485	7
Felis catus	Cat	Fel d 3	Aero Animal	Felis Fel d 3	98	17939981	7
Felis catus	Cat	Fel d 4	Aero Animal	Felis Fel d 4	186	45775300	7
Felis catus	Cat	Fel d 7.0101	Aero Animal	Felis Fel d 7	180	301072397	12
Felis catus	Cat	Fel d 8.0101	Aero Animal	Felis Fel d 8 latherin-like	228	303387468	12
Fenneropenaeus chinensis	Chinese white shrimp	Unassigned	Food Animal	Fenneropenaeus Arginine kinase	53	46486948	9
Fenneropenaeus chinensis	Chinese white shrimp	Unassigned	Food Animal	Fenneropenaeus Arginine kinase	53	46486951	9
Fenneropenaeus merguensis	Banana Prawn	Unassigned	Food Animal	Fenneropenaeus hemocyanin banana shrimp	661	530340505	15
Fenneropenaeus merguensis	Banana Prawn	Unassigned	Food Animal	Fenneropenaeus enolase	117	344049993	15
Forcipomyia taiwana	biting midges	For t 1.0101	Venom or Salivary	Forcipomyia For t 1	118	188572341	10
Forcipomyia taiwana	biting midges	For t 1.0101	Venom or Salivary	Forcipomyia For t 2	325	188572343	10
Fragaria x ananassa	Strawberry	Fra a 1	Food Plant	Fragaria Fra a 1	160	90185692	7
Fragaria x ananassa	Strawberry	Fra a 1	Food Plant	Fragaria Fra a 1	159	90185688	7
Fragaria x ananassa	Strawberry	Fra a 1	Food Plant	Fragaria Fra a 1	160	90185684	7
Fragaria x ananassa	Strawberry	Fra a 1	Food Plant	Fragaria Fra a 1	160	90185682	7
Fragaria x ananassa	Strawberry	Fra a 1	Food Plant	Fragaria Fra a 1	160	88082485	7

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Fragaria x ananassa	Strawberry	Unassigned	Food Plant	Fragaria Fra a 1	162	550544407	15
Fragaria x ananassa	Strawberry	Fra a 3.0101	Food Plant	Fragaria Fra a 3	117	18477856	15
Fragaria x ananassa	Strawberry	Fra a 3.0102	Food Plant	Fragaria Fra a 3	117	67937767	15
Fragaria x ananassa	Strawberry	Fra a 3.0201	Food Plant	Fragaria Fra a 3	117	67937765	15
Fragaria x ananassa	Strawberry	Fra a 3.0202	Food Plant	Fragaria Fra a 3	117	67937773	15
Fraxinus excelsior	European ash	Unassigned	Aero Plant	Fraxinus excelsior polcalcin	84	589912891	15
Fraxinus excelsior	European ash	Unassigned	Aero Plant	Fraxinus excelsior profilin	134	589912889	15
Fraxinus excelsior	European ash	Fra e 1.0201	Aero Plant	Fraxinus Fra e 1	146	34978692	7
Fraxinus excelsior	European ash	Fra e 1.0102	Aero Plant	Fraxinus Fra e 1	145	56122438	7
Fraxinus excelsior	European ash	Fra e 1.0101	Aero Plant	Fraxinus Fra e 1	145	33327133	7
Fulvia mutica	Mollusc	Unassigned	Food Animal	Fulvia tropomyosin	284	219806596	10
Fusarium culmorum	Fungus	Unassigned	Aero Fungi	Fusarium claimed Fus c 3	450	25361513	7
Fusarium culmorum	Fungus	Fus c 1	Aero Fungi	Fusarium Fus c 1	109	19879657	7
Fusarium culmorum	Fungus	Fus c 2	Aero Fungi	Fusarium Fus c 2	121	19879659	7
Fusarium proliferatum	Fungus	Fus p 4.0101	Aero Fungi	Fusarium Fus p 4	323	619498167	15
Gadus callarias	Baltic cod	Gad c 1	Food Animal	Gadus Gad c 1 Gad m 1	113	131112	7
Gadus morhua	Atlantic cod	Gad m 1.0101	Food Animal	Gadus Gad c 1 Gad m 1	109	14531014	7
Gadus morhua	Atlantic cod	Gad m 1.0201	Food Animal	Gadus Gad c 1 Gad m 1	109	14531016	7
Gadus morhua	Atlantic cod	Gad m 1.0102	Food Animal	Gadus Gad c 1 Gad m 1	109	148356691	9
Gadus morhua	Atlantic cod	Gad m 1.0202	Food Animal	Gadus Gad c 1 Gad m 1	109	148356693	9
Gadus morhua	Atlantic cod	Gad m 2.0101	Food Animal	Gadus Morhua Gad m 2	11	576011130	15

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Gadus morhua	Atlantic cod	Gad m 3.0101	Food Animal	Gadus morhua Gad m 3	15	576011086	15
Gallus gallus	Chicken	Gal d 1	Food Animal	Gallus Gal d 1	210	124757	7
Gallus gallus	Chicken	Unassigned	Food Animal	Gallus Gal d 1	210	209979542	10
Gallus gallus	Chicken	Gal d 2	Food Animal	Gallus Gal d 2	155	63052	7
Gallus gallus	Chicken	Gal d 2.0101	Food Animal	Gallus Gal d 2	386	129293	7
Gallus gallus	Chicken	Gal d 2	Food Animal	Gallus Gal d 2	386	808969	7
Gallus gallus	Chicken	Gal d 2	Food Animal	Gallus Gal d 2	385	15826578	7
Gallus gallus	Chicken	Unassigned	Food Animal	Gallus Gal d 2	385	34811333	7
Gallus gallus	Chicken	Gal d 3.0101	Food Animal	Gallus Gal d 3	705	757851	7
Gallus gallus	Chicken	Gal d 3	Food Animal	Gallus Gal d 3	705	1351295	7
Gallus gallus	Chicken	Gal d 4	Food Animal	Gallus Gal d 4	147	126608	7
Gallus gallus	Chicken	Gal d 4	Food Animal	Gallus Gal d 4	24	212279	7
Gallus gallus	Chicken	Gal d 4.0101	Food Animal	Gallus Gal d 4	147	63581	15
Gallus gallus	Chicken	Gal d 5	Food Animal	Gallus Gal d 5	615	63748	7
Gallus gallus	Chicken	Unassigned	Food Animal	Gallus Gal d 6 YGP42	284	3	14

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Gallus gallus	Chicken	Unassigned	Food Animal	Gallus gallus Gal d 7	192	55584149	16
Gallus gallus	Chicken	Unassigned	Food Animal	Gallus parvalbumin	110	225877920	10
Glossina morsitans morsitans	Tsetse fly	Unassigned	Venom or Salivary	Glossina Glo m 5	258	289740263	11
Glossina morsitans morsitans	Tsetse fly	Unassigned	Venom or Salivary	Glossina Glo m 5	259	289742475	11
Glossina morsitans morsitans	Tsetse fly	Unassigned	Venom or Salivary	Glossina Glo m 5	222	289742483	11
Glossina morsitans morsitans	Tsetse fly	Glo m 5.0101	Venom or Salivary	Glossina Glo m 5	259	8927462	11
Glycine max	Soybean	Gly m 1.0101	Food Plant	Glycine Gly m 1	80	123506	12
Glycine max	Soybean	Gly m 3.0102	Food Plant	Glycine Gly m 3	131	3021373	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 3	131	156938901	9
Glycine max	Soybean	Gly m 3.0101	Food Plant	Glycine Gly m 3	131	3021375	15
Glycine max	Soybean	Gly m 4	Food Plant	Glycine Gly m 4	158	18744	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0101 alpha subunit beta congl	605	18536	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0101 alpha subunit beta congl	218	169927	7
Glycine max	Soybean	Gly m 5.0101	Food Plant	Glycine Gly m 5.0101 alpha subunit beta congl	543	9967357	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0201 alpha prime beta congly	639	169929	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0201 alpha prime beta congly	621	15425631	15
Glycine max	Soybean	Gly m 5.0201	Food Plant	Glycine Gly m 5.0201 alpha prime beta congly	559	9967361	15

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Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 5.0301 beta sub unit beta congl	439	15425637	15
Glycine max	Soybean	Gly m 5.0301	Food Plant	Glycine Gly m 5.0301 beta sub unit beta congl	439	121282	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0101	495	18615	7
Glycine max	Soybean	Gly m 6.0101	Food Plant	Glycine Gly m 6.0101	495	169973	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0201	485	18609	7
Glycine max	Soybean	Gly m 6.0201	Food Plant	Glycine Gly m 6.0201	485	218265	15
Glycine max	Soybean	Gly m 6.0301	Food Plant	Glycine Gly m 6.0301	481	18639	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0401	562	18641	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0401	562	732706	7
Glycine max	Soybean	Gly m 6.0401	Food Plant	Glycine Gly m 6.0401	563	4249568	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0501	516	169969	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0501	240	169971	7
Glycine max	Soybean	Gly m 6.0501	Food Plant	Glycine Gly m 6.0501	517	10566449	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m 8 2s albumin	155	4097894	14
Glycine max	Soybean	Gly m 8.0101	Food Plant	Glycine Gly m 8 2s albumin	158	351727517	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	373	187766751	10
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	373	187766749	10
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	373	187766747	10
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	455	187766755	10
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 28K	476	410067729	15
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 30 kDa	379	129353	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 30 kDa	379	1199563	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Gly m Bd 30 kDa	379	3097321	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Major Gly 50 kDa allergen	17	85681057	7

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Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	217	18770	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	217	18772	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	216	256429	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	203	256635	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	204	256636	7
Glycine max	Soybean	Unassigned	Food Plant	Glycine Trypsin inhibitor	208	510515	7
Glycine soja	Soybean	Unassigned	Food Plant	Glycine Gly m 6.0401	563	806556	7
Glycyphagus domesticus	Storage mite	Gly d 2.0101	Aero Mite	Glycyphagus Gly d 2	128	6179520	7
Glycyphagus domesticus	Storage mite	Gly d 2.0201	Aero Mite	Glycyphagus Gly d 2	125	7160811	7
Glycyphagus domesticus	Storage mite	Unassigned	Aero Mite	Glycyphagus Gly d 2	141	33772588	7
Haliotis discus discus	Disk abalone	Unassigned	Food Animal	Haliotis Hal m 1 tropomyosin	284	219806586	10
Haliotis discus discus	Disk abalone	Unassigned	Food Animal	Haliotis paramyosin	860	318609972	12
Haliotis diversicolor	Abalone	Unassigned	Food Animal	Haliotis Hal m 1 tropomyosin	284	9954249	7
Helianthus annuus	Sunflower	Hel a 2	Aero Plant	Helianthus Hel a 2	133	3581965	7
Helianthus annuus	Sunflower	Hel a 3.0101	Food Plant	Helianthus Hel a 3	116	31324341	15
Helianthus annuus	Sunflower	Unassigned	Food Plant	Helianthus Seed 2S albumin	141	112745	9
Helix aspersa	Brown garden snail	Hel as 1.0101	Food Animal	Helix Hel as 1 tropomyosin	284	4468224	7
Hevea brasiliensis	Para rubber tree	Hev b 1.0101	Contact	Hevea Hev b 1	138	18839	15
Hevea brasiliensis	Para rubber tree	Hev b 10.0101	Contact	Hevea Hev b 10	233	348137	7
Hevea brasiliensis	Para rubber tree	Hev b 10.0102	Contact	Hevea Hev b 10	205	5777414	7
Hevea brasiliensis	Para rubber tree	Hev b 10.0103	Contact	Hevea Hev b 10	205	10862818	7
Hevea brasiliensis	Para rubber tree	Hev b 11.0101	Contact	Hevea Hev b 11	295	14575525	7
Hevea brasiliensis	Para rubber tree	Hev b 12	Contact	Hevea Hev b 12	116	20135538	7

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Hevea brasiliensis	Para rubber tree	Hev b 13	Contact	Hevea Hev b 13	391	30909057	7
Hevea brasiliensis	Para rubber tree	Hev b 14.0101	Contact	Hevea Hev b 14 hevamine	208	313870530	12
Hevea brasiliensis	Para rubber tree	Hev b 15.0101	Contact	Hevea Hev b 15	70	571257122	15
Hevea brasiliensis	Para rubber tree	Hev b 2.0101	Contact	Hevea Hev b 2	374	1184668	7
Hevea brasiliensis	Para rubber tree	Hev b 2	Contact	Hevea Hev b 2	374	32765543	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	124294783	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	124294785	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	124365249	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	124365251	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	124365253	8
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	268037674	11
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	270315180	11
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	373	359359690	13
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	387778882	13
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 2	374	387778880	13
Hevea brasiliensis	Para rubber tree	Hev b 3.0101	Contact	Hevea Hev b 3	204	3818475	11
Hevea brasiliensis	Para rubber tree	Hev b 4.0101	Contact	Hevea Hev b 4	366	46410859	7
Hevea brasiliensis	Para rubber tree	Hev b 5	Contact	Hevea Hev b 5	151	1480457	7
Hevea brasiliensis	Para rubber tree	Hev b 6	Contact	Hevea Hev b 6	187	2832430	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 6	43	73535415	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 6	204	158342650	9
Hevea brasiliensis	Para rubber tree	Hev b 7.01	Contact	Hevea Hev b 7	388	1916805	7
Hevea brasiliensis	Para rubber tree	Hev b 7.02	Contact	Hevea Hev b 7	388	3087805	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 7	388	3288200	7
Hevea brasiliensis	Para rubber tree	Hev b 7	Contact	Hevea Hev b 7	388	6707018	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 7	387	41581137	7

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Hevea brasiliensis	Para rubber tree	Hev b 8.0203	Aero Mite	Hevea Hev b 8	131	6979171	11
Hevea brasiliensis	Para rubber tree	Hev b 8.0101	Contact	Hevea Hev b 8	131	3183706	7
Hevea brasiliensis	Para rubber tree	Hev b 8	Contact	Hevea Hev b 8	131	11513601	7
Hevea brasiliensis	Para rubber tree	Hev b 8.0201	Contact	Hevea Hev b 8	131	6979167	11
Hevea brasiliensis	Para rubber tree	Hev b 8.0202	Contact	Hevea Hev b 8	131	6979169	11
Hevea brasiliensis	Para rubber tree	Hev b 8.0102	Contact	Hevea Hev b 8	131	5689740	15
Hevea brasiliensis	Para rubber tree	Hev b 8.0204	Contact	Hevea Hev b 8	131	8919948	15
Hevea brasiliensis	Para rubber tree	Hev b 9	Contact	Hevea Hev b 9	445	9581744	7
Hevea brasiliensis	Para rubber tree	Unassigned	Contact	Hevea Hev b 9	445	14423687	9
Hevea brasiliensis subsp. brasiliensis	Para rubber tree	Hev b 11.0102	Contact	Hevea Hev b 11	295	27526732	7
Holcus lanatus	Velvet grass	Hol l 1.0101	Aero Plant	Holcus Hol l 1	265	414703	7
Holcus lanatus	Velvet grass	Hol l 1.0102	Aero Plant	Holcus Hol l 1	248	1167836	7
Holcus lanatus	Velvet grass	Unassigned	Aero Plant	Holcus Hol l 1	263	3860384	7
Holcus lanatus	Velvet grass	Unassigned	Aero Plant	Holcus Hol l 5	20	75140046	7
Holcus lanatus	Velvet grass	Hol l 5.0201	Aero Plant	Holcus Hol l 5	240	2266623	7
Holcus lanatus	Velvet grass	Hol l 5.0101	Aero Plant	Holcus Hol l 5	264	2266625	7
Holcus lanatus	Velvet grass	Unassigned	Aero Plant	Holcus Hol l 5	296	11991229	7
Homarus americanus	American lobster	Hom a 1.0102	Food Animal	Homarus Hom a 1	284	2660868	7
Homarus americanus	American lobster	Hom a 1.0101	Food Animal	Homarus Hom a 1	284	2660866	15
Hordeum vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor component CMb	149	585290	7
Hordeum vulgare	Barley	Unassigned	Food Plant	Hordeum Hor v 20	289	1708280	15
Hordeum vulgare	Barley	Hor v 20.0101	Food Plant	Hordeum Hor v 20	286	288709	15
Hordeum vulgare	Barley	Unassigned	Aero Plant	Hordeum LTP 1	117	167077	7

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Hordeum vulgare	Barley	Unassigned	Food Plant	Hordeum LTP 1	134	19039	7
Hordeum vulgare	Barley	Unassigned	Aero Plant	Hordeum Trypsin inhibitor CMe	144	1405736	7
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor BDAI-1	152	3367714	7
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor component Cma	144	18955	7
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Alpha-amylase inhibitor component Cma	145	439275	7
Hordeum vulgare subsp. vulgare	Barley	Hor v 15.0101	Food Plant	Hordeum Hor v 15	146	19003	15
Hordeum vulgare subsp. vulgare	Barley	Unassigned	Aero Plant	Hordeum Trypsin inhibitor CMe	148	19009	7
Humulus japonicus	Japanese hop	Hum j 1	Aero Plant	Humulus Humj1	155	33113263	7
Humulus scandens	Japanese hop	Unassigned	Aero Plant	Humulus profilin-like protein	131	34851176	7
Humulus scandens	Japanese hop	Unassigned	Aero Plant	Humulus profilin-like protein	131	34851174	7
Juglans nigra	Black walnut	Jug n 1.0101	Food Plant	Juglans Jug r 1 Jug n 1	161	31321942	7
Juglans nigra	Black walnut	Jug n 2.0101	Food Plant	Juglans Jug r 2	481	31321944	7
Juglans regia	English walnut	Jug r 1.0101	Food Plant	Juglans Jug r 1 Jug n 1	139	1794252	7
Juglans regia	English walnut	Jug r 2.0101	Food Plant	Juglans Jug r 2	593	6580762	7
Juglans regia	English walnut	Unassigned	Food Plant	Juglans Jug r 3	119	209484145	11
Juglans regia	English walnut	Jug r 4.0101	Food Plant	Juglans Jug r 4 seed storage protein	507	56788031	7
Juniperus ashei	Mountain cedar	Jun a 2	Aero Plant	Juniperus Jun a 2	507	9955725	7
Juniperus ashei	Mountain cedar	Jun a 3.0101	Aero Plant	Juniperus Jun a 3	225	9087177	8
Juniperus ashei	Mountain cedar	Jun a 1.010101	Aero Plant	Juniperus Jun a/v 1	367	4138877	7
Juniperus oxycedrus	Juniper	Unassigned	Aero Plant	Juniperus Jun a/v 1	367	15139849	7
Juniperus oxycedrus	Juniper	Jun o 4	Aero Plant	Juniperus Jun o 4	165	5391446	7
Juniperus rigida	Cedar	Unassigned	Aero Plant	Juniperus Jun a 3	225	38456224	7

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Juniperus rigida	Cedar	Unassigned	Aero Plant	Juniperus Jun a 3	225	38456222	7
Juniperus virginiana	Red cedar	Unassigned	Aero Plant	Juniperus Jun a 3	110	51316532	7
Juniperus virginiana	Red cedar	Jun v 1.0102	Aero Plant	Juniperus Jun a/v 1	367	8843917	7
Juniperus virginiana	Red cedar	Jun v 1.0101	Aero Plant	Juniperus Jun a/v 1	367	8843921	7
Lates calcarifer	Asian Seabass	Lat c 1.0101	Food Animal	Lates Lat c 1	109	56553743	15
Lates calcarifer	Asian Seabass	Lat c 1.0201	Food Animal	Lates Lat c 1	109	48526356	15
Lens culinaris	Lentil	Len c 3.0101	Food Plant	Lens Len c 3	118	60735410	15
Lens culinaris	Lentil	Len c 1.0101	Food Plant	Lens Len c 1	418	29539109	7
Lens culinaris	Lentil	Len c 1.0102	Food Plant	Lens Len c 1	415	29539111	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Blomia Blo t 12	143	33943777	7
Lepidoglyphus destructor	Storage mite	Lep d 10.0101	Aero Mite	Lepidoglyphus Lep d 10	284	6900304	15
Lepidoglyphus destructor	Storage mite	Lep d 13.0101	Aero Mite	Lepidoglyphus Lep d 13	131	6523380	15
Lepidoglyphus destructor	Storage mite	Lep d 2.0102	Aero Mite	Lepidoglyphus Lep d 2	141	21213898	7
Lepidoglyphus destructor	Storage mite	Lep d 2.0202	Aero Mite	Lepidoglyphus Lep d 2	141	21213900	7
Lepidoglyphus destructor	Storage mite	Lep d 2	Aero Mite	Lepidoglyphus Lep d 2	141	1582223	7
Lepidoglyphus destructor	Storage mite	Lep d 2	Aero Mite	Lepidoglyphus Lep d 2	141	1582222	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	141	34495274	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	141	34495278	7

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Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	140	34495280	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	141	34495282	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	141	34495284	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	141	34495286	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	141	34495288	7
Lepidoglyphus destructor	Storage mite	Unassigned	Aero Mite	Lepidoglyphus Lep d 2	141	34495290	7
Lepidoglyphus destructor	Storage mite	Lep d 2.0101	Aero Mite	Lepidoglyphus Lep d 2	98	587450	15
Lepidoglyphus destructor	Storage mite	Lep d 2.0201	Aero Mite	Lepidoglyphus Lep d 2	141	999458	15
Lepidoglyphus destructor	Storage mite	Lep d 5.0102	Aero Mite	Lepidoglyphus Lep d 5	171	34495292	7
Lepidoglyphus destructor	Storage mite	Lep d 5.0103	Aero Mite	Lepidoglyphus Lep d 5	169	34495294	7
Lepidoglyphus destructor	Storage mite	Lep d 5.0101	Aero Mite	Lepidoglyphus Lep d 5	110	6523378	15
Lepidoglyphus destructor	Storage mite	Lep d 7.0101	Aero Mite	Lepidoglyphus Lep d 7	216	6706282	15
Lepidorhombus whiffiagonis	Flat fish	Lep w 1.0101	Food Animal	Lepidorhombus Lep w 1 parvalbumin	109	208608078	10
Lepisma saccharina	Silverfish	Lep s 1	Aero Insect	Lepisma Tropomyosin	284	20387027	7
Lepisma saccharina	Silverfish	Unassigned	Aero Insect	Lepisma Tropomyosin	243	20387029	7
Ligustrum vulgare	Privet	Lig v 1.0101	Aero Plant	Ligustrum Lig v 1	145	3256210	7

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Ligustrum vulgare	Privet	Lig v 1.0102	Aero Plant	Ligustrum Lig v 1	145	3256212	7
Lilium longiflorum	Trumpet lily	Unassigned	Aero Plant	Lilium polygalacturonase	413	73913442	8
Litchi chinensis	Lychee nut	Lit c 1	Food Plant	Litchi Lit c 1	131	15809696	7
Litchi chinensis	Lychee nut	Unassigned	Food Plant	Litchi Lit c 1	131	83317152	7
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 4.0101	Food Animal	Litopenaeus Lit v 4 sarcoplasmic Ca+ binding	193	223403273	11
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 1.0101	Food Animal	Litopenaeus Lit v 1 tropomyosin	284	170791252	10
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 2.0101	Food Animal	Litopenaeus Lit v 2	356	115492980	8
Litopenaeus vannamei	Whiteleg Shrimp	Lit v 3.0101	Food Animal	Litopenaeus Lit v 3 myosin	177	184198734	10
Lolium perenne	Perennial ryegrass	Lol p 1	Aero Plant	Lolium Lol p 1	263	126385	7
Lolium perenne	Perennial ryegrass	Lol p 1.0102	Aero Plant	Lolium Lol p 1	252	168314	7
Lolium perenne	Perennial ryegrass	Lol p 1.0101	Aero Plant	Lolium Lol p 1	263	168316	10
Lolium perenne	Perennial ryegrass	Lol p 1.0103	Aero Plant	Lolium Lol p 1	263	6599300	10
Lolium perenne	Perennial ryegrass	Lol p 11	Aero Plant	Lolium Lol p 11	134	47605808	7
Lolium perenne	Perennial ryegrass	Lol p 2.0101	Aero Plant	Lolium Lol p 2	97	126386	7
Lolium perenne	Perennial ryegrass	Lol p 2	Aero Plant	Lolium Lol p 2	88	939932	7
Lolium perenne	Perennial ryegrass	Lol p 3	Aero Plant	Lolium Lol p 3	97	126387	7
Lolium perenne	Perennial	Lol p 4.0101	Aero Plant	Lolium Lol p 4	423	55859464	7

	ryegrass						
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Lolium perenne	Perennial ryegrass	Lol p 5	Aero Plant	Lolium Lol p 5	301	4416516	7
Lolium perenne	Perennial ryegrass	Lol p 5	Aero Plant	Lolium Lol p 5	301	6634467	7
Lolium perenne	Perennial ryegrass	Lol p 5.0101	Aero Plant	Lolium Lol p 5	339	455288	10
Lolium perenne	Perennial ryegrass	Lol p 5.0102	Aero Plant	Lolium Lol p 5	307	332278195	12
Lupinus albus	white lupine	Unassigned	Food Plant	Lupinus albus congluten beta	531	89994190	14
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	521	149208401	9
Lupinus angustifolius	blue lupin	Unassigned	Food Plant	Lupinus Lup an 1 conglutin beta	455	149208403	9
Lupinus angustifolius	blue lupin	Lup an 1.0101	Food Plant	Lupinus Lup an 1 conglutin beta	611	169950562	10
Lycium barbarum	wolfberry	Unassigned	Food Plant	Lycium ltp	51	363805423	13
Macrobrachium rosenbergii	Giant River Prawn	Mac r 1.0101	Food Animal	Macrobrachium rosenbergii shrimp tropomyosin	284	288819271	11
Macrobrachium rosenbergii	Giant River Prawn	Unassigned	Food Animal	Macrobrachium rosenbergii shrimp tropomyosin	284	558698675	15
Macruronus magellanicus	Patagonian Grenadier	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	98	308191450	12
Macruronus magellanicus	Patagonian Grenadier	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191461	12
Macruronus magellanicus	Patagonian Grenadier	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	74	308191474	12
Macruronus novaezelandiae	Blue hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	83	308191475	12
Malassezia furfur	Yeast	Mala f 2	Contact	Malassezia Mala f 2	177	3445490	7
Malassezia furfur	Yeast	Mala f 3	Contact	Malassezia Mala f 3	166	3445492	7
Malassezia furfur	Yeast	Mala f 4	Contact	Malassezia Mala f 4	342	4587985	7

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Malassezia sympodialis	Yeast	Mala s 1	Contact	Malassezia Mala s 1	350	1261972	7
Malassezia sympodialis	Yeast	Mala s 10.0101	Contact	Malassezia Mala s 10 heat shock protein	773	28564467	14
Malassezia sympodialis	Yeast	Mala s 11	Contact	Malassezia Mala s 11 first 38 aa signal	237	28569698	7
Malassezia sympodialis	Yeast	Mala s 12.0101	Contact	Malassezia Mala s 12	618	78038796	7
Malassezia sympodialis	Yeast	Mala s 5	Contact	Malassezia Mala s 5	172	4138171	7
Malassezia sympodialis	Yeast	Mala s 6	Contact	Malassezia Mala s 6	162	4138173	7
Malassezia sympodialis	Yeast	Mala s 7	Contact	Malassezia Mala s 7	187	4138175	7
Malassezia sympodialis	Yeast	Mala s 8	Contact	Malassezia Mala s 8	179	7271239	7
Malassezia sympodialis	Yeast	Mala s 9	Contact	Malassezia Mala s 9	342	19069920	7
Malassezia sympodialis ATCC 42132	Yeast	Unassigned	Contact	Malassezia Mala s 10 heat shock protein	773	465797105	14
Malassezia sympodialis ATCC 42132	Yeast	Unassigned	Contact	Malassezia Mala s 11 first 38 aa signal	202	465795607	14
Malassezia sympodialis ATCC 42132	Yeast	Mala s 13	Contact	Malassezia Mala s 13 Thioredoxin Rev	107	465793078	14
Malassezia sympodialis ATCC 42132	Yeast	Unassigned	Contact	Malassezia Mala s 5	172	465794772	14
Malassezia sympodialis ATCC 42132	Yeast	Unassigned	Contact	Malassezia Mala s 9	342	465794420	14
Malus x domestica	Apple	Mal d 1.0301	Food Plant	Malus Mal d 1	159	1313966	7
Malus x domestica	Apple	Mal d 1.0401	Food Plant	Malus Mal d 1	160	1313968	7
Malus x domestica	Apple	Mal d 1.0402	Food Plant	Malus Mal d 1	160	1313970	7
Malus x domestica	Apple	Mal d 1.0403	Food Plant	Malus Mal d 1	160	1313972	7
Malus x domestica	Apple	Mal d 1.0206	Food Plant	Malus Mal d 1	159	2443824	7
Malus x domestica	Apple	Mal d 1.0103	Food Plant	Malus Mal d 1	159	4590364	7

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Malus x domestica	Apple	Mal d 1.0203	Food Plant	Malus Mal d 1	159	4590366	7
Malus x domestica	Apple	Mal d 1.0204	Food Plant	Malus Mal d 1	159	4590368	7
Malus x domestica	Apple	Mal d 1.0104	Food Plant	Malus Mal d 1	159	4590376	7
Malus x domestica	Apple	Mal d 1.0105	Food Plant	Malus Mal d 1	159	4590378	7
Malus x domestica	Apple	Mal d 1.0106	Food Plant	Malus Mal d 1	159	4590380	7
Malus x domestica	Apple	Mal d 1.0107	Food Plant	Malus Mal d 1	159	4590382	7
Malus x domestica	Apple	Mal d 1.0205	Food Plant	Malus Mal d 1	159	4590388	7
Malus x domestica	Apple	Mal d 1.0208	Food Plant	Malus Mal d 1	158	21685277	7
Malus x domestica	Apple	Mal d 1.0304	Food Plant	Malus Mal d 1	159	27922941	7
Malus x domestica	Apple	Mal d 1.0108	Food Plant	Malus Mal d 1	159	4768879	11
Malus x domestica	Apple	Mal d 1.0201	Food Plant	Malus Mal d 1	159	862307	11
Malus x domestica	Apple	Mal d 1.0102	Food Plant	Malus Mal d 1	159	886683	11
Malus x domestica	Apple	Mal d 1.0101	Food Plant	Malus Mal d 1	159	747852	15
Malus x domestica	Apple	Mal d 1.0109	Food Plant	Malus Mal d 1	159	15418742	15
Malus x domestica	Apple	Mal d 1.0207	Food Plant	Malus Mal d 1	159	15418744	15
Malus x domestica	Apple	Mal d 1.0302	Food Plant	Malus Mal d 1	159	15418738	15
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	26	1478293	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	246	60418842	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	246	60418848	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	246	30316292	8
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	158	218059718	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	158	218059715	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 2	193	392507603	13
Malus x domestica	Apple	Mal d 2.0101	Food Plant	Malus Mal d 2	245	3643249	15
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	115	50659891	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	115	50659889	7

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Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	115	50659885	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	115	50659879	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	115	50659859	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	115	38492338	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 3	115	14423814	9
Malus x domestica	Apple	Mal d 4.0302	Food Plant	Malus Mal d 4	131	28881453	7
Malus x domestica	Apple	Mal d 4.0102	Food Plant	Malus Mal d 4	131	28881457	7
Malus x domestica	Apple	Mal d 4.0202	Food Plant	Malus Mal d 4	131	28881455	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	60418854	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	60418858	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	60418862	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	60418866	7
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	164510842	9
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	164510858	9
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	164510860	9
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	77	218059730	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	115	218059733	10
Malus x domestica	Apple	Unassigned	Food Plant	Malus Mal d 4	131	218059728	10
Malus x domestica	Apple	Mal d 4.0301	Food Plant	Malus Mal d 4	131	4761584	11
Malus x domestica	Apple	Mal d 4.0201	Food Plant	Malus Mal d 4	131	4761586	11
Malus x domestica	Apple	Mal d 4.0101	Food Plant	Malus Mal d 4	131	4761588	11
Manihot esculenta	Cassava	Unassigned	Food Plant	Manihot Man e 5.0101	177	21585695	7
Manihot esculenta	Cassava	Man e 5.0101	Food Plant	Manihot Man e 5.0101	177	332713934	14
Manilkara zapota	Sapodilla plum	Unassigned	Food Plant	Manilkara Thaumatin like protein 1	12	442580988	14
Manilkara zapota	Sapodilla plum	Unassigned	Food Plant	Manilkara Thaumatin like protein 1	9	442570282	14
Manilkara zapota	Sapodilla plum	Unassigned	Food Plant	Manilkara Thaumatin like protein 1	207	663434113	15

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Marsupenaeus japonicus	Kuruma Shrimp	Unassigned	Food Animal	Marsupenaeus tropomyosin	284	125995159	8
Mercurialis annua	Annual mercury grass	Mer a 1	Aero Plant	Mercurialis Mer a 1	133	2959898	7
Merluccius australis australis	southern hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191452	12
Merluccius australis polylepis	Southern hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191453	12
Merluccius australis polylepis	Southern hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191464	12
Merluccius bilinearis	Silver hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191465	12
Merluccius bilinearis	Silver hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191478	12
Merluccius bilinearis	Silver hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	94	308191488	12
Merluccius capensis	Shallow-water cape hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191466	12
Merluccius gayi	Southern Pacific hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191455	12
Merluccius gayi	Southern Pacific hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	91	308191489	12
Merluccius merluccius	European hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	131116	12
Merluccius merluccius	European hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191469	12
Merluccius paradoxus	Deep-water cape hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191457	12
Merluccius paradoxus	Deep-water cape hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191470	12

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Merluccius paradoxus	Deep-water cape hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	95	308191483	12
Merluccius polli	Benguela hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191471	12
Merluccius polli	Benguela hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	69	308191484	12
Merluccius productus	North Pacific hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191459	12
Merluccius productus	North Pacific hake	Unassigned	Food Animal	Merluccius sp. Parvalbumin Hake	108	308191472	12
Mesocricetus auratus	Golden hamster	Unassigned	Aero Animal	Mesocricetus auratus Mes a 1	172	13124669	16
Metapenaeus ensis	Greasyback shrimp	Met e 1	Food Animal	Metapenaeus Met e 1 Tropomyosin	274	607633	7
Mimachlamys nobilis	Noble scallop	Unassigned	Food Animal	Mimachlamys Tropomyosin	284	9954253	7
Morus alba var. atropurpurea	White Mulberry	Unassigned	Food Plant	Morus winter accumulating protein	157	610664572	15
Morus bombycis	Mulberry	Unassigned	Food Plant	Morus winter accumulating protein	157	54311115	12
Morus bombycis	Mulberry	Unassigned	Food Plant	Morus winter accumulating protein	157	54311119	12
Morus nigra	Black mulberry	Mor n 3.0101	Food Plant	Morus Mor n 3 mulberry LTP	91	288561913	11
Mus musculus	Mouse	Mus m 1	Aero Animal	Mus Mus m 1	180	20178291	7
Mus musculus	Mouse	Mus m 1.0101	Aero Animal	Mus Mus m 1	180	295910	15
Mus musculus domesticus	Mouse	Mus m 1.0102	Aero Animal	Mus Mus m 1	180	199881	15
Musa acuminata	Banana	Unassigned	Food Plant	Musa Allergen Endo-Beta-1,3- Glucanase	312	83754908	7

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Musa acuminata	Banana	Mus a 4.0101	Food Plant	Musa Mus a 4	200	88191901	7
Musa acuminata	Banana	Mus a 2.0101	Food Plant	Musa Mus s 2	318	17932710	15
Musa acuminata	Banana	Mus xp 1	Food Plant	Musa profilin banana	131	14161635	7
Musa acuminata AAA Group	Banana	Unassigned	Food Plant	Musa Allergen Endo-Beta-1,3-Glucanase	340	6073860	14
Myrmecia banksi	Giant Bull Ant	Myr p 3.0101	Venom or Salivary	Myrmecia Myr p 3	84	51241753	15
Myrmecia pilosula	Jumper ant	Unassigned	Venom or Salivary	Myrmecia Myr p 1	112	1911819	7
Myrmecia pilosula	Jumper ant	Myr p 1.0101	Venom or Salivary	Myrmecia Myr p 1	112	312284	15
Myrmecia pilosula	Jumper ant	Myr p 2	Venom or Salivary	Myrmecia Myr p 2	75	1587177	7
Myrmecia pilosula	Jumper ant	Myr p 2.0101	Venom or Salivary	Myrmecia Myr p 2	75	1438761	10
Neptunea polycostata	Wrinkled Neptune	Unassigned	Food Animal	Neptunea tropomyosin	284	219806590	10
Nicotiana tabacum	Tobacco	Unassigned	Aero Plant	Nicotiana villin	520	57283139	7
Nicotiana tabacum	Tobacco	Unassigned	Aero Plant	Nicotiana villin	559	57283137	7
Octopus vulgaris	Octopus	Unassigned	Food Animal	Octopus tropomyosin	284	83715936	7
Olea europaea	Olive tree	Ole e 1	Aero Plant	Olea Ole e 1	145	14424429	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	137	1362128	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	136	1362129	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	136	1362130	7
Olea europaea	Olive tree	Ole e 1.0104	Aero Plant	Olea Ole e 1	145	1362131	7
Olea europaea	Olive tree	Ole e 1	Aero Plant	Olea Ole e 1	137	1362132	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	136	1362133	7

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Olea europaea	Olive tree	Ole e 1.0103	Aero Plant	Olea Ole e 1	145	1362136	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	136	1362137	7
Olea europaea	Olive tree	Ole e 1.0105	Aero Plant	Olea Ole e 1	146	2465127	7
Olea europaea	Olive tree	Ole e 1.0106	Aero Plant	Olea Ole e 1	146	2465129	7
Olea europaea	Olive tree	Ole e 1.0107	Aero Plant	Olea Ole e 1	146	2465131	7
Olea europaea	Olive tree	Ole e 1.0101	Aero Plant	Olea Ole e 1	130	13195753	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	134	37724597	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	135	37724593	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	132	37548753	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	131	33329758	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	132	33329756	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	132	33329754	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	131	33329752	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	131	33329750	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	129	33329748	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	131	33329744	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	132	33329738	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	132	33329732	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	132	33325115	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	140	145313982	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	140	145313984	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	140	145313988	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	140	145313990	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 1	140	145313992	9
Olea europaea	Olive tree	Ole e 10	Aero Plant	Olea Ole e 10	123	29465664	7
Olea europaea	Olive tree	Ole e 11.0102	Aero Plant	Olea Ole e 11.0101 and 0102	364	68270856	11

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Olea europaea	Olive tree	Ole e 11.0101	Aero Plant	Olea Ole e 11.0101 and 0102	364	269996495	11
Olea europaea	Olive tree	Unassigned	Aero Plant	olea Ole e 12	308	449061782	14
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 13	226	449061783	14
Olea europaea	Olive tree	Ole e 2	Aero Plant	Olea Ole e 2	134	3914427	7
Olea europaea	Olive tree	Ole e 2	Aero Plant	Olea Ole e 2	134	3914428	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 2	131	576017874	15
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 2	131	576017774	15
Olea europaea	Olive tree	Ole e 2.0101	Aero Plant	Olea Ole e 2	134	2465133	15
Olea europaea	Olive tree	Ole e 3.0101	Aero Plant	Olea Ole e 3	84	3337403	7
Olea europaea	Olive tree	Ole e 3	Aero Plant	Olea Ole e 3	52	37725377	7
Olea europaea	Olive tree	Ole e 5.0101	Aero Plant	Olea Ole e 5	30	122064581	8
Olea europaea	Olive tree	Ole e 5	Aero Plant	Olea Ole e 5	152	39840779	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	145313972	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347106	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	144	160347108	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347112	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347120	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347122	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347124	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347126	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347130	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347134	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160347138	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962543	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962547	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962557	9

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Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962569	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962577	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962583	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	144	160962587	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962591	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962597	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962611	9
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 5	152	160962613	9
Olea europaea	Olive tree	Ole e 6.0101	Aero Plant	Olea Ole e 6	50	2276458	11
Olea europaea	Olive tree	Ole e 7	Aero Plant	Olea Ole e 7	21	22002032	7
Olea europaea	Olive tree	Ole e 8	Aero Plant	Olea Ole e 8	171	6901654	7
Olea europaea	Olive tree	Ole e 8.0101	Aero Plant	Olea Ole e 8	171	6901652	11
Olea europaea	Olive tree	Ole e 9	Aero Plant	Olea Ole e 9	460	14279169	7
Olea europaea	Olive tree	Unassigned	Aero Plant	Olea Ole e 9	101	166235350	9
Ommastrephes bartramii	red squid	Unassigned	Food Animal	Ommastrephes tropomyosin	284	83715934	7
Onchocerca volvulus	Parasitic nematode	Unassigned	Worm (parasite)	Onchocerca tropomyosin	284	42559586	12
Oncorhynchus keta	chum salmon	Onc k 5.0101	Food Animal	Oncorhynchus Onc k 5	193	296040357	15
Oncorhynchus mykiss	rainbow trout	Onc m 1.0101	Food Animal	Oncorhynchus Rainbow trout parv Onc m 1	108	288559139	11
Oncorhynchus mykiss	rainbow trout	Onc m 1.0201	Food Animal	Oncorhynchus Rainbow trout parv Onc m 1	107	288559140	11
Oratosquilla oratoria	mantis shrimp	Unassigned	Food Animal	Oratosquilla tropomyosin	284	162286975	9
Oreochromis mossambicus	Mozambique tilapia	Ore m 4.0101	Food Animal	Oreochromis Ore m 4 tropomyosin	284	410060781	14

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Oryctolagus cuniculus	European rabbit	Ory c 3.A.0101	Aero Animal	Oryctolagus Ory c 3	93	11993600	15
Oryctolagus cuniculus	European rabbit	Ory c 3.B.0101	Aero Animal	Oryctolagus Ory c 3	90	11993592	15
Oryza sativa	Rice	Unassigned	Food Plant	Oryza Glyoxalase I	291	84029333	7
Oryza sativa	Rice	Ory s 1.0101	Aero Plant	Oryza Ory s 1	263	1173557	8
Oryza sativa	Rice	Unassigned	Aero Plant	Oryza Ory s 1	267	8118439	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Glyoxalase I	291	16580747	7
Oryza sativa (japonica cultivar-group)	Rice	Ory s 1	Aero Plant	Oryza Ory s 1	267	109913547	8
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Aero Plant	Oryza putative polcalcin Phl p 7	82	45736119	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	157	23616954	8
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	165	218193	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	157	218197	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	111	1304216	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	109	1304217	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	113	1304218	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	166	1398913	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	160	1398915	7

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Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	157	1398916	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	160	1398918	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	157	2827316	7
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	166	114152865	8
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	163	114152864	8
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	160	23495787	8
Oryza sativa (japonica cultivar-group)	Rice	Unassigned	Food Plant	Oryza Trypsin alpha-amylase inhibitor	160	23616947	7
Ostrya carpinifolia	European hop hornbeam	Ost c 1.0101	Aero Plant	Ostrya Ost c 1pollen allergen	160	300872535	12
Pachycondyla chinensis	Asian needle ant	Unassigned	Venom or Salivary	Pachycondyla Pac c 3 allergen	199	169822894	10
Pandalus borealis	caribbean shrimp	Pan b 1.0101	Food Animal	Pandalus Pan b 1	284	312831088	12
Panulirus stimpsoni	Lobster	Pan s 1.0101	Food Animal	Panulirus Pan s 1	274	3080761	11
Paralithodes camtschaticus	Kamchatka crab	Unassigned	Food Animal	Paralithodes tropomyosin	284	125995163	8
Paralithodes camtschaticus	Kamchatka crab	Unassigned	Food Animal	Paralithodes tropomyosin	284	125995165	8
Parietaria judaica	Weed	Par j 1	Aero Plant	Parietaria Par j 1	143	741844	7
Parietaria judaica	Weed	Par j 1.0102	Aero Plant	Parietaria Par j 1	176	1532058	7
Parietaria judaica	Weed	Par j 1.0101	Aero Plant	Parietaria Par j 1	133	992612	15

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Parietaria judaica	Weed	Par j 1.0103	Aero Plant	Parietaria Par j 1	139	95007033	15
Parietaria judaica	Weed	Par j 1.0201	Aero Plant	Parietaria Par j 1	138	706811	15
Parietaria judaica	Weed	Par j 2.0102	Aero Plant	Parietaria Par j 2	133	1532056	7
Parietaria judaica	Weed	Par j 2.0101	Aero Plant	Parietaria Par j 2	133	2497750	7
Parietaria judaica	Weed	Par j 3.0102	Aero Plant	Parietaria Par j 3 profilin	131	14423869	7
Parietaria judaica	Weed	Par j 3.0101	Aero Plant	Parietaria Par j 3 profilin	132	14423876	7
Parietaria judaica	Weed	Par j 3.0201	Aero Plant	Parietaria Par j 3 profilin	131	444175753	14
Parietaria judaica	Weed	Par j 4.0101	Aero Plant	Parietaria Par j 4	84	201071363	15
Parietaria officinalis	Weed	Par o 1	Aero Plant	Parietaria Par o 1	12	75139847	7
Parietaria officinalis	Weed	Par o 1	Aero Plant	Parietaria Par o 1	17	1311509	7
Parietaria officinalis	Weed	Par o 1	Aero Plant	Parietaria Par o 1	15	1311510	7
Parietaria officinalis	Weed	Par o 1	Aero Plant	Parietaria Par o 1	15	1311511	7
Parietaria officinalis	Weed	Par o 1	Aero Plant	Parietaria Par o 1	15	1311512	7
Parietaria officinalis	Weed	Par o 1	Aero Plant	Parietaria Par o 1	30	1311513	7
Parietaria officinalis	Weed	Par o 1	Aero Plant	Parietaria Par o 1	24	1836011	7
Parietaria officinalis	Weed	Unassigned	Aero Plant	Parietaria Par o 1	25	1836010	7
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	169	338930686	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	169	338930684	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	169	338930682	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	169	338930680	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	393	338930678	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	393	338930676	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	391	338930674	12
Paspalum notatum	Bahia grass	Unassigned	Aero Plant	Paspalum group 13 pollen allergen	395	338930672	12
Paspalum notatum	Bahia grass	Pas n 1.0101	Aero Plant	Paspalum Pas n 1 beta expansin	265	168419914	10
Penaeus monodon	Black tiger	Pen m 1.0101	Food	Penaeus Pen m 1 tropomyosin	284	60892782	15

	shrimp		Animal				
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Penaeus monodon	Black tiger shrimp	Pen m 2	Food Animal	Penaeus Pen m 2	356	27463265	7
Penaeus monodon	Black tiger shrimp	Unassigned	Food Animal	Penaeus Pen m 2	356	308154236	12
Penaeus monodon	Black tiger shrimp	Pen m 3.0101	Food Animal	Penaeus Pen m 3 myosin light chain	177	317383196	12
Penaeus monodon	Black tiger shrimp	Pen m 4.0101	Food Animal	Penaeus Pen m 4 sarcoplasmic calcium binding	193	317383198	12
Penicillium brevicompactum	Fungus	Pen b 26.0101	Aero Fungi	Penicillium Pen b 26	107	59894749	7
Penicillium chrysogenum	Fungus	Pen ch 18.0101	Aero Fungi	Penicillium Pen 18	494	7963902	7
Penicillium chrysogenum	Fungus	Pen ch 18	Aero Fungi	Penicillium Pen 18	494	14215732	7
Penicillium chrysogenum	Fungus	Pen ch 13.0101	Aero Fungi	Penicillium Pen ch 13	397	6684758	7
Penicillium chrysogenum	Fungus	Pen ch 13	Aero Fungi	Penicillium Pen ch 13	398	21069093	7
Penicillium chrysogenum	Fungus	Pen ch 20	Aero Fungi	Penicillium Pen ch 20	117	999009	7
Penicillium chrysogenum	Fungus	Pen ch 35.0101	Aero Fungi	Penicillium Pen ch 35	324	300679427	15
Penicillium citrinum	Fungus	Unassigned	Aero Fungi	Penicillium Pen 18	457	4588118	7
Penicillium citrinum	Fungus	Unassigned	Aero Fungi	Penicillium Pen 18	358	12005501	7
Penicillium citrinum	Fungus	Pen c 19	Aero Fungi	Penicillium Pen c 19	503	14423733	7
Penicillium citrinum	Fungus	Pen c 22	Aero Fungi	Penicillium Pen c 22	438	13991101	7
Penicillium citrinum	Fungus	Pen c 24	Aero Fungi	Penicillium Pen c 24	228	38326693	7
Penicillium citrinum	Fungus	Pen c 3	Aero Fungi	Penicillium Pen c 3	167	5326864	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Penicillium citrinum	Fungus	Pen c 30.0101	Aero Fungi	Penicillium Pen c 30	733	82754305	7
Penicillium citrinum	Fungus	Pen c 32.0101	Aero Fungi	Penicillium Pen c 32	290	121584258	8
Penicillium citrinum	Fungus	Unassigned	Aero Fungi	Penicillium Pen ch 13	397	4587983	7
Penicillium crustosum	Fungus	Pen cr 26.0101	Aero Fungi	Penicillium crustosum Pen cr 26 60s P1	107	371537645	13
Penicillium oxalicum	Fungus	Pen o 18.0101	Aero Fungi	Penicillium Pen 18	503	12005497	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta americana Per a 11	494	821092692	16
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta americana Per a 12	407	821092694	16
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta GST	216	60678789	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta GST	216	359326557	15
Periplaneta americana	American cockroach	Per a 7.0102	Aero Insect	Periplaneta Per 7	284	4378573	7
Periplaneta americana	American cockroach	Per a 7.0101	Aero Insect	Periplaneta Per 7	284	4468639	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per 7	284	239740599	11
Periplaneta americana	American cockroach	Per a 1.0201	Aero Insect	Periplaneta Per a 1	446	2231297	7
Periplaneta americana	American cockroach	Per a 1.0104	Aero Insect	Periplaneta Per a 1	274	2253610	7
Periplaneta americana	American cockroach	Per a 1.0103	Aero Insect	Periplaneta Per a 1	395	2580504	7
Periplaneta americana	American cockroach	Per a 1.0102	Aero Insect	Periplaneta Per a 1	228	2897849	7
Periplaneta americana	American	Per a 1.0101	Aero Insect	Periplaneta Per a 1	231	4240399	7

	cockroach						
<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 1	124	30144660	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 1	395	284518361	11
Periplaneta americana	American cockroach	Per a 10.0101	Aero Insect	Periplaneta Per a 10 ser protease	256	60678799	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 2	351	60678785	7
Periplaneta americana	American cockroach	Per a 2.0101	Aero Insect	Periplaneta Per a 2	351	313870534	12
Periplaneta americana	American cockroach	Per a 3.0201	Aero Insect	Periplaneta Per a 3	631	1531589	7
Periplaneta americana	American cockroach	Per a 3.0202	Aero Insect	Periplaneta Per a 3	470	1580794	7
Periplaneta americana	American cockroach	Per a 3.0203	Aero Insect	Periplaneta Per a 3	393	1580797	7
Periplaneta americana	American cockroach	Per a 3.0101	Aero Insect	Periplaneta Per a 3	685	2833325	9
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 3	688	284518363	11
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 3	685	289721058	11
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 4	183	60678787	7
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 4	163	215794707	10
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 4	167	212675312	10

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Periplaneta americana	American cockroach	Per a 6.0101	Aero Insect	Periplaneta Per a 6	151	60678791	8
Periplaneta americana	American cockroach	Unassigned	Aero Insect	Periplaneta Per a 9	356	50428904	8
Periplaneta americana	American cockroach	Per a 9.0101	Aero Insect	Periplaneta Per a 9	356	167782135	9
Periplaneta fuliginosa	Smokybrown cockroach	Unassigned	Aero Insect	Periplaneta Per 7	284	19310971	7
Perna viridis	Asian green mussell	Unassigned	Food Animal	Perna Tropomyosin	284	9954251	7
Persea americana	Avocado	Pers a 1	Food Plant	Persea Pers a 1	326	3201547	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 1	20	409328	7
Phalaris aquatica	Canary grass	Pha a 1	Aero Plant	Phalaris Pha a 1	269	2498576	7
Phalaris aquatica	Canary grass	Pha a 5.0101	Aero Plant	Phalaris Pha a 5	320	2498577	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 5	305	2498578	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 5	294	2498579	7
Phalaris aquatica	Canary grass	Unassigned	Aero Plant	Phalaris Pha a 5	175	2498580	7
Phaseolus vulgaris	Kidney bean	Pha v 3.0101	Food Plant	Phaseolus Pha v 3	115	289064177	11
Phaseolus vulgaris	Kidney bean	Pha v 3.0201	Food Plant	Phaseolus Pha v 3	118	289064179	11
Phleum pratense	Common timothy	Phl p 1.0102	Aero Plant	Phleum Phl p 1	263	473360	7
Phleum pratense	Common timothy	Phl p 1.0101	Aero Plant	Phleum Phl p 1	263	3901094	7
Phleum pratense	Common timothy	Phl p 1	Aero Plant	Phleum Phl p 1	241	28373838	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 1	240	45823012	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 1	262	1582250	10

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Phleum pratense	Common timothy	Phl p 11	Aero Plant	Phleum Phl p 11	143	23452313	7
Phleum pratense	Common timothy	Phl p 12.0103	Aero Plant	Phleum Phl p 12	131	2415700	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	131	110644906	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	131	110644908	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	131	110644910	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	131	110644912	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	131	110644914	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	131	110644916	8
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 12	131	110644918	8
Phleum pratense	Common timothy	Phl p 12.0102	Aero Plant	Phleum Phl p 12	131	2415698	10
Phleum pratense	Common timothy	Phl p 12.0101	Aero Plant	Phleum Phl p 12	131	453976	15
Phleum pratense	Common timothy	Phl p 13	Aero Plant	Phleum Phl p 13	394	4826572	7
Phleum pratense	Common timothy	Phl p 2	Aero Plant	Phleum Phl p 2	122	415896	7
Phleum pratense	Common timothy	Phl p 4.0101	Aero Plant	Phleum Phl p 4	508	54144332	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	500	45108973	7

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Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	500	45108967	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	500	189014266	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	500	189014268	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	500	189014270	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	500	189014272	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 4	500	405944794	14
Phleum pratense	Common timothy	Phl p 4.0201	Aero Plant	Phleum Phl p 4	508	54144334	15
Phleum pratense	Common timothy	Phl p 5.0101	Aero Plant	Phleum Phl p 5	312	398830	7
Phleum pratense	Common timothy	Phl p 5	Aero Plant	Phleum Phl p 5	257	422005	7
Phleum pratense	Common timothy	Phl p 5	Aero Plant	Phleum Phl p 5	280	481397	7
Phleum pratense	Common timothy	Phl p 5	Aero Plant	Phleum Phl p 5	24	75139900	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	285	1092249	7
Phleum pratense	Common timothy	Phl p 5.0202	Aero Plant	Phleum Phl p 5	281	1684718	7
Phleum pratense	Common timothy	Phl p 5.0104	Aero Plant	Phleum Phl p 5	276	1684720	7
Phleum pratense	Common timothy	Phl p 5.0102	Aero Plant	Phleum Phl p 5	286	2398757	7

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Phleum pratense	Common timothy	Phl p 5.0105	Aero Plant	Phleum Phl p 5	276	3135497	7
Phleum pratense	Common timothy	Phl p 5.0106	Aero Plant	Phleum Phl p 5	276	3135499	7
Phleum pratense	Common timothy	Phl p 5.0107	Aero Plant	Phleum Phl p 5	276	3135501	7
Phleum pratense	Common timothy	Phl p 5.0108	Aero Plant	Phleum Phl p 5	276	3135503	7
Phleum pratense	Common timothy	Phl p 5.0103	Aero Plant	Phleum Phl p 5	312	3309039	7
Phleum pratense	Common timothy	Phl p 5.0203	Aero Plant	Phleum Phl p 5	295	3309041	7
Phleum pratense	Common timothy	Phl p 5.0206	Aero Plant	Phleum Phl p 5	290	3309045	7
Phleum pratense	Common timothy	Phl p 5.0207	Aero Plant	Phleum Phl p 5	287	3309047	7
Phleum pratense	Common timothy	Phl p 5	Aero Plant	Phleum Phl p 5	275	13430402	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725606	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725608	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725610	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725612	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725614	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725616	7

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Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725618	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725620	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725622	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725624	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725626	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725628	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725630	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	287	21725632	7
Phleum pratense	Common timothy	Phl p 5	Aero Plant	Phleum Phl p 5	102	28948464	7
Phleum pratense	Common timothy	Phl p 5.0109	Aero Plant	Phleum Phl p 5	284	29500897	7
Phleum pratense	Common timothy	Phl p 5.0201	Aero Plant	Phleum Phl p 5	284	2398759	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 5	309	345108717	13
Phleum pratense	Common timothy	Phl p 6.0102	Aero Plant	Phleum Phl p 6	138	3004465	7
Phleum pratense	Common timothy	Phl p 6.0101	Aero Plant	Phleum Phl p 6	138	3004467	7
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 6	106	3004469	7

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Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum Phl p 6	111	28374072	7
Phleum pratense	Common timothy	Phl p 7.0101	Aero Plant	Phleum Polcalin (Phl p 7)	78	3367732	10
Phleum pratense	Common timothy	Unassigned	Aero Plant	Phleum pollen allergen group 3	100	283806867	11
Phodopus sungorus	Siberian hamster	Unassigned	Aero Plant	Phodopus sungorus lipocalin	151	530376029	16
Phoenix dactylifera	Date palm	Pho d 2	Aero Plant	Phoenix Pho d 2	131	21322677	7
Pinus pinea	Pine	Unassigned	Aero Plant	Pinus pinea albumin	110	749495809	16
Pistacia vera	pistachio	Unassigned	Food Plant	Pistacia 11S globulin	472	156001070	9
Pistacia vera	pistachio	Pis v 2.0101	Food Plant	Pistacia 11S globulin	496	110349083	10
Pistacia vera	pistachio	Pis v 2.0201	Food Plant	Pistacia 11S globulin	472	110349085	10
Pistacia vera	pistachio	Pis v 1.0101	Food Plant	Pistacia Pis v 1 2S albumin	149	110349081	10
Pistacia vera	pistachio	Pis v 3.0101	Food Plant	Pistacia Pis v 3 vicilin	519	133711974	10
Pistacia vera	pistachio	Pis v 4.0101	Food Plant	Pistacia Pis v 4	230	149786150	9
Pisum sativum	Pea	Pis s 1.0102	Food Plant	Pisum Pis s 1	415	42414629	7
Pisum sativum	Pea	Pis s 1.0101	Food Plant	Pisum Pis s 1	415	42414627	7
Pisum sativum	Pea	Pis s 2.0101	Food Plant	Pisum Pis s 2	613	7339551	15
Plantago lanceolata	Narrow-leaved plantain	Pla l 1.0101	Aero Plant	Plantago Pla l 1	131	14422359	7
Plantago lanceolata	Narrow-leaved plantain	Pla l 1.0102	Aero Plant	Plantago Pla l 1	131	14422361	7
Plantago lanceolata	Narrow-leaved plantain	Pla l 1.0103	Aero Plant	Plantago Pla l 1	131	14422363	7
Plantago lanceolata	Narrow-leaved plantain	Unassigned	Aero Plant	Plantago Pla l 1	65	29163773	7
Platanus orientalis	oriental plane	Pla or 1.0101	Aero Plant	Platanus Pla or 1	170	162949336	9

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Platanus orientalis	oriental plane	Pla or 2.0101	Aero Plant	Platanus Pla or 2	378	162949338	9
Platanus x acerifolia	London plane tree	Unassigned	Aero Plant	Platanus acerifolia Pla a 3	118	110224778	16
Platanus x acerifolia	London plane tree	Unassigned	Aero Plant	Platanus acerifolia Pla a 3	93	930156468	16
Platanus x acerifolia	London plane tree	Pla a 1	Aero Plant	Platanus Pla a 1	179	26190140	7
Platanus x acerifolia	London plane tree	Pla a 2	Aero Plant	Platanus Pla a 2	377	49523394	7
Plodia interpunctella	Indian meal moth	Plo i 1.0101	Aero Insect	Plodia Plo i 1 Arginine kinase	355	15886861	7
Plodia interpunctella	Indian meal moth	Plo i 2.0101	Aero Insect	Plodia Plo i 2 thioredoxin	106	308193268	12
Poa pratensis	Kentucky bluegrass	Poa p 1	Aero Plant	Poa Poa p 1	20	280414	7
Poa pratensis	Kentucky bluegrass	Poa p 1	Aero Plant	Poa Poa p 1	26	320620	7
Poa pratensis	Kentucky bluegrass	Poa p 1.0101	Aero Plant	Poa Poa p 1	263	4090265	7
Poa pratensis	Kentucky bluegrass	Poa p 5	Aero Plant	Poa Poa p 5	303	11991227	7
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa Poa p 9	373	113560	7
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa Poa p 9	307	113562	7
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa Poa p 9	131	539056	7
Poa pratensis	Kentucky bluegrass	Unassigned	Aero Plant	Poa Poa p 9	333	113561	7

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Polistes annularis	Paper wasp	Pol a 5.0101	Venom or Salivary	Polistes Pol 5	209	160780	7
Polistes annularis	Paper wasp	Pol a 1.0101	Venom or Salivary	Polistes Pol a 1 Pol d 1	301	5815249	11
Polistes annularis	Paper wasp	Pol a 2.0101	Venom or Salivary	Polistes Pol a 2	367	5815251	11
Polistes dominulus	Paper wasp	Pol d 5	Venom or Salivary	Polistes Pol 5	227	51093377	7
Polistes dominulus	Paper wasp	Pol d 1.0104	Venom or Salivary	Polistes Pol a 1 Pol d 1	316	45510893	7
Polistes dominulus	Paper wasp	Pol d 1.0103	Venom or Salivary	Polistes Pol a 1 Pol d 1	316	45510891	7
Polistes dominulus	Paper wasp	Pol d 1.0102	Venom or Salivary	Polistes Pol a 1 Pol d 1	316	45510889	7
Polistes dominulus	Paper wasp	Pol d 1.0101	Venom or Salivary	Polistes Pol a 1 Pol d 1	337	45510887	7
Polistes dominulus	Paper wasp	Pol d 4.0101	Venom or Salivary	Polistes Venom serine protease	277	30909091	7
Polistes exclamans	Paper wasp	Pol e 5.0101	Venom or Salivary	Polistes Pol 5	226	51093375	7
Polistes fuscatus	Paper wasp	Pol f 5	Venom or Salivary	Polistes Pol 5	205	549188	7
Polistes gallicus	Paper wasp	Pol g 5	Venom or Salivary	Polistes Pol 5	206	25091511	7
Polistes gallicus	Paper wasp	Unassigned	Venom or Salivary	Polistes Pol a 1 Pol d 1	42	41017429	7
Polybia paulista	wasp	Unassigned	Venom or Salivary	Polybia p hyaluronidase	345	302201583	12
Polybia paulista	wasp	Unassigned	Venom or Salivary	Polybia p hyaluronidase	288	302425085	12

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Polybia paulista	wasp	Unassigned	Venom or Salivary	Polybia p venom allergen 5	141	290792375	11
Polybia paulista	wasp	Unassigned	Venom or Salivary	Polybia p venom allergen 5	207	302595972	12
Polybia paulista	wasp	Pol p 1.0101	Venom or Salivary	Polybia Pol p 1.0101 phospholipase	322	166216292	9
Polybia paulista	wasp	Unassigned	Venom or Salivary	Polybia Pol p 1.0101 phospholipase	302	315190620	12
Pontastacus leptodactylus	Danube crayfish	Pon l 4.0101	Food Animal	Pontastacus Pon l 4	192	134309	15
Portunus pelagicus	blue swimmer crab	Por p 1.0101	Food Animal	Portunus Por p 1 tropomyosin	284	448278534	14
Portunus sanguinolentus	Crab	Unassigned	Food Animal	Portunus Por p 1.0101 tropomyosin	284	119674937	8
Portunus trituberculatus	Crab	Unassigned	Food Animal	Portunus Por p 1.0101 tropomyosin	284	151505281	9
Procambarus clarkii	red swamp crayfish	Unassigned	Food Animal	Procambarus red crayfish arginine kinase	357	375298901	13
Procambarus clarkii	red swamp crayfish	Unassigned	Food Animal	Procambarus tropomyosin	284	225348412	10
Prosopis juliflora	mesquite	Pro j 2.0101	Aero Plant	Prosopis Pro j 2	133	625293889	15
Protortonia cacti	Arthropod	Unassigned	Food Animal	Protortonia	335	237769615	11
Prunus armeniaca	Apricot	Pru ar 1	Food Plant	Prunus PRP (Bet v 1 family)	160	2677826	7
Prunus armeniaca	Apricot	Unassigned	Food Plant	Prunus Pru 3	119	313575730	12
Prunus armeniaca	Apricot	Unassigned	Food Plant	Prunus Pru 3	117	313575732	12
Prunus armeniaca	Apricot	Pru ar 3.0101	Food Plant	Prunus Pru 3	117	313575734	12
Prunus armeniaca	Apricot	Unassigned	Food Plant	Prunus Pru 3	117	313575736	12
Prunus avium	Cherry	Pru av 1.0101	Food Plant	Prunus PRP (Bet v 1 family)	160	1513216	7

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Prunus avium	Cherry	Pru av 1.0203	Food Plant	Prunus PRP (Bet v 1 family)	160	44409496	7
Prunus avium	Cherry	Pru av 1.0202	Food Plant	Prunus PRP (Bet v 1 family)	160	44409474	7
Prunus avium	Cherry	Pru av 1.0201	Food Plant	Prunus PRP (Bet v 1 family)	160	44409451	7
Prunus avium	Cherry	Unassigned	Food Plant	Prunus PRP (Bet v 1 family)	159	159162378	9
Prunus avium	Cherry	Pru av 3	Food Plant	Prunus Pru 3	117	6715520	7
Prunus avium	Cherry	Unassigned	Food Plant	Prunus Pru 3	117	313575726	12
Prunus avium	Cherry	Unassigned	Food Plant	Prunus Pru 3	117	313575728	12
Prunus avium	Cherry	Pru av 4	Food Plant	Prunus Pru 4 Profilin peach cherry almond	131	4761582	7
Prunus avium	Cherry	Pru av 2	Food Plant	Prunus Pru av 2	245	1144346	7
Prunus domestica	Plum	Pru d 3	Food Plant	Prunus Pru 3	91	9297015	7
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	241	190613941	10
Prunus dulcis	Almond	Pru du 4.0101	Food Plant	Prunus Pru 4 Profilin peach cherry almond	131	24473794	7
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus Pru du 6 Amandin	531	258588247	11
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus Pru du 6 Amandin	178	523916668	15
Prunus dulcis	Almond	Pru du 6.0101	Food Plant	Prunus Pru du 6 Amandin	551	307159112	15
Prunus dulcis	Almond	Pru du 6.0201	Food Plant	Prunus Pru du 6 Amandin	504	307159114	15
Prunus dulcis	Almond	Unassigned	Food Plant	Prunus Seed allergenic protein 2 (Conglutin gamma)	25	75107131	8
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	160	190613871	10
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	246	190613905	10
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	246	190613909	10
Prunus dulcis x Prunus persica	Plant hybrid	Pru p 2.0201	Food Plant	Prunus persica Pru p 2 IUIS	246	190613907	10

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Prunus dulcis x Prunus persica	Plant hybrid	Pru p 2.0101	Food Plant	Prunus persica Pru p 2 IUIS	246	190613911	10
Prunus dulcis x Prunus persica	Plant hybrid	Pru p 2.0301	Food Plant	Prunus persica Pru p 2 IUIS	242	190613903	10
Prunus dulcis x Prunus persica	Plant hybrid	Unassigned	Food Plant	Prunus Pru 4 Profilin peach cherry almond	131	190613937	10
Prunus persica	Peach	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	246	25091405	12
Prunus persica	Peach	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	242	25091406	12
Prunus persica	Peach	Unassigned	Food Plant	Prunus persica Pru p 2 IUIS	246	359744030	13
Prunus persica	Peach	Pru p 1.0101	Food Plant	Prunus PRP (Bet v 1 family)	160	82492265	7
Prunus persica	Peach	Unassigned	Food Plant	Prunus PRP (Bet v 1 family)	160	748758672	16
Prunus persica	Peach	Unassigned	Food Plant	Prunus PRP (Bet v 1 family)	160	748758670	16
Prunus persica	Peach	Pru p 3.0101	Food Plant	Prunus Pru 3	91	3287877	7
Prunus persica	Peach	Unassigned	Food Plant	Prunus Pru 3	117	54793477	7
Prunus persica	Peach	Unassigned	Food Plant	Prunus Pru 3	117	313575718	12
Prunus persica	Peach	Unassigned	Food Plant	Prunus Pru 3	117	544369592	15
Prunus persica	Peach	Pru p 4.01	Food Plant	Prunus Pru 4 Profilin peach cherry almond	131	27528310	7
Prunus persica	Peach	Pru p 4.02	Food Plant	Prunus Pru 4 Profilin peach cherry almond	131	27528312	7
Prunus persica	Peach	Pru p 7.0101	Food Plant	Prunus Pru p 7 Peamaclein	63	408407790	14
Pseudocardium sachalinensis	Mollusc	Unassigned	Food Animal	Pseudocardium tropomyosin	284	219806598	10
Punica granatum	Pomegranate	Pun g 1.0101	Food Plant	Punica Pun g 1	120	559797767	15
Punica granatum	Pomegranate	Pun g 1.0201	Food Plant	Punica Pun g 1	120	559797765	15
Punica granatum	Pomegranate	Pun g 1.0301	Food Plant	Punica Pun g 1	120	559797763	15
Pyrus communis	Pear	Pyr c 3.0101	Food Plant	Pyrus LTP Pyr c 3 IUIS	115	6715524	11
Pyrus communis	Pear	Unassigned	Food Plant	Pyrus LTP Pyr c 3 IUIS	94	355525862	13

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Pyrus communis	Pear	Unassigned	Food Plant	Pyrus LTP Pyr c 3 IUIS	94	355525860	13
Pyrus communis	Pear	Unassigned	Food Plant	Pyrus LTP Pyr c 3 IUIS	94	355525856	13
Pyrus communis	Pear	Pyr c 1.0101	Food Plant	Pyrus Pyr c 1	159	14423877	9
Pyrus communis	Pear	Pyr c 4	Food Plant	Pyrus Pyr c 4	131	4761580	7
Pyrus communis	Pear	Pyr c 5	Food Plant	Pyrus Pyr c 5	308	3243234	7
Quercus alba	Oak	Que a 1.0201	Aero Plant	Quercus Que a 1	159	167472847	10
Quercus alba	Oak	Que a 1.0401	Aero Plant	Quercus Que a 1	160	167472851	10
Quercus alba	Oak	Que a 1.0301	Aero Plant	Quercus Que a 1	160	167472849	10
Rana esculenta	Frog	Ran e 1	Food Animal	Rana Ran e 1	110	20796729	7
Rana esculenta	Frog	Ran e 2	Food Animal	Rana Ran e 2	109	20797081	7
Rana sp. CH-2001	Frog	Unassigned	Food Animal	Rana Ran e 1	110	20796733	7
Rana sp. CH-2001	Frog	Unassigned	Food Animal	Rana Ran e 2	109	20797085	7
Rattus norvegicus	Rat	Rat n 1	Aero Animal	Rattus Rat n 1	181	127533	7
Rattus norvegicus	Rat	Rat n 1	Aero Animal	Rattus Rat n 1	181	81890324	7
Rattus norvegicus	Rat	Rat n 1.0101	Aero Animal	Rattus Rat n 1	177	204261	15
Rhizopus oryzae	Fungus	Unassigned	Aero Fungi	Rhizopus Rhi o 1.0101	401	695094784	16
Rhodotorula mucilaginosa	Fungus	Rho m 1.0101	Aero Fungi	Rhodotorula Rho m 1	439	30314940	11
Rhodotorula mucilaginosa	Fungus	Rho m 2.0101	Aero Fungi	Rhodotorula Rho m 2	342	54654335	7
Ricinus communis	Castor bean	Ric c 1.0101	Food Plant	Ricinus Ric c 1	258	21068	15
Rubus idaeus	raspberry	Rub i 1.0101	Food Plant	Rubus Rub i 1	137	110180525	8
Rubus idaeus	raspberry	Rub i 3.0101	Food Plant	Rubus Rub i 3	117	110180523	8

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Salmo salar	Salmon	Sal s 1	Food Animal	Salmo Sal s 1	108	18281421	7
Salmo salar	Salmon	Unassigned	Food Animal	Salmo Sal s 1	109	209734468	10
Salmo salar	Salmon	Sal s 1.0101	Food Animal	Salmo Sal s 1	109	1322183	15
Salmo salar	Salmon	Unassigned	Food Animal	Salmo Sal s 2 enolase	432	385145180	13
Salmo salar	Salmon	Sal s 2.0101	Food Animal	Salmo Sal s 2 enolase	434	197632415	15
Salmo salar	Salmon	Unassigned	Food Animal	Salmo Sal s 3 aldolase	363	385145176	13
Salmo salar	Salmon	Sal s 3.0101	Food Animal	Salmo Sal s 3 aldolase	363	213511774	15
Salsola kali	Thistle	Sal k 1.0201	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	362	51242679	8
Salsola kali	Thistle	Sal k 1.0302	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	339	59895728	8
Salsola kali	Thistle	Sal k 1.0301	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	339	59895730	8
Salsola kali	Thistle	Unassigned	Aero Plant	Salsola pectin methylesterase Sal k 1.01 & 1.02	339	225810597	10
Salsola kali	Thistle	Sal k 1.0101	Aero Plant	Salsola Sal k 1	42	25090947	10
Salsola kali	Thistle	Unassigned	Aero Plant	Salsola Sal k 3 pollen allergen	757	225810599	10
Salsola kali	Thistle	Sal k 4.0101	Aero Plant	Salsola Sal k 4 profilin	133	239916566	11
Salsola kali	Thistle	Unassigned	Aero Plant	Salsola Sal k 4 profilin	133	589912885	15
Salsola kali	Thistle	Sal k 4.0201	Aero Plant	Salsola Sal k 4 profilin	133	300490499	15
Salsola kali	Thistle	Sal k 5.0101	Aero Plant	Salsola Sal k 5	151	300490501	15
Salvelinus fontinalis	Brook trout	Unassigned	Food	Salvelinus parvalbumin	109	288557438	11

			Animal				
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Salvelinus fontinalis	Brook trout	Unassigned	Food Animal	Salvelinus parvalbumin	108	288557440	11
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes Apolipoprotein Ssag1.2	330	27462848	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine protease CO8	340	46406002	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine proteases FO4	338	46406012	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine proteases FO4	339	46406014	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes cysteine proteases FO4	273	46406016	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes Glutathione S-transferase Mu	219	27462836	7
Sarcoptes scabiei type hominis	Scabies mite	Unassigned	Venom or Salivary	Sarcoptes Glutathione S-transferase Mu	219	60920770	7
Sarcoptes scabiei type suis	Scabies mite	Unassigned	Aero Mite	Sarcoptes Apolipoprotein Ssag1.2	310	507480520	15
Sardinops sagax	South American pilchard	Sar sa 1.0101	Food Animal	Sardinops Sar sa 1 parvalbumin	109	193247972	10
Scapharca broughtonii	Clam	Unassigned	Food Animal	Scapharca tropomyosin	284	219806592	10
Schedonorus arundinaceus	Tall fescue	Unassigned	Aero Plant	Festuca group 1 allergen	35	75139991	7
Schedonorus arundinaceus	Tall fescue	Unassigned	Aero Plant	Festuca group 1 allergen	17	320610	7
Schedonorus arundinaceus	Tall fescue	Unassigned	Aero Plant	Festuca group 1 allergen	20	320611	7
Schistosoma japonicum	Schistosoma	Unassigned	Protozoan	Schistosoma profilin	129	29841461	7
Schistosoma japonicum	Schistosoma	Unassigned	Protozoan	Schistosoma tegumental antigen	191	2739154	7
Schizophyllum commune	Mushroom	Sch c 1.0101	Food Fungi	Schizophyllum Sch c 1	576	302681819	15

H4-8							
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Scomber japonicus	Chub mackerel	Unassigned	Food Animal	Scomber Parvalbumin	109	29420793	7
Scomber scombrus	Atlantic mackerel	Unassigned	Food Animal	Scomber Parvalbumin	109	288557436	11
Scylla paramamosain	green mud crab	Unassigned	Food Animal	Scylla arginine kinase	357	375298903	13
Scylla serrata	giant mud crab	Unassigned	Food Animal	Scylla sp. (mud crab) tropomyosin	284	151505279	9
Sebastes marinus	ocean perch (red fish)	Seb m 1.0101	Food Animal	Sebastes Seb m 1	109	242253959	11
Sebastes marinus	ocean perch (red fish)	Seb m 1.0201	Food Animal	Sebastes Seb m 1	110	242253961	11
Secale cereale	Rye	Sec c 20.0101	Food Plant	Secale Sec c 20	23	1699225	15
Secale cereale	Rye	Sec c 20.0201	Food Plant	Secale Sec c 20	29	1699228	15
Secale cereale	Rye	Sec c 38.0101	Food Plant	Secale Sec c 38.01	26	994865	10
Secale cereale	Rye	Unassigned	Aero Plant	Secale Sec c 4	520	55859456	7
Secale cereale	Rye	Unassigned	Aero Plant	Secale Sec c 4	518	55859454	7
Secale cereale	Rye	Unassigned	Aero Plant	Secale Sec c 5	16	75140047	7
Secale cereale	Rye	Sec c 5.0101	Food Plant	Secale Sec c 5	292	332205751	12
Sepia esculenta	cuttlefish	Unassigned	Food Animal	Sepia tropomyosin	284	83715928	7
Sepioteuthis lessoniana	bigfin reef squid	Unassigned	Food Animal	Sepioteuthis tropomyosin	284	83715930	7
Sesamum indicum	Sesame	Unassigned	Food Plant	Sesamum seed maturation-like protein	345	171853012	16
Sesamum indicum	Sesame	Ses i 1	Food Plant	Sesamum Ses i 1	153	13183175	7
Sesamum indicum	Sesame	Unassigned	Food Plant	Sesamum Ses i 1	153	209165427	10

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Sesamum indicum	Sesame	Ses i 2	Food Plant	Sesamum Ses i 2	148	5381323	7
Sesamum indicum	Sesame	Ses i 3	Food Plant	Sesamum Ses i 3	585	13183177	7
Sesamum indicum	Sesame	Ses i 4.0101	Food Plant	Sesamum Ses i 4 oleosin	166	10834827	13
Sesamum indicum	Sesame	Unassigned	Food Plant	Sesamum Ses i 5 oleosin	145	198250343	10
Sesamum indicum	Sesame	Ses i 5.0101	Food Plant	Sesamum Ses i 5 oleosin	145	5381321	15
Sesamum indicum	Sesame	Ses i 6.0101	Food Plant	Sesamum Ses i 6	459	5381325	15
Sesamum indicum	Sesame	Ses i 7.0101	Food Plant	Sesamum Ses i 7	497	13183173	15
Sinapis alba	White mustard	Sin a 1	Food Plant	Sinapis Sin a 1.01	145	1009434	7
Sinapis alba	White mustard	Sin a 1	Food Plant	Sinapis Sin a 1.01	145	1009436	7
Sinapis alba	White mustard	Sin a 1	Food Plant	Sinapis Sin a 1.01	145	1009438	7
Sinapis alba	White mustard	Sin a 1	Food Plant	Sinapis Sin a 1.01	145	1009440	7
Sinapis alba	White mustard	Sin a 1	Food Plant	Sinapis Sin a 1.01	145	1009442	7
Sinapis alba	White mustard	Sin a 1.0101	Food Plant	Sinapis Sin a 1.01	145	51338758	7
Sinapis alba	White mustard	Sin a 2.0101	Food Plant	Sinapis Sin a 2.01 11S globulin	510	62240390	7
Sinapis alba	White mustard	Unassigned	Food Plant	Sinapis Sin a 2.01 11S globulin	523	62240392	7
Sinapis alba	White mustard	Sin a 3.0101	Food Plant	Sinapis Sin a 3.01 LTP	92	156778059	12
Sinapis alba	White mustard	Sin a 4.0101	Food Plant	Sinapis Sin a 4.01 profilin	131	156778061	12
Sinonovacula constricta	Chinese razor clam	Unassigned	Food Animal	Sinonovacula tropomyosin [Song paper]	284	156145810	15

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Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Unassigned	Food Plant	Solanum lycopersicum Sola l 6	96	460373045	16
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Sola l 1.0101	Food Plant	Solanum Sola l 1 profilin (Lyc e 1)	131	16555787	7
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Lyc e 1	Food Plant	Solanum Sola l 1 profilin (Lyc e 1)	131	17224229	7
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Sola l 2.0101	Food Plant	Solanum Sola l 2 Beta-fructofuranosidase (Lyc e 2)	553	18542113	7
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Sola l 2.0201	Food Plant	Solanum Sola l 2 Beta-fructofuranosidase (Lyc e 2)	636	18542115	7
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Unassigned	Food Plant	Solanum Sola l 3 LTP (Lyc e 3)	114	71360928	7
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Sola l 3.0101	Food Plant	Solanum Sola l 3 LTP (Lyc e 3)	114	1816535	15
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Sola l 4.0101	Food Plant	Solanum Sola l 4 PR-10 (Lyc e 4)	178	2887310	14
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Sola l 4.0201	Food Plant	Solanum Sola l 4 PR-10 (Lyc e 4)	160	565380268	15
Solanum lycopersicum (Lycopersicon esculentum)	Tomato	Unassigned	Food Plant	Solanum Sola l 4 PR-10 (Lyc e 4)	160	565380238	15
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum profilin-like	131	77416979	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum profilin-like	131	77999277	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	386	21510	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	386	21512	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	386	21514	7
Solanum tuberosum	Potato	Unassigned	Food Plant	Solanum Sola t 1	386	169500	7
Solanum tuberosum	Potato	Sola t 1	Food Plant	Solanum Sola t 1	386	158517845	9
Solanum tuberosum	Potato	Sola t 2	Food Plant	Solanum Sola t 2	188	124148	7
Solanum tuberosum	Potato	Sola t 3	Food Plant	Solanum Sola t 3	222	20141344	7

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Solanum tuberosum	Potato	Sola t 3.0101	Food Plant	Solanum Sola t 3	186	1575306	15
Solanum tuberosum	Potato	Sola t 4.0101	Food Plant	Solanum Sola t 4	221	994779	15
Solen strictus	Gould's razor shell	Unassigned	Food Animal	Solen tropomyosin	284	219806602	10
Solenopsis geminata	Tropical Fire Ant	Sol g 4.0101	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	137	7638028	7
Solenopsis geminata	Tropical Fire Ant	Sol g 4.0201	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	137	7638030	7
Solenopsis invicta	Red fire ant	Sol i 4	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	137	4038411	7
Solenopsis invicta	Red fire ant	Sol i 4.0101	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	137	4038409	11
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	58	1336809	7
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	25	1336811	7
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	26	1336812	7
Solenopsis invicta	Red fire ant	Unassigned	Venom or Salivary	Solenopsis Sol i 1	26	1336813	7
Solenopsis invicta	Red fire ant	Sol i 1.0101	Venom or Salivary	Solenopsis Sol i 1	346	51093373	7
Solenopsis invicta	Red fire ant	Sol i 2.0101	Venom or Salivary	Solenopsis Sol i and Sol r Venom allergen II	138	549179	7
Solenopsis invicta	Red fire ant	Sol i 3.0101	Venom or Salivary	Solenopsis Venom allergen III	234	2293571	11
Solenopsis richteri	Black fire ant	Sol r 2.0101	Venom or Salivary	Solenopsis Sol i and Sol r Venom allergen II	119	6136162	7

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Solenopsis richteri	Black fire ant	Sol r 3.0101	Venom or Salivary	Solenopsis Venom allergen III	211	6136163	7
Solenopsis saevissima	Brazilian fire ant	Unassigned	Venom or Salivary	Solenopsis Sol g 4 Sol i 4	137	291092710	12
Sorghum halepense	Johnson grass	Sor h 1.0101	Aero Plant	Sorghum Sor h 1	266	674275729	15
Sorghum halepense	Johnson grass	Sor h 1.0201	Aero Plant	Sorghum Sor h 1	266	674275731	15
Sorghum halepense	Johnson grass	Sor h 13.0101	Aero Plant	Sorghum Sor h 13	422	674275737	15
Sorghum halepense	Johnson grass	Sor h 13.0201	Aero Plant	Sorghum Sor h 13	410	674275739	15
Stachybotrys chartarum	Fungus	Sta 3.0101	Aero Fungi	Stachybotrys Sta c 3	144	253970748	14
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SEA	233	1633233	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SEB	254	83308249	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SEC	266	462026	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin SED	258	119654	9
Staphylococcus aureus	Bacteria	Unassigned	Bacteria skin	Staphylococcus enterotoxin TSST 1	234	136457	9
Stemphylium callistephi	Fungus	Unassigned	Aero Fungi	Stemphylium major allergen alt a1-like	137	49476467	7
Stemphylium sp. CID1012	Fungus	Unassigned	Aero Fungi	Stemphylium major allergen alt a1-like	137	152060760	9
Stemphylium vesicarium	Fungus	Unassigned	Aero Fungi	Stemphylium major allergen alt a1-like	137	49476465	7

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Strongyloides stercoralis	Parasitic nematode	Unassigned	Worm (parasite)	Strongyloides L3NieAg.01	229	5669875	7
Suidasia medanensis	Mite	Unassigned	Aero Mite	Suidasia putative Sui m 2	141	45738062	7
Sus scrofa	Pig	Unassigned	Aero Animal	Sus Porcine Pepsin	385	118572685	11
Syringa vulgaris	Lilac	Syr v 3.0101	Aero Plant	Syringa Syr v 3	81	14423847	7
Syringa vulgaris	Lilac	Syr v 1.0101	Aero Plant	Syringa Syr v I	145	631911	7
Syringa vulgaris	Lilac	Syr v 1.0102	Aero Plant	Syringa Syr v I	145	631912	7
Syringa vulgaris	Lilac	Syr v 1.0103	Aero Plant	Syringa Syr v I	145	631913	7
Tabanus yao	Horse Fly	Tab y 1.0101	Venom or Salivary	Tabanus Tab y 1 Apyrase	554	323473390	12
Tabanus yao	Horse Fly	Tab y 2.0101	Venom or Salivary	Tabanus Tab y 2 Hyaluronidase	349	304273371	12
Tabanus yao	Horse Fly	Tab y 5.0101	Venom or Salivary	Tabanus Tab y 5	256	304273369	12
Thaumatococcus pinnatifidus	Pine moth	Tha p 1.0101	Contact	Thaumatococcus Tha p 1 full length	126	301030229	12
Thaumatococcus pinnatifidus	Pine moth	Tha p 2.0101	Contact	Thaumatococcus Tha p 2	115	408387552	14
Theragra chalcogramma	Alaska pollock	Unassigned	Food Animal	Theragra parvalbumin	109	14531020	7
Theragra chalcogramma	Alaska pollock	Unassigned	Food Animal	Theragra parvalbumin	109	14531018	7
Thunnus albacares	Yellowfin tuna	Thu a 2.0101	Food Animal	Thunnus Thu a 2 enolase	432	385145178	13
Thunnus albacares	Yellowfin tuna	Unassigned	Food Animal	Thunnus Thu a 2 enolase	12	576011132	15
Thunnus albacares	Yellowfin tuna	Unassigned	Food Animal	Thunnus Thu a 3 aldolase	364	291195949	12
Thunnus albacares	Yellowfin tuna	Thu a 3.0101	Food Animal	Thunnus Thu a 3 aldolase	37	576011088	15

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Todarodes pacificus	Japanese flying squid	Unassigned	Food Animal	Todarodes Tod p 1	284	83715932	7
Trachurus japonicus	Japanese horse mackerel	Unassigned	Food Animal	Trachurus parvalbumin	107	77799800	7
Tresus keenae	clam	Unassigned	Food Animal	Tresus tropomyosin	284	219806600	10
Triatoma protracta	Western conenose	Tria p 1	Venom or Salivary	Triatoma Tria p 1	169	15426413	7
Trichophyton rubrum	Fungus	Tri r 2	Contact	Trichophyton (Arthroderma) Tri r 2	412	5813790	7
Trichophyton rubrum	Fungus	Tri r 4	Contact	Trichophyton tri 4 allergen (Arthroderma)	726	5813788	7
Trichophyton schoenleinii	Fungus	Unassigned	Contact	Trichophyton (Arthroderma) Tri r 2	405	74663809	12
Trichophyton schoenleinii	Fungus	Unassigned	Contact	Trichophyton tri 4 allergen (Arthroderma)	726	23894227	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 14 LTP_amylase inhibitor	113	417370	11
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum 5a2 protein	94	66840998	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum aAI CM16_17	143	195957140	10
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum aAI CM16_17	143	21711	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum aestivum Tri a 41	60	827354845	16
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum aestivum Tri a 42	76	827354790	16
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum aestivum Tri a 43	108	827354822	16
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum aestivum Tri a 44	107	827354912	16
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum aestivum Tri a 45	89	827354784	16
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum alpha/beta gliadin	286	21755	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	307	21673	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	296	21757	7

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Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	286	21761	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	313	21765	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	318	170710	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	291	170712	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	313	170718	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	286	170720	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	262	170722	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	297	170724	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	282	170726	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	186	170728	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum alpha/beta gliadin	259	1304264	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Bakers asthma allergen #4	27	3913017	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum flour Glutathione Transferase	222	190684057	11
Triticum aestivum	Wheat	Tri a 19.0101	Food Plant	Triticum omega-5 gliadin Tri a 19	439	73912496	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum omega-5 gliadin Tri a 19	359	208605344	10
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum omega-5 gliadin Tri a 19	272	208605346	10
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum omega-5 gliadin Tri a 19	346	208605348	10
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum omega-5 gliadin Tri a 19	366	508732623	15
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum putative leucine-rich repeat protein	137	66840996	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum serine carboxypeptidase II	260	66840994	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum serine carboxypeptidase II	444	125987805	10
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Thaumatin-like	173	135917	12
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 12	131	190684061	11
Triticum aestivum	Wheat	Tri a 12.0103	Food Plant	Triticum Tri a 12	131	548948852	14
Triticum aestivum	Wheat	Tri a 12.0101	Gliadin	Triticum Tri a 12	131	548948848	15

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Triticum aestivum	Wheat	Tri a 12.0102	Gliadin	Triticum Tri a 12	131	548948850	15
Triticum aestivum	Wheat	Tri a 12.0104	Gliadin	Triticum Tri a 12	131	207366248	15
Triticum aestivum	Wheat	Tri a 15.0101	Gliadin	Triticum Tri a 15	121	283465829	11
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	302	170702	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	291	170708	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	251	170736	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	327	170738	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	279	1063270	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 20	285	62484809	7
Triticum aestivum	Wheat	Tri a 20.0101	Gliadin	Triticum Tri a 20	279	508732621	15
Triticum aestivum	Wheat	Tri a 21.0101	Gliadin	Triticum Tri a 21 alpha, beta-gliadin	281	283476402	11
Triticum aestivum	Wheat	Tri a 25.0101	Gliadin	Triticum Tri a 25	125	8980491	15
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	830	21743	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	648	21751	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	660	21779	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	39	21793	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	705	22090	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	815	170743	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	838	736319	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 26	101	897811	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 26	794	508732625	15
Triticum aestivum	Wheat	Tri a 26.0101	Gliadin	Triticum Tri a 26	848	288860106	15
Triticum aestivum	Wheat	Tri a 26.0201	Gliadin	Triticum Tri a 26	795	71084277	15
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 27.0101 Thiol reductase	203	30793446	7
Triticum aestivum	Wheat	Tri a 28.0101	Gliadin	Triticum Tri a 28	119	66841026	7
Triticum aestivum	Wheat	Tri a 29.0101	Aero Plant	Triticum Tri a 29	120	253783731	11

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Triticum aestivum	Wheat	Tri a 29.0201	Aero Plant	Triticum Tri a 29	120	283465827	11
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 29	145	21701	7
Triticum aestivum	Wheat	Tri a 30.0101	Food Plant	Triticum Tri a 30	168	21713	7
Triticum aestivum	Wheat	Tri a 31.0101	Food Plant	Triticum Tri a 31	253	11124572	7
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 32 Peroxiredoxin	218	190684059	11
Triticum aestivum	Wheat	Tri a 32.0101	Aero Plant	Triticum Tri a 32 Peroxiredoxin	218	75324900	14
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 33 Serine protease inhibitor	399	1885350	7
Triticum aestivum	Wheat	Tri a 33.0101	Gliadin	Triticum Tri a 33 Serine protease inhibitor	398	5734506	15
Triticum aestivum	Wheat	Tri a 34.0101	Gliadin	Triticum Tri a 34 GAPDH	337	253783729	11
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	307	21773	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	356	21783	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	373	75317968	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	229	886963	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	261	886965	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	276	886967	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	285	75219081	7
Triticum aestivum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	326	62550933	7
Triticum aestivum	Wheat	Tri a 36.0101	Food Plant	Triticum Tri a 36	369	335331566	12
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	304	170730	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	323	170732	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	244	170734	7
Triticum aestivum	Wheat	Unassigned	Gliadin	Triticum Tri a 36	283	508732627	15
Triticum aestivum	Wheat	Tri a 37.0101	Food Plant	Triticum Tri a 37 alpha purothionin	137	4007850	14
Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 39 serine proteinase inhibitor-lik	84	154101366	10

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Triticum aestivum	Wheat	Unassigned	Aero Plant	Triticum Tri a 39 serine proteinase inhibitor-lik	84	122065237	11
Triticum aestivum	Wheat	Tri a 39.0101	Aero Plant	Triticum Tri a 39 serine proteinase inhibitor-lik	84	403213259	14
Triticum turgidum subsp. durum	Wheat	Unassigned	Food Plant	Triticum aAI CM16_17	143	21916	7
Triticum turgidum subsp. durum	Wheat	Unassigned	Food Plant	Triticum Tri a 29	145	21920	7
Triticum turgidum subsp. durum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	295	21926	7
Triticum turgidum subsp. durum	Wheat	Unassigned	Food Plant	Triticum Tri a 36	285	21930	7
Triticum urartu	Wheat	Unassigned	Food Plant	Triticum alpha/beta gliadin	296	170740	7
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 10 tropomyosin	284	148615631	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 10 tropomyosin	201	156938915	9
Tyrophagus putrescentiae	Dust mite	Tyr p 10.0101	Aero Mite	Tyrophagus Tyr p 10 tropomyosin	284	48249227	9
Tyrophagus putrescentiae	Dust mite	Tyr p 13	Aero Mite	Tyrophagus Tyr p 13	131	51860756	7
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 13	130	121296500	9
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 13	131	156938917	9
Tyrophagus putrescentiae	Dust mite	Tyr p 2	Aero Mite	Tyrophagus Tyr p 2	141	2182106	7
Tyrophagus putrescentiae	Dust mite	Tyr p 24.0101	Aero Mite	Tyrophagus Tyr p 24 Troponin C	153	219815476	11
Tyrophagus putrescentiae	Dust mite	Tyr p 3.0101	Aero Mite	Tyrophagus Tyr p 3	285	167540622	11
Tyrophagus putrescentiae	Dust mite	Unassigned	Aero Mite	Tyrophagus Tyr p 8	218	452215228	14
Venerupis philippinarum	Clam	Unassigned	Food Animal	Venerupis tropomyosin	284	219806573	10
Vespa affinis	Lesser banded hornet	Unassigned	Food Animal	Vespa affinis Phospholipase A1	334	576011175	15

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Vespa affinis	Lesser banded hornet	Unassigned	Food Animal	Vespa affinis Phospholipase A1	334	576011171	15
Vespa crabro	European hornet	Unassigned	Venom or Salivary	Vespa Vesp c 1 phospholipase	301	313471397	12
Vespa crabro	European hornet	Vesp c 5.0101	Venom or Salivary	Vespa Vesp c 5	202	549184	7
Vespa crabro	European hornet	Vesp c 5.0102	Venom or Salivary	Vespa Vesp c 5	202	549185	7
Vespa magnifica	Hornet	Unassigned	Venom or Salivary	Vespa magnifica Vesp ma 2 hyaluronidase	357	315133295	12
Vespa magnifica	Hornet	Unassigned	Venom or Salivary	Vespa magnifica Vesp ma 5	225	319801357	12
Vespa mandarinia	Wasp	Vesp m 5.0101	Venom or Salivary	Vespa Vesp c 5	202	6136165	7
Vespula flavopilosa	Wasp	Ves f 5.0101	Venom or Salivary	Vespula Ves f 5	204	549189	7
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula Phospholipase A1- Ves m/v 1	300	74035843	7
Vespula germanica	Wasp	Ves g 5.0101	Venom or Salivary	Vespula Ves f 5	204	549190	7
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula Ves f 5	204	74035841	7
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula Ves v 2	331	116174180	8
Vespula germanica	Wasp	Unassigned	Venom or Salivary	Vespula Ves v 2	323	116174182	8
Vespula maculifrons	Wasp	Ves m 1.0101	Venom or Salivary	Vespula Phospholipase A1- Ves m/v 1	300	1709545	8
Vespula maculifrons	Wasp	Ves m 5.0101	Venom or	Vespula Ves f 5	204	549191	7

			Salivary				
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Vespula maculifrons	Wasp	Unassigned	Venom or Salivary	Vespula Ves f 5	227	85681830	7
Vespula maculifrons	Wasp	Unassigned	Venom or Salivary	Vespula Ves m 2 Hyaluronidase	31	313118253	12
Vespula pensylvanica	Wasp	Ves p 5.0101	Venom or Salivary	Vespula Ves f 5	204	549192	7
Vespula squamosa	Wasp	Ves s 5.0101	Venom or Salivary	Vespula Ves f 5	205	549193	7
Vespula squamosa	Wasp	Unassigned	Venom or Salivary	Vespula Ves s 1 phospholipase	298	313471398	12
Vespula vidua	Wasp	Ves vi 5.0101	Venom or Salivary	Vespula Ves f 5	206	549194	7
Vespula vulgaris	Wasp	Ves v 1.0101	Venom or Salivary	Vespula Phospholipase A1- Ves m/v 1	336	897647	7
Vespula vulgaris	Wasp	Ves v 5.0101	Venom or Salivary	Vespula Ves f 5	227	162551	7
Vespula vulgaris	Wasp	Ves v 5	Venom or Salivary	Vespula Ves f 5	204	4826574	7
Vespula vulgaris	Wasp	Ves v 5	Venom or Salivary	Vespula Ves f 5	209	11514279	7
Vespula vulgaris	Wasp	Ves v 2	Venom or Salivary	Vespula Ves v 2	331	1346323	7
Vespula vulgaris	Wasp	Ves v 2.0101	Venom or Salivary	Vespula Ves v 2	340	62147665	7
Vespula vulgaris	Wasp	Unassigned	Venom or Salivary	Vespula Ves v 2	331	109157163	8
Vespula vulgaris	Wasp	Ves v 3.0101	Venom or Salivary	Vespula Ves v 3 dipeptidylpeptidase IV	776	167782086	9

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Vigna radiata	mung bean	Vig r 1.0101	Food Plant	Vigna Vig r 1 PR 10	155	60418924	7
Vigna radiata	mung bean	Vig r 2.0101	Food Plant	Vigna Vig r 2	453	108743976	15
Vigna radiata	mung bean	Vig r 2.0201	Food Plant	Vigna Vig r 2	454	158251953	15
Vigna radiata	mung bean	Vig r 6.0101	Food Plant	Vigna Vig r 6 Cytokinin-specific binding protein	155	4190976	14
Vigna radiata var. radiata	mung bean	Vig r 4.0101	Food Plant	Vigna Vig r 4	272	1000708	15
Vitis sp.	Grape	Unassigned	Food Plant	Vitis Lipid transfer protein P3	91	145559502	8
Vitis sp.	Grape	Vit v 1	Food Plant	Vitis Vit v 1 LTP	37	462719	7
Vitis sp.	Grape	Unassigned	Food Plant	Vitis Vit v 1 LTP	38	462717	7
Xiphias gladius	Swordfish	Xip g 1.0101	Food Animal	Xiphias Xip g 1 beta-parvalbumin	109	222352960	10
Zea mays	Corn	Unassigned	Aero Plant	Zea group 13 pollen allergen	410	89892725	7
Zea mays	Corn	Unassigned	Aero Plant	Zea group 13 pollen allergen	404	89892727	7
Zea mays	Corn	Unassigned	Aero Plant	Zea group 13 pollen allergen	411	89892729	7
Zea mays	Corn	Unassigned	Aero Plant	Zea pollen specific protein	170	1588669	7
Zea mays	Corn	Zea m 1.0101	Aero Plant	Zea Zea m 1 beta-expansin	269	28630919	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 beta-expansin	269	28630923	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 beta-expansin	269	14193761	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 beta-expansin	245	114794319	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	263	89892721	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	252	89892723	7
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	99	105969543	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	269	105969545	8
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	270	115502167	9
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 1 isoform	269	115502168	9
Zea mays	Corn	Zea m 12.0104	Food Plant	Zea Zea m 12 profilin	131	2642324	7

<u>Species</u>	<u>Common</u>	<u>IUIS Allergen</u>	<u>Type</u>	<u>Group</u>	<u>Length</u>	<u>GI#</u>	<u>Version</u>
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	131	110644952	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	131	110644954	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	131	110644956	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	131	110644958	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	131	110644960	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	131	110644962	8
Zea mays	Corn	Unassigned	Food Plant	Zea Zea m 12 profilin	130	110644964	8
Zea mays	Corn	Zea m 12.0101	Food Plant	Zea Zea m 12 profilin	131	313138	15
Zea mays	Corn	Zea m 12.0102	Food Plant	Zea Zea m 12 profilin	137	313140	15
Zea mays	Corn	Zea m 12.0103	Food Plant	Zea Zea m 12 profilin	131	313142	15
Zea mays	Corn	Zea m 12.0105	Food Plant	Zea Zea m 12 profilin	131	11493677	15
Zea mays	Corn	Zea m 14.0101	Food Plant	Zea Zea m 14	120	168576	15
Zea mays	Corn	Zea m 14.0102	Food Plant	Zea Zea m 14	99	168578	15
Zea mays	Corn	Unassigned	Aero Plant	Zea Zea m 25 thioredoxin	128	66841002	7
Ziziphus mauritiana	Chinese-date	Ziz m 1.0101	Food Plant	Ziziphus Ziz m 1	330	61225281	7