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Systematic and Phylogenetic Analysis of the Ole e 1 Pollen Protein Family Members in Plants

José Carlos Jiménez-López, María Isabel Rodríguez-García and Juan de Dios Alché Department of Biochemistry, Cell and Molecular Biology of Plants Estación Experimental del Zaidín, CSIC, Granada, Spain

1. Introduction

Pollen allergens are specific substances able to cause IgE-mediated hypersensitivity (allergy) after contact with the immune system [D'Amato et al. 1998]. To date, about 50 plant species have been registered in the official allergen list of the International Union of Immunological Societies (IUIS) Allergen Nomenclature Subcommittee http://www.allergen.org as capable of inducing pollen allergy in atopic individuals [Mothes et al. 2004]. These plants are usually grouped as (1) trees (members of the orders: *Fagales, Pinales, Rosales, Arecales, Scrophulariales, Junglandales, Salicales, and Myrtales*), (2) grasses (members of the families: *Bambusioideae, Arundinoideae, Chloridoideae, Panicoideae,* and *Poideae*), and (3) weeds (components of families *Asteraceae, Chenopodiaceae* and *Urticaceae*) [Hauser et al. 2010].

Allergens are proteins with a broad range of molecular weights (~5 to 50 kDa), which exhibit different features of solubility and stability. More than 10 groups of pollen allergens have been reported. Among all groups of pollen allergens, Pollen Ole e I (Ole) domain-containing proteins are the major allergens, included like-members of the "pollen proteins of the Ole e 1 family" (Accession number: PF01190) within the Pfam protein families database [Finn et al. 2010].

Ole e 1 was the first allergen purified from *Olea europaea* L. [Lauzurica et al. 1998] and named as such according to the IUIS nomenclature [King et al. 1994]. This protein is considered the major olive pollen allergen on the basis of its high prevalence among atopic patients and the high proportion it represents within the total pollen protein content, in comparison with other olive pollen allergens. These include at present another 10 allergens already identified and classified like Ole e 2 to Ole e 11 [Rodríguez et al. 2002, Barral et al. 2004, Salamanca et al. 2010]. Ole e 1 consists of a single polypeptide chain of 145 amino acid residues with a MW of 18–22 kDa, displaying acidic pI and different forms of N-glycosylation [Villalba et al. 1990, Batanero et al. 1994]. Heterologous proteins with a relevant homology have been described in other members of the *Oleaceae* family, such a fraxinus, lilac, jasmine and privet. The polypeptides encoded by the *LAT52* gene from tomato and the *Zmc13* gene from maize pollens also exhibit a high similarity to Ole e 1 [Twell et al. 1989, Hanson et al. 1989]. These plant pollen proteins are structurally related but their biological function is not yet known; though they have been suggested to be

involved in important events of pollen physiology, such as hydration, germination and/or pollen tube growth, and other reproductive functions [Alché et al. 1999, 2004, Tang et al. 2000, Stratford et al. 2001].

Structurally, the Ole domain contains six conserved cysteines which may be involved in disulfide bonds, since no free sulfhydryl groups have been detected in the native protein [Villalba et al. 1993]. Olive Ole e 1 exhibits a high degree of microheterogeneity, mainly concentrated in the third of the molecule closer to the N- terminus. The Ole e I (Ole) domain defining the pollen proteins Ole e I family signature or consensus pattern sequences PS00925 [Sigrist et al. 2010], is characterized by the amino acid sequence [EQT]-G-x-V-Y-C-D-[TNP]-C-R, where "x" could be any residue.

There is a high diversity of proteins sharing the Ole domain among plant species. To date, eleven Ole domain-containing genes have been isolated and characterized from olive pollens [Rodríguez et al. 2002]. Ole-containing proteins include proline-rich proteins, proteins encoding extensin-like domains, phosphoglycerate mutase, tyrosine-rich hydroxyproline-rich glycoprotein, and hydroxyproline-rich glycoprotein. These Ole-containing proteins can exhibit: (1) the pollen Ole signature exclusively, e.g. the ALL1_OLEEU P19963 protein from *Olea europaea* L., (2) both the pollen Ole signature and the replication factor A protein 3 motive pattern (PF08661), e.g. the O49527 pollen-specific protein-like from *Arabidopsis thaliana* (842 residues), (3) both the pollen Ole domain and the phosphoglycerate mutase (PGAM) motif, e.g. the Q9SGZ6 protein from *Arabidopsis thaliana*., and finally (4) both the pollen Ole signature and the reverse transcriptase 2 (RVT2) motif, e.g. the A5AJL0 protein from *Vitis vinifera*.

Several efforts have been made to develop an understandable and reliable systematic classification of the diverse and increasing number of different allergen protein structures. As mentioned above, the classification system widely established for proteins that cause IgE-mediated atopic allergies in humans (allergens) was defined by Chapman et al. (2007). This system uses the first three letters of the genus; a space; the first letter of the species name; a space and an Arabic number. Despite this classification system, protein databases are full of allergen proteins lacking this systematic and comprehensive nomenclature. In other cases, many of the proteins described here have not been described as allergens, or their naming makes no reference to the Ole e 1 family that facilitates their identification. Otherwise, naming in databases is frequently given randomly, on the basis of chromosome location, addressing structural features and functional characterizations or simply using the name of the entire family. In this study, we used a combination of functional genomics and computational biology to name and classify the entire Ole e 1 family, as well as to characterize structurally and functionally the proteins of this superfamily. Our data indicate that the Ole e 1 protein family consists of at least 109 divergent families, which will likely expand as more genomic studies are undertaken, and fully sequenced plant genomes become available.

2. Material and methods

2.1 Database search for Ole e 1 family genes

Sequences of Ole e 1 and Ole e 1-like genes were retrieved from the US National Center for Biotechnology Information (NCBI, http://www.ncbi.nlm.nih.gov/), the Uniprot database (http://www.uniprot.org/), and the non-redundant expressed sequence tag (EST)

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databases using BLASTX, BLASTN and BLAST (low complexity filter, Blosum62 substitution matrix) [Altschul et al. 1997]. Searches were conducted using previously characterized Olea europaea L. Ole e 1 (GenBank Accession number P19963), Solanum lycopersicum LAT52 (GenBank Accession number P13447), Zea mays Zmc13 (GenBank Accession number B6T1A9), Arabidopsis thaliana pollen-specific protein-like (GenBank Accession number O49527), Arabidopsis thaliana PGAM containing domain protein (GenBank Accession number Q9SGZ6), and Vitis vinifera RVT2 containing domain protein (GenBank Accession number A5AJL0). Full-length amino acid sequences for Ole e 1 proteins were compiled and aligned using ClustalW [Thompson et al. 1994]. Genetic distances between pairs of amino acid sequences were calculated with Bioedit V7.0.5.3 [Hall 1999]. Consensus protein sequences were derived from these original alignment, and further analyzed for the presence of putative functional motifs using the PROSITE database [Sigrist et al. 2010], of biologically meaningful motif descriptors derived from multiple alignments and the ScanProsite program [de Castro et al. 2006], from the Expert Protein Analysis System (ExPASy) proteomics server of the Swiss Institute of Bioinformatics [Gasteiger et al. 2003]. Finally, the consensus protein sequences were submitted to BLASTP analysis to identify homologous proteins from other plant species.

2.2 Revised/unified nomenclature

In order to provide a revised and unified nomenclature for Ole e 1-like gene superfamily, we developed a sequence-based similarity approach to classify all the retrieved sequences using a previously developed gene nomenclature model [Kotchoni et al. 2010]. For this new nomenclature, Ole e 1 protein sequences that are more than 40% identical to previously identified Ole e 1 sequences compose a family, and sequences more than 60% identical within a family, compose a gene subfamily. Protein sequences that are less than 40% identical would describe a new Ole e 1 gene family. Taking olive protein Ole e 1_57A9 (previous name Ole e 1, major olive pollen allergen) as an example for the revised nomenclature (Table 1), Ole e 1 indicates the root; the digits (57) indicates a family and the first letter (A) a subfamily, while the final number (9) identifies an individual gene within a subfamily. The revised nomenclature is therefore composed of an assigned gene symbol (Ole e 1) (abbreviated gene name) for the whole gene superfamily. The gene symbol must be (i) unique and representative of the gene superfamily; (ii) contain only Latin letters and/or Arabic numerals, (iii) not contain punctuation, and (iv) without any reference to species. These newly developed criteria have been applied to database curators to generate the unified Ole e 1 gene families/classes regardless of the source of the cloned gene(s).

2.3 Sequence alignments and phylogenetic analyses

The retrieved Ole e 1 protein families were used to generate a phylogenetic tree using ClustalW [Thompson et al. 1994]. The alignment was created using the Gonnet protein weight matrix, multiple alignment gap opening/extension penalties of 10/0.5 and pairwise gap opening/extension penalties of 10/0.1. These alignments were adjusted using Bioedit V7.0.5.3 [Hall 1999]. Portions of sequences that could not be reliably aligned were eliminated. Phylogenetic tree was generated by the neighbourjoining method (NJ), and the branches were tested with 1,000 bootstrap replicates. The three was visualized using Treedyn program [Chevenet et al. 2006].

2.4 Ole e 1 superfamily: Protein modeling and structural characterization

In order to study the structural and conformational variability between the Ole e 1 protein families, selected members of the Ole e 1 superfamily were modelled using SWISS-MODEL server, via the ExPASy web server [Gasteiger et al. 2003]. The initial modelled Ole e 1 structures were subjected to energy minimization with GROMOS96 force field energy [van Gunsteren et al. 1996] implemented in DeepView/Swiss-PDBViewer v3.7 [Guex and Peitsch 1997] to improve the van der Waals contacts and to correct the stereochemistry of the improved models. The quality of the models was assessed by checking the protein stereology with PROCHECK [Laskowski et al. 1993] and the protein energy with ANOLEA [Melo et al. 1997, 1998]. Ramachandran plot statistics for the models were calculated to show the number of protein residues in the favoured regions.

3. Results

3.1 The Ole e 1 protein families: Revised and unified nomenclature

In order to provide a revised/international consensus and unified nomenclature for the Ole e 1 gene superfamily, we first retrieved all the Ole e 1 and Ole e 1-like gene sequences using PS00925 as the major molecular consensus defining the entire superfamily of Ole e 1 proteins. We next verified all annotated plant Ole e 1 open reading frames (ORFs) using Ole e 1 sequence domains. A complementary and comparative study was developed by using Uniprot database to validate the molecular function and previous denomination of each Ole e 1 protein. Our searches resulted in the identification of 571 sequences encoding Ole e 1 and Ole e 1 like proteins from a wide variety of plant species, with the diagnostic motif PS00925 (Table 1). According to the established criteria (see Material and Methods), these sequences integrated 109 Ole e 1 gene families which have been attributed to different functional categories including extensins and extensin-like proteins, proline-rich hydroxyproline-rich tyrosine-rich/hydroxyproline-rich proteins, glycoproteins, glycoproteins, hydrolases, phosphoglycerate mutases, arabinogalactan proteins, etc. (Table 1).

Among the sequences retrieved, Ole e 1_48 is the most extensive family with 63 gene members encoding for different pollen-specific protein C13 homologues, followed by Ole e 1_57 family with 42 gene homologues encoding Ole e 1 (the olive major pollen allergen), Ole e 1_16 with 26 gene members encoding proline-rich proteins, and Ole e 1_52 with 22 members encoding LAT52 homologues (Table 1). The number of Ole e 1 genes greatly varied from one plant species to another. The genus *Oryza* included the highest number of Ole e 1 genes (143), followed by *Arabidopsis* with 95 genes (Table 1). At present, more than half of the catalogued Ole e 1 families encoded a single Ole e 1/Ole e 1-like gene, which was in most cases "uncharacterized" (Table 1).

The total number of genes in the Ole e 1 superfamily is expected to increase steadily with time, mainly due to the genomic sequencing of additional species like *Olea europaea* L. (http://www.gen-es.org/11_proyectos/PROYECTOS.CFM?pg=0106&n=1). Regardless of the plethora of Ole e 1 genes yet to be identified/characterized, their classification and relationship to the entire extended Ole e 1 gene superfamily will be easy owing to this nomenclature building block that catalogues newly identified/characterized Ole e 1 gene products only on the basis of sequence similarity to previously characterized Ole e 1 gene products.

Tie a 1 Family	Rement	Previous annotalion	GenisBank Accession Inumber	Smurte	
1	Ole et SAL	A/4g1/215	QERXZE	ARATH	
4	Ole et 1A2		Q8L8VR	ARATH	
1	Ole s 1_1A3	ARALYDRAFT 493155	D7MC15	ARALY	
1	Ole e 1 1A4	40,100006	Q2A9B5	BRAOL	
4	Q10 e 1_3A5	31,100008	Q2A9F3	BRADE	
1	Oie e 1_181	ARALYORAFT_403053	DTLEFT	ARALY	
1	Qin e 1 182	At2g40113	Q58FY6	ARATH	
1	Ole s 1_183		QHLE52	ARATH	
1	Ole s 1_184	AI5g47635	QZSPTI	ARATH	
1	Ofe e 1_185	ARALYDRAFT_330672	D7MP26	ARALY	
2	Die e 1_2A1	POPTRORAFT_818926	BUHCDO	POPTR	
2	Qis e1 2A2	POPTRDRAFT 776772	BOINTE	POPTR	
2	Ole e 1_7B1	VIT 00005138001	D/SSK6	VITVI	
2	Ole e 1_2C1	+ -	CETJES	SOVEN	
2	Ole # 1 201	RCOM UHBOX70	BSSAED	RICCO	
3	Die e 1 JA1	Osi_33016	B8BG44	ORYS	
3	Die e 1 3A2	Os10g0206500	Q109X3	ORYS	
3	Ola e 1 3B1	OSJNBa0014J14.3	Q7G7E7	ORVSJ	
3	Ole #1 382	OJ1004_F02.9	Q8RV11	ORYS.	
3	Ole s 1 3C1	OSJNBa0014J14.29	QXS5U0	ORYS	
3	Ole e1 3D1	Os10g0269600	Q10931	ORYS	
3	Q10 0 1_3D2	Osi 13026	B88033	ORYS	
3	Ole e 1 JE1	SORBIDRAFT 01g013620	CSWR76	SORB	
3	Qie e 1 3F1		BAFESE	MAIZE	
A -	Ole e 1 4A1	SELMODRAFT 444521	DISEKS	SELML	
4	Ole a 1_4A2	SELMODRAFT 443385	DESOXY	SELML	
5	Ole e 1 SA1	ARALYDRAFT 4IN639	D7LGX1	ARALY	
5	Die e 1 5AZ	A17027385	OENLES	ARATH	
5	Ole e 1 5B1	*	COSVUS	SOYBA	
5	Qie e 1 587		CRTUF4	SOYER	
5	Ole s 1 SC1	- · · ·	C65203	SOYBA	
5	Ole s 1 5D1	POPTRORAPT 821599	A9P157	POPTR	
5	O(e e 1 5D2	RCOM 12811170	BISCW4	RICCO	
5	Ofe e 1_SD3	VITEV 031997	A5BV12	VITVI	
5	Diee1 SE1	AL5022430	QSFMQB	ARATH	
5	Ole e 1_SEZ		QBL914	ARATH	
5	Ole e 1 SE3	ARALYDRAFT 351256	D7Mex5	ARALY	
C	Ole s 1 BA1		BGTL01	MAIZE	
6	Dis a 1 6AZ	2	BIFOB6	MAIZE	

Ola e 1 Family	Revisod	Previous annotation	GeneBase Accession number	Source
6	Oia e 1, 651		BETXHS	MAIZE
6	Ole e 1 BC1	Sti04g021840	CSXTZR	SORE
5	Ole # 1 601	B1136H02.23	Q6EPW8	ORYSJ
7	Ole o1 7A1	SELMODRAFT 405039	DEQYEE	SELML
1	Qle e 1 7A2	SELMODRAFT 414879	D8RTV5	SELML
8	Dien1 BA1	SELMODRAFT 448129	DET4Z3	SELML
8	Ole e 1 861	SELMODRAFT 409805	DERCH	SELML
8	Ole e 1_BC1	SELMOORAFT 448128	D8T4Z1	SELML
9	Ole e 1 BA1	A/2g21140	QSSKPS	ARATH
9	Ole e 1_BA2	Proline-rich protein 2	Q9M7P0	ARATH
9	Old e 1_9A3	ARALYDRAFT 906523	D7LL03	ARALY
9	Oia e 1 981	Ectonsin-like protein	Q9M676	ARATH
9	Ole e 1_982	Proline-rich protein 4	Q9M7N8	ARATH
3	Ole e 1 983	AT4g38770/T6A14_50	Q9T015	ARATH
9	Ole o 1 954	ARALYDRAFT 490841	D7MFN2	ARALY
10	Ofe a 1_10A1	Proline-rich protein	Q9M6T7	NICOL
10	Ofe e 1 1081	VIT 08024051001	D7U5A0	VITVI
10	Ola #1 1082	POPTRDRAFT 200888	BUHRAS	POPTR
10	Ole #1_10C2	POPTRDRAFT 195015	B9H154	POPTR
10	Ole # 1 1002	RCOM 0660430	BBSTC5	RICCO
11	Ole e 1 11A1	Proline-rich protein	082068	SOLTU
12	Ole # 1_12A1	VITISV_029841	A5BOP2	VITVI
13	Die e 1_13A1	VITISV 029038	ASBOP1	VITVI
13	Oin a 1 13AZ	VITISV 029817	ASBOPO	VITVI
13	Ol# a 1_13B1	VIT_00024076001	D7U597	VITVI
14	Ole a 1_14A1	proline-rich protein	QB3WF4	ORYSA
14	ONE # 1_14A2	011000149100	C7.5771	ORYSJ
14	Ole a 1 14A3	proline-rich protein	Q93WL9	ORYSA
14	Ole e 1 14Ai	Os10g0149800	Q7XGT3	ORYSJ
14	Oln #1_14A5	proline-rich protein	Q94H18	ORYSA
14	Ole s 1_14A6	Os10g0149200	Q7XGT1	ORVSJ
14	Ole # 1_14A7	053_30733	A3CZJB	ORYSJ
14	O(e e 1_14A8	OHI_12924	AZXKER	ORYSI
14	Die e 1_14A9	Osl_12923	A2XKE7	ORYSI
14	Gie e 1_14A10	Osl_12971	BRAP23	ORYSI
14	Gia e 1_14A11	OSUNBa0031A07.6	Q04H17	ORVSA
14	Die e 1_14A12	051_30737	A3C7K3	ORYSJ
14	Ole e 1_14A13	Os10g0149400	Q7XGT0	ORYSJ
14	Ola a 1 14A14	OsJ 30734	A3C2K0	ORYSJ

Table 1. The Ole e 1 protein superfamily: new and unified nomenclature. ARATH: Arabidopsis thaliana; ARALY: Arabidopsis lyrata; BETPN: Betula pendula; BRAOL: Brassica oleracea; BRARP: Brassica rapa; CAPAN: Capsicum annuum; CARAS: Cardaminopsis arenosa; CHE1: Chenopodium album; CROSA: Crocus sativus; DAUCA: Daucus carota; EUPPU: Euphorbia pulcherrima; FRAEX: Fraxinus excelsior; GOSBA: Gossypium barbadense; GOSHE: Gossypium herbaceum; GOSHI: Gossypium hirsutum; GOSKI: Gossypioides kirkii; HYAOR: Hyacinthus orientalis; LigVu: Ligustrum vulgare; LILLO: Lilium longiflorum; LOLPE : Lolium perenne; MAIZE: Zea mays; MEDTR: Medicago truncatula; NICAL: Nicotiana alata; NICGL: Nicotiana glauca; NicLa: Vitis pseudoreticulata; OleEu: Olea europaea; ORYSI: Oryza sativa; PETCR: Petroselinum crispum; PETHY: Petunia hybrida; PHAVU: Phaseolus vulgaris; PHEPR : Phleum pratense; PHYPA: Physcomitrella patens; PICSI: Picea sitchensis; PLALA: Platanus lanceolata; POPTR: Populus trichocarpa; RICCO: Ricinus communis; SALKA: Salsola kali; SAMNI: Sambucus nigra; SELML: Selaginella moellendorffii; SOLLI: Solanum lycopersicum; SOLTU: Solanum tuberosum; SORBI: Sorgum bicolor; SOYBN: Glycine max; TOBAC: Nicotiana tabacum; TRISU: Trifolium subterraneum; VITVI: Vitis vinifera; 9ROSI: Cleome spinosa; (-): uncharacterized.

34	Oip # 1_14A15	OSJNBa0031A07.9	Q94H14	ORYSA	19	Ole 9 1 1582	10	B4FM91	MAIZ
14	Die a 1_14A16	Q\$10g0149900	Q7XGS7	ORYSJ	19	Ole e 1_1983	Proline-rich protein	BUTZHS	MAIZ
14	Die e 1 14A17	Dia 32754	A22528	CIRYSI	19	Ole e 1 1984	Proline-rich protein	C5WP20	SORE
14	Ole #1 1481	proline-cich protein-	Q94H15	ORYSA	19	Ole e 1 1901	Out 10729	A2XEH2	ORYS
14	Ole # 1_14C1	Os10g0149800	Q7XGSR	ORVSJ	18	Ole # 1_10D1	Os03g0245200	Q10P65	ORVS
14	Gles 1 14D1	OsJ 30739	A3C2K8	ORYEL	19	Ofe s 1 19E1	50010041230	CSW027	SORE
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4	Ofe e 1_14E1	QHI_32753	A22527	ORYS	19	Ofe a 1_19E2	Proline-rich protein	B67564	MAIZ
15	Ole # 1_15A1	Os1_30735	A3C2K1	ORYSJ	10	Ofe # 1_19E3	Profine-rich protein	B4FQ36	MAJZ
6	Oie e 1_16A1	proline-rich protein	Q94H17	ORYSA	20	Ole e 1_20A1	proline-rich protein	Q94684	ORYS
6	Ole a 1 18A2	proline-rich protein	ABN1C2	ORYSI	20	Ola o 1 2042	Os10g0148700	Q7XGT6	ORVS
6	Ole s 1 18A3	Os10g0150400	Q7XGS4	DRY51	20	Ole #1 20A3	Osl 32750	BABFAA	ORYS
6			A22531	ORVSI	21		Qui 10730	AZXEH3	ORYS
	Ole e 1_16A4	Osl_32757	the second se	and the second se	and the second sec	Ole 91_21A1	and the second se		
6	Ole a 1_16A5	proline-rich protein	Q94H09	ORYSA	21	Ole e 1_21A2	Os03g0245300	Q10P64	ORYS
6	QIe # 1_16AE	Os10g0150800	Q7XGS2	ORYSJ	21	Ole e 1_21B1	\$b01g041220	CSWQZ6	SOR
6	Ote # 16A7	proline-rich protein	Q8RVW5	ORYSA	21	Ole e 1_2182	Proline-rich protein	BOTJKI	48 ALZ
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6	Qie # 1_16A5	Os10g0150700	Q7XGS3	ORV5.I	22	Ole # 1_22A2	Qs01g9899700	Q5N8V9	ORV
6	Ofe e 1_16A10	Ost_32759	A72533	ORYS	22	Ole e 1_22A3	Sb03g042800	CSXFEA	SOR
6	Ole e 1_16A11	proline-rich protein	ASMZDU	ORYSI	23	Ole s 1 23A1	SELMODRAFT 448X71	DUTAVA	SEL
6	Ofe e 1 15A12	proline-rich protein	Q94H11	ORYSA	24	Ole e 1 24A1	SELMODRAFT 449207	DUTOPE	SEL
6	Dine 1 15A13	Os10g0150600	Q7GBX3	ORYSJ	25	Ole a 1 25A1	and the second	Q09085	PHA
							OH-proline-rich glycopretein		
Û	Ole e 1 16A14	Prolive-rich pretein	A6N177	ORYSI	26	Ole a 1_26A1	Tyr., OH-proline-cich glycoprol.	Q40793	PETO
6	Ciee1_16A15	Ost_32758	A22532	ORVSI	27	Ole a 1_27A1	SELMODRAFT_41949/	D8\$930	SELA
6	Ole e 1 15A16	Ost 32768	BIBFR7	ORVSI	27	Ola e 1 27A2	SELMODRAFT 427121	DESYKS	SELA
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6	Ofe e 1_10A17	LOC_0+10005990	Q33B16	ORYSJ	28	Ole e 1_28A1	SELMODRAFT_441903	DERNMO	SELA
6	Ole # 1_1681	Proline-rich protein	Q94H13	ORYSA	28	Ole e 1_28A2	SELMODRAFT_430005	D87809	SELA
5	Ole # 1_168?	Cs10g0150300	Q7XGS5	DRYSJ	28	Ole e 1_20B1	SELMODRAFT_438863	O8R002	SELF
3	Ole s 1_16B3	051 32756	A22530	ORVSI	28	Ote # 1 2882	SELMODRAFT 449338	DBTF68	SEL
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	Ole #1_16C1		BISJAA	MAIZE	28	the second s	SELMODRAFT_438058	DSROOS	SEL
£	Qle s 1_16C2	in the second	BSTBY5	MAIZE	29	Ola o 1_29A2	SELMODRAFT_439721	D8R5C2	SEL
6	Ole # 1_16C3	Proline-rich protein	B6TLL3	MAIZE	30	Qie e 1_30A1	SELMODRAFT_449095	DBT4Q2	SEL
5	Ole e 1_16C4	50010026180	CSWP19	SORBI	31	Ole e 1_31A1	SELMODRAFT_413728	DSRQ13	SEL
		- Section and		MAIZE	the second se			the second se	BEL
	Ote e 1_16D1		BEUBAS		51	Ole a 1 31A2	SELMODRAFT_416536	DORZLS	
	Ole # 1_16E1		COPAE2	MAIZE	32	Ole a 1_32A1	SELMODRAFT_416534	DIRZL1	SEL
r.	Ole a 1_17A1	5b01g025970	C3WP14	SORBI	32	Ole 9 1_32A2	SELMODRAFT_413730	DRRQ15	SELI
t.	Ole a 1_17AZ	Proline-rich protein	Q3SBX4	MAIZE	33	Ole e 1_33A1	ARALVDRAFT_488422	D7M7G1	ARA
8	Ole a 1 JUA1	50010026170	C5WP16	SORBI	33	Ole e 1_33AZ	AL5g15780	QULFU8	ARA
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2	Ole # 1_13A1	proline-rich protein	094686	ORYSA	33	Ole e 1_33B1		Q1KUY6	980
9	Ole e 1_13AZ	Os10g0148100	Q7XGT9	ORVEJ	34	Ole a 1 34A1	Pollen Dia e 1 allergen/extensin	Q2HSE9	MED
1	Clest_teAl	OsJ_30727	8967.12	ORYSJ	34	Ole s 1_34B1		B7FKI5	MED
*	Ole a 1 15A4	Oct_32748	A72574	ORYSI	34	Ole 91_34C1	RCOM 0790500	B95#V7	RICC
	Alle # 1 1944	WHI. 14. (14.)	and a subject of the last	and the state of t					
					34				
9	Ole a 1_1981		C4JABB	MAIZE		0ia e 1_34D1	VIT_00036543001	D7SMN1	1 400
9	Ole # 1_35A1	MirDRAFT_AC172342g25v1	A2Q625	MEDTA	47	Ois # 1_47A2	0s12y0472800	Q2QR52	ORY
5	Ole # 1_35A1 Ole # 1_36A1	MIDRAFT AC172742921v1 POPTRDRAFT_564621	AZQ629 BSN7M0	MEDTA POPTR	47	Ois e 1_47A2 Ois e 1_47B1		Q2QR52 B4FV58	ORY
5	Ole # 1_35Å1 Ole # 1_36Å1 Ole # 1_36Å1	Mi/DRAFT_AC172742g29v1 POPTRDRAFT_584621 O4_33013	A2Q629 B9N7M0 A2Z5T3	MEDTA POPTR ORYSI	47 47 47	Ois e 1_47A2 Ois e 1_47B1 Ois e 1_47B2	Ds12y0472800	020852 84FV58 86TZW5	ORY MAD
5	Ole # 1_35A1 Ole # 1_36A1	MIDRAFT AC172742921v1 POPTRDRAFT_564621	AZQ629 BSN7M0	MEDTA POPTR	47	Ois e 1_47A2 Ois e 1_47B1		Q2QR52 B4FV58	ORY MAD
5 5 7 7	Ole # 1 35Å1 Ole # 1 36Å1 Ole # 1 36Å1 Ole # 1 37Å1 Ole # 1 37Å2	MirDRAFT_AC172742g21v1 POPTRDRAFT_S64521 Ost030013 Os10g0205700	A2Q629 BSN7M0 A2Z5T3 QBRV00	MEDTR POPTR ORYSI ORYSJ	47 47 47 47	Ois e 1_47A2 Ois e 1_47B1 Ois e 1_47B2 Ois e 1_47B2 Ois e 1_47B3	Ds12y0472800	Q2QR52 B4FY58 B6TZW5 C6JRP6	ORY MAD MAD SOR
5	Ole # 1_35A1 Ole # 1_36A1 Ole # 1_37A1 Ole # 1_37A2 Ole # 1_37A3	MirDRAFT_AC172742923v1 POPTRDRAFT_584521 Ost_33013 Ost199205700 Ost_26257	A2Q629 BSN7M0 A2Z5T3 QURV00 A2YMD0	MEDTR POPTR ORYSI ORYSJ ORYSJ	47 47 47 47 47	Oin e1_47A2 Oie e1_47B1 Oie e1_47B2 Oie e1_47B3 Oie e1_47B3	0s12g0472800 \$00011s012840	Q2QR52 B4FV58 B6T2W5 C8JRP5 C8PAV0	ORY MAD SOR MAD
5	Ole e 1,35A1 Ole e 1,36A1 Ole e 1,37A1 Ole e 1,37A2 Ole e 1,37A3 Ole e 1,37A3	MirDRAFT_AC172742g21v1 POPTRDRAFT_584521 Ost_33013 Ost0g205700 Ost_25257 Ost_33017	A2Q629 B9N7M0 A22573 QURV00 A2YM00 A3C3E5	MEDTR POPTR ORYSI ORYSJ ORYSJ ORYSJ	47 47 47 47 47 47 41	Oin e 1,47A2 Oie e 1,47B1 Oie e 1,47B2 Oie e 1,47B3 Oie e 1,47B3 Oie e 1,47B3 Oie e 1,47B3	0s12g0472800 5000115012840 Pollen ole e 1 allergen	Q2QR52 B4FY38 B8T2W5 C8JRP6 C8PAV0 07M2T9	ORY MAD SOR MAD
5 5 7 7 7 7	Ole = 1 35Å1 Ole = 1 36Å1 Ole = 1 36Å1 Ole = 1 37Å1 Ole = 1 37Å1 Ole = 1 37Å3 Ole = 1 37Å1 Ole = 1 37Å1	MirDRAFT_AC172742923v1 POPTRDRAFT_584521 Ost_33013 Ost199205700 Ost_26257	A2Q629 B5N7M0 A22573 QURV00 A2YM00 A3C3E5 C6Y4M4	MEDTR POPTR ORYSI ORYSI ORYSI ORYSI SQNBI	47 47 47 47 47 47 47 48	Ois e1 47A2 Ois e1 47B1 Ois e1 47B2 Ois e1 47B2 Ois e1 47B3 Ois e1 47B3 Ois e1 47B3 Ois e1 47B3 Ois e1 48A1 Ois e1 48A2	Ds12g0472800 Sod011s012840 Polien ole e 1 allergen AT6010130 like protein	Q2QR52 B4FY38 B6T2W5 C8JPRP5 C0PAV0 07M2T9 B7U9S9	ORY MAD SOR MAD ARA CAR
5 5 7 7 7 7	Ole e 1,35A1 Ole e 1,36A1 Ole e 1,37A1 Ole e 1,37A2 Ole e 1,37A3 Ole e 1,37A3	MirDRAFT_AC172742g21v1 POPTRDRAFT_584521 Ost_33013 Ost0g205700 Ost_25257 Ost_33017	A2Q629 B9N7M0 A22573 QURV00 A2YM00 A3C3E5	MEDTR POPTR ORYSI ORYSJ ORYSJ ORYSJ	47 47 47 47 47 47 41	Oin e 1,47A2 Oie e 1,47B1 Oie e 1,47B2 Oie e 1,47B3 Oie e 1,47B3 Oie e 1,47B3 Oie e 1,47B3	0s12g0472800 5000115012840 Pollen ole e 1 allergen	Q2QR52 B4FY38 B8T2W5 C8JRP6 C8PAV0 07M2T9	ORY MAD SOR MAD ARA CAR
5 5 7 7 7 7	Ole = 1 35Å1 Ole = 1 36Å1 Ole = 1 36Å1 Ole = 1 37Å1 Ole = 1 37Å1 Ole = 1 37Å3 Ole = 1 37Å1 Ole = 1 37Å1	MirDRAFT_AC172742g21v1 POPTRDRAFT_584521 Ost_33013 Ost0g205700 Ost_25257 Ost_33017	A2Q629 B5N7M0 A22573 QURV00 A2YM00 A3C3E5 C6Y4M4	MEDTR POPTR ORYSI ORYSI ORYSI ORYSI SQNBI	47 47 47 47 47 47 47 48	Ois e1 47A2 Ois e1 47B1 Ois e1 47B2 Ois e1 47B2 Ois e1 47B3 Ois e1 47B3 Ois e1 47B3 Ois e1 47B3 Ois e1 48A1 Ois e1 48A2	Ds12g0472800 Sod011s012840 Polien ole e 1 allergen AT6010130 like protein	Q2QR52 B4FY38 B6T2W5 C8JPRP5 C0PAV0 07M2T9 B7U9S9	ORY MAD SOR MAD ARA CAR ARA
5 5 7 7 7 7 7 7	Ole # 1 35A1 Ole = 1 36A1 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 37A3 Ole = 1 37A3 Ole = 1 37C1 Ole = 1 37C1 Ole = 1 37C2 Ole = 1 38A1	MirDRAFT_AC172742g21v1 POPTRDRAFT_584621 Ost_33013 Os10g0203700 Ost_26257 Os1_31017 Sb05g003010	A20629 B5N7M0 A22513 QURV00 A2VND0 A3C3E5 G5V4M4 B4FWB4 A9NKB0	MEDTA POPTR ORYSI ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI	47 47 47 47 47 48 48 48 48 48	Oin e1 47A2 Oie e1 47B2 Oie e1 47B2 Oie e1 47B2 Oie e1 47B2 Oie e1 47B2 Oie e1 47B3 Oie e1 47B3 Oie e1 47B3 Oie e1 47B3 Oie e1 47B3 Oie e1 47B3	Ds12y0472808 S000115012840 Polien ole e 1 allergen A15010130 Alles protein A15010130 Putative polien Ole e 1 allergen	Q2QR52 B4FY58 B612W5 C8JRP6 C3JRP6 C3 C3JRP6 C3 C3 C3 C3 C3 C3 C3 C3 C3 C3 C3 C3 C3	ORY MAD SOR MAD ARA CAR ARA ARA
5 5 7 7 7 7 7 8 8	Ole = 1 35A1 Ole = 1_36A1 Ole = 1_37A2 Ole = 1_37A2 Ole = 1_37A2 Ole = 1_37A2 Ole = 1_37A2 Ole = 1_37C1 Ole = 1_37C1 Ole = 1_38A1 Ole = 1_36A2	MirDRAFT_AC172742921v1 POPTRDRAFT_584621 Owt_33013 Owt90205700 Owt_26257 Owt_26257 Owt_26257 Owt_26257 Owt_261017 Sb059003010	A2O629 B9N7M0 A225T3 QURV00 A3C3E5 G5Y4M4 B4FW84 B4FW84 ASNKB0 A9NZNE	MEDTR POPTR ORYSI ORYSI ORYSJ SORBI MAIZE PICSI PICSI	47 47 47 47 47 47 47 47 47 48 48 48 48 48 48 48	Ois e 1 47A2 Ois e 1 47B2 Oie e 1 47B2 Oie e 1 47B3 Oie e 1 48A4 Oie e 1 48A4 Oie e 1 48A5	Os12g0472800 So0011s012840 Polion ole e 1 allergen A15010130 ille protein A15g10130	Q2QR52 B4FY38 B6T2W5 C8JRP6 C8JRP6 C8JRP6 C8JRP6 C8JRP6 C8JRP6 C8JR95 B7U959 B7U959 C3U358 C3U358 C3U358 C3U358	ORY MAD SOR MAD ARA CAR ARA ARA BRA
5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole = 1_35Å1 Ole = 1_36Å1 Ole = 1_37Å1 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å1 Ole = 1_37Å1 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_38Å3	MirDRAFT_AC172742g21vt POPTRDRAFT_S64521 Ovt_33013 Ovt_90205700 Ovt_26257 Ost_31017 Sb05g003010	A2Q629 B9N7M0 A2Z5T3 QURV00 A3Q18V00 A3C3E5 C6Y4M4 B4FWB4 A9NKB0 A9NKB0 A9NZNE A9NYK9	MEDTŘ POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI PICSI	47 47 47 47 47 47 47 48 48 48 48 48 48 48	Oin e 1, 47A2 Oin e 1, 47B1 Oin e 1, 47B1 Oin e 1, 47B3 Oin e 1, 47B3 Oin e 1, 47B3 Oin e 1, 47B3 Oin e 1, 48A3 Oin e 1, 48A3 Oin e 1, 48A3 Oin e 1, 48A3 Oin e 1, 48A3	Ds12y0472808 S000115012840 Polien ole e 1 allergen A15010130 Alles protein A15010130 Putative polien Ole e 1 allergen	Q20852 B4FV38 B6T2W5 C8JRP6 C8JRP6 07M279 B7U959 Q3LX15 C3UJ86 Q4ABQ7 B9HFN2	ORY MAD SOR MAD ARA CAR ARA ARA BRA POP
5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole # 1_35Å1 Ole # 1_35Å1 Ole # 1_37Å1 Ole # 1_37Å2 Ole # 1_37Å3 Ole # 1_37Å3 Ole # 1_37Å3 Ole # 1_37Å1 Ole # 1_37C1 Ole # 1_37C2 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_38Å3	MirDRAFT_AC172742g23v1 POPTRDRAFT_584521 Ost_33013 Ost19g205700 Ost_25257 Ost_31017 58085g003010	A20629 B5M7M0 A22573 QURV00 A2YM00 A2YM00 A2YM00 A3C3E5 G5Y4M4 B4FW84 A5MK80 A9MZN6 A9MZN6 A9MZN6	MEDTA POPTR ORYSI ORYSI ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ PICSI PICSI PICSI PICSI	47 47 47 47 47 48 48 48 48 48 48 48 48	Oin e 1_47A2 Oie e 1_47B1 Oie e 1_47B2 Oie e 1_47B3 Oie e 1_47C1 Oie e 1_47C1 Oie e 1_47C1 Oie e 1_47A3 Oie e 1_47A3 Oie e 1_48A4 Oie e 1_48A5 Oie e 1_48B1 Oie e 1_48B1	Os1290472800 S00011s012840 Polien of e 1 allergen A15010130 like protein A15g10130 Putalive polien Ole e 1 allergen 80A03_10	Q2Q852 B4FY58 B4T2W5 CBJRP6 CDPAV0 07M2T9 B7U959 Q3LX15 C3UJ36 Q4ABQ7 B9H553	ORY MAL SOR MAL ARA CAR ARA ARA BRA BRA POP POP
5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole = 1_35Å1 Ole = 1_36Å1 Ole = 1_37Å1 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å1 Ole = 1_37Å1 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_38Å3	MirDRAFT_AC172742g21vt POPTRDRAFT_S64521 Ovt_33013 Ovt_90205700 Ovt_26257 Ost_31017 Sb05g003010	A2Q629 B9N7M0 A2Z5T3 QURV00 A3Q18V00 A3C3E5 C6Y4M4 B4FWB4 A9NKB0 A9NKB0 A9NZNE A9NYK9	MEDTR POPTR ORYSI ORYSI ORYSJ ORYSJ SORBJ PICSI PICSI PICSI PICSI PICSI	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48	Oin e 1, 47A2 Oin e 1, 47B1 Oin e 1, 47B1 Oin e 1, 47B3 Oin e 1, 47B3 Oin e 1, 47B3 Oin e 1, 47B3 Oin e 1, 48A3 Oin e 1, 48A3 Oin e 1, 48A3 Oin e 1, 48A3 Oin e 1, 48A3	Ds12y0472808 S000115012840 Polien ole e 1 allergen A15010130 Alles protein A15010130 Putative polien Ole e 1 allergen	Q20852 B4FV38 B6T2W5 C8JRP6 C8JRP6 07M279 B7U959 Q3LX15 C3UJ86 Q4ABQ7 B9HFN2	ORY MAD SOR MAD SOR MAD ARA ARA ARA BRA BRA BRA BRA
5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole # 1_35Å1 Ole # 1_35Å1 Ole # 1_37Å1 Ole # 1_37Å2 Ole # 1_37Å3 Ole # 1_37Å3 Ole # 1_37Å3 Ole # 1_37Å1 Ole # 1_37C1 Ole # 1_37C2 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_38Å3	MirDRAFT_AC172742g23v1 POPTRDRAFT_584521 Ost_33013 Ost19g205700 Ost_25257 Ost_31017 58085g003010	A20629 B5M7M0 A22573 QURV00 A2YM00 A2YM00 A2YM00 A3C3E5 G5Y4M4 B4FW84 A5MK80 A9MZN6 A9MZN6 A9MZN6	MEDTA POPTR ORYSI ORYSI ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ PICSI PICSI PICSI PICSI	47 47 47 47 47 48 48 48 48 48 48 48 48	Oin e 1_47A2 Oie e 1_47B1 Oie e 1_47B2 Oie e 1_47B3 Oie e 1_47C1 Oie e 1_47C1 Oie e 1_47C1 Oie e 1_47A3 Oie e 1_47A3 Oie e 1_48A4 Oie e 1_48A5 Oie e 1_48B1 Oie e 1_48B1	Os1290472800 S00011s012840 Polien of e 1 allergen A15010130 like protein A15g10130 Putalive polien Ole e 1 allergen 80A03_10	Q2Q852 B4FY58 B4T2W5 CBJRP6 CDPAV0 07M2T9 B7U959 Q3LX15 C3UJ36 Q4ABQ7 B9H553	ORY MAD SOR MAD SOR MAD ARA ARA ARA BRA BRA BRA BRA
3 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole = 1,35A1 Ole = 1,35A1 Ole = 1,37A1 Ole = 1,37A1 Ole = 1,37A1 Ole = 1,37A1 Ole = 1,37A1 Ole = 1,37C1 Ole = 1,37C1 Ole = 1,37A2 Ole = 1,38A1 Ole = 1,39A2	MirDRAFT_AC172742g23v1 POPTRDRAFT_584521 Ost_33013 Ost19g205700 Ost_25257 Ost_31017 58085g003010	A20629 B907M0 A22573 dURV00 A3C325 C6Y4M4 B4FW80 A3C325 C6Y4M4 B4FW80 A9N2N8 A9N2N8 A9N2N8 C9PTE0	MEDTR POPTR ORYSI ORYSI ORYSJ ORYSJ SORBJ PICSI PICSI PICSI PICSI PICSI	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48	Ois e 1,47A2 Ois e 1,47B1 Ois e 1,47B2 Oie e 1,47B2 Oie e 1,47B2 Oie e 1,47B2 Ois e 1,47B2 Ois e 1,47B3 Ois e 1,48A1 Ois e 1,48A3 Ois e 1,48B3 Ois e 1,48B3	Os1290472800 S00011s012840 Polien of e 1 allergen A15010130 like protein A15g10130 Putalive polien Ole e 1 allergen 80A03_10	Q20852 B4FV38 B4FV38 C8JRP6 C8JRP6 C8JRP6 C8JRP6 C8JRP6 Q3LX15 C3UJ38 Q4ABQ7 89HFN2 B94553 B974H0	ORY MAD SOR MAD SOR MAD ARA ARA ARA BRA BRA BRA BRA BRA
5 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole # 1_35Å1 Ole # 1_36Å1 Ole # 1_37Å1 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å3 Ole # 1_37Å1 Ole # 1_37Å3 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_4ÅÅ1	MirDRAFT_AC172742g25v1 POPTRDRAFT_584521 Ost_33013 Ost19g205700 Ost_26257 Ost_31017 Sb085g003010	A20629 B9M7M0 A22573 QURV00 A2YM00 A2YM00 A3C3E5 G5Y4M4 B4FW84 A5MK80 A9MZ98 A9MZ98 C9PTE0 A9MZ98 C9PTE0 A9MZ88 C9PTE0 A9MZ88	MEDTA POPTR ORYSI ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ PRSJ PICSI PICSI PICSI PICSI PICSI PICSI PICSI PICSI PICSI ARALY	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Oin e 1_47A2 Oie e 1_47B1 Oie e 1_47B2 Oie e 1_47B3 Oie e 1_47B3 Oie e 1_47B3 Oie e 1_47B3 Oie e 1_47B3 Oie e 1_48A3 Oie e 1_48A3 Oie e 1_48A3 Oie e 1_48B2 Oie e 1_48B2 Oie e 1_48B2 Oie e 1_48C1 Oie e 1_48C2	Os1290472808 S00011s012840 Pollen ole e 1 allergen A15010130 like protein A15g10130 Putalive pollen Ole e 1 allergen 80403_10 Pollen-specific preisin C13 Altergen-like protein BRSn20	Q2QR52 B4FY58 B4T2W5 CBJRP6 CBPAV0 07M2T9 B7/UB59 Q3LX15 C3UJ38 Q4ABQ7 B5/UB53 B374H0 D7/M8H5 Q332V5	ORY MAD SOR MAD SOR MAD ARA ARA BRA BRA BRA BRA ARA ARA
3 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole # 1_35A1 Ole = 1_36A1 Ole = 1_37A2 Ole = 1_37A3 Ole = 1_36A3 Ole = 1_38A3 Ole = 1_38A3 Ole = 1_38A3 Ole = 1_40A1 Ole = 1_40A1	MirDRAFT_AC172742g21v1 POPTRDRAFT_564521 Ost_33013 Ost10g0205700 Ost_25257 Ost_31017 Sb085g003010 	A20629 B5947M0 A22573 QURV00 A2YM00 A3C3E5 C6Y4M4 B4FW84 A5NK80 A9NZ98 A9NZ98 C0PTE0 A9NZ98 C0PTE0 A9NZ98 D7LRC1 QEL953	MEDTA POPTR ORYSI ORYSI ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ PICSI PICSI PICSI PICSI PICSI PICSI PICSI ARALY ARATH	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Oin e1_47A2 Oie e1_47B1 Oie e1_47B2 Oie e1_47B2 Oie e1_47C1 Oie e1_47C1 Oie e1_47A2 Oie e1_47A3 Oie e1_47A3 Oie e1_47A3 Oie e1_48A4 Oie e1_48B1 Oie e1_48B2 Oie e1_48B2 Oie e1_48C1 Oie e1_48C3	Os1290472800 S000115012840 Pollen of e 1 allergen A15010130/like protein A15g10130 Pudalive pollen Ole e 1 allergen 80A03_10 Pollen-specific protein C13 Allergen-like protein BRSh20 Pollen specific protein	Q2Q852 B4FV38 B4FV38 B4FV38 C63/RPE C0PAV0 07/#279 B7U959 Q3LX15 C3U38 Q4ABQ7 89H553 B974H0 D7M8H5 B91553 B974H0 D7M8H5 Q932V5 Q42077	ORY MAD SOR MAD SOR MAD ARA ARA ARA ARA ARA ARA
5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ohe et _35Å1 Ohe et _36Å1 Ohe et _37Å1 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å3 Ohe et _37Å2 Ohe et _37Å3 Ohe et _3Å4 Ohe et _3Å4 Ohe et _3Å4 Ohe et _3Å4 Ohe et _3Å4 Ohe et _4Å4 Ohe et _4Å4	MirDRAFT_AC172742g25v1 POPTRDRAFT_584521 Ost_33013 Ost_33013 Ost_3203700 Ost_32017 Sb05g003010 	A20629 B5M7M0 A225T3 QURV00 A3C3E5 C5V4M4 B4FW8M A9NK80 A9NZ96 A9NZ66 A9	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Ois e 1,47A2 Ois e 1,47B2 Oie e 1,47B3 Oie e 1,48A3 Oie e 1,48A3 Oie e 1,48B3 Oie e 1,48C3 Oie e 1,48C3 Oie e 1,48D3	Os1290472808 S00011s012840 Pollen ole e 1 allergen A15010130 like protein A15g10130 Putalive pollen Ole e 1 allergen 80403_10 Pollen-specific preisin C13 Altergen-like protein BRSn20	Q2QR52 B4FV38 B6TZW5 CBJRP6 CPPAV0 07M2T9 B7/U559 Q3LX15 C3JJ36 Q4ABQ7 B9H553 B874H0 D7M8H5 Q332V5 Q42Q77 A9P956	ORY MAD SOR MAS ARA CAR ARA ARA BRA BRA BRA BRA ARA ARA ARA A
5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole # 1_35Å1 Ole # 1_36Å1 Ole # 1_37Å1 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å3 Ole # 1_37Å3 Ole # 1_37Å3 Ole # 1_37Å3 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_48Å3 Ole # 1_48Å3 Ole # 1_48Å3 Ole # 1_48Å3	MirDRAFT_AC172742g25v1 POPTRDRAFT_584521 Ovt_33013 Ovt10g0205700 Ovt_26257 Ovt_231017 Sb065g003010 	A20629 B9M7M0 A22513 QURV00 A2YM00 A3C3E5 G5Y4M4 B4FW84 A9MK80 A9M288 C9PTE0 A9M288 C9PTE0 D7LRC1 QRL053 BK5LJ8 D7MIZ7	MEDTA POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ PRSJ PICS PICS PICS PICS PICS PICS PICS PICS	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dis e 1, 47A2 Ola e 1, 47B1 Ola e 1, 47B2 Ola e 1, 47B3 Ola e 1, 47B3 Ola e 1, 47B3 Ola e 1, 47B3 Ola e 1, 48A3 Ola e 1, 48A3 Ola e 1, 48A5 Ola e 1, 48B3 Ola e 1, 48B3 Ola e 1, 48B3 Ola e 1, 48B3 Ola e 1, 48C1 Ola e 1, 48C1 Ola e 1, 48C2 Ola e 1, 48D1 Ola e 1, 48D2	Os1290472800 S000115012840 Pollen of e 1 allergen A15010130/like protein A15g10130 Pudalive pollen Ole e 1 allergen 80A03_10 Pollen-specific protein C13 Allergen-like protein BRSh20 Pollen specific protein	Q2QR52 B4FY58 B4T2W5 CBJRP5 CBPAV0 07M2T9 B7U959 Q9LX15 C3JU85 Q4ABQ7 B9H553 B9T4H0 D7M8H5 Q932Y5 Q42077 A9P956 A9P956	ORY MAL SOR MAL SOR MAL SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ohe et _35Å1 Ohe et _36Å1 Ohe et _37Å1 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å3 Ohe et _37Å2 Ohe et _37Å3 Ohe et _3Å4 Ohe et _3Å4 Ohe et _3Å4 Ohe et _3Å4 Ohe et _3Å4 Ohe et _4Å4 Ohe et _4Å4	MirDRAFT_AC172742g25v1 POPTRDRAFT_584521 Ost_33013 Ost_33013 Ost_3203700 Ost_32017 Sb05g003010 	A20629 B5M7M0 A225T3 QURV00 A3C3E5 C5V4M4 B4FW8M A9NK80 A9NZ96 A9NZ66 A9	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Ois e 1,47A2 Ois e 1,47B2 Oie e 1,47B3 Oie e 1,48A3 Oie e 1,48A3 Oie e 1,48B3 Oie e 1,48C3 Oie e 1,48C3 Oie e 1,48D3	Os1290472800 S000115012840 Pollen of e 1 allergen A15010130/like protein A15g10130 Pudalive pollen Ole e 1 allergen 80A03_10 Pollen-specific protein C13 Allergen-like protein BRSh20 Pollen specific protein	Q2QR52 B4FV38 B6TZW5 CBJRP6 CPPAV0 07M2T9 B7/U559 Q3LX15 C3JJ36 Q4ABQ7 B9H553 B874H0 D7M8H5 Q332V5 Q42Q77 A9P956	ORY MAL SOR MAL SOR MAL SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
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3 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ohe et 35Å1 Ohe et 35Å1 Ohe et 37Å1 Ohe et 37Å2 Ohe et 37Å2 Ohe et 37Å3 Ohe et 47Å3 Ohe et 47Å3	MirDRAFT_AC172742g21v1 POPTRDRAFT_S64511 Ost_33013 Ost_32013 Ost_32013 Ost_32017 Sb05g003010 ARALYDRAFT_564511 A33g26960 Pollen proteins Ole e I family ARALYDRAFT_35871 A15g41650	AZQ629 B5N7M0 AZZ5T3 QURV00 A3C3E5 C5V4M4 B4FW84 A9NK80 A9NZ98 A9NZ98 C9PTE0 A9NZ98 D7LRC1 QRU53 BK5LJ8 07MI27 QPFLM4 CET792	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSJ	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Oin e 1 47A2 Oin e 1 47B2 Oie e 1 47B3 Oie e 1 48A3 Oie e 1 48A3 Oie e 1 48B3 Oie e 1 48B3 Oie e 1 48B3 Oie e 1 48C3 Oie e 1 48C3 Oie e 1 48D3 Oie e 1 48D3	Ost290472808 S000115012840 Polien ole e 1 allergen A15010130 Alle protein A15g10130 Putative polien Ole e 1 allergen BitA03_10 Polien-specific protein C13 Aflergen-like protein BREh20 Polien specific protein	Q2OR52 B4F V58 B4T2W5 CBJRV6 C7PAV0 O7M2T9 B7/0599 Q3LX15 C3UJ38 D4ABQ7 B9H553 B974H0 D7M8H5 Q32V5 Q42Q77 A3P956 A3P8E0 A3P8CW2 A3PHV1	ORY MAD SOR ARA ARA ARA BRA BRA BRA BRA BRA ARA AR
3 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole = 1_35Å1 Ole = 1_36Å1 Ole = 1_37Å1 Ole = 1_37Å1 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å2 Ole = 1_37Å3 Ole = 1_37C1 Ole = 1_37Å3 Ole = 1_38Å3 Ole = 1_38Å3 Ole = 1_38Å3 Ole = 1_38Å3 Ole = 1_38Å3 Ole = 1_40Å1 Ole = 1_40Å1 Ole = 1_40Å4 Ole = 1_40Å4	MirDRAFT_AC172742g25v1 POPTRDRAFT_584521 Ovt_33013 Ovt10g0205700 Ovt_26257 Ovt_231017 Sb065g003010 	A20629 B5M7M0 A22573 QURV00 A2YM00 A3C3E5 G5Y4M4 B4FWB4 A5MKB0 A5MKB0 A5MKB0 A5MX208 A9MY59 A9MY59 A9MY59 A9MY50 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL953 D7LRC1 QEL954 D7LRC1 QEL955 D7LRC1 QEL954 D7LRC1 QEL955 D7LRC1 QEL954 D7LRC1 QEL955 D7LRC1 QEL954 D7LRC1 QEL955 D7LRC1 QEL954 D7LRC1 QEL955 D7LRC1 QEL955 D7LRC1 QEL954 D7LRC1 QEL955 D7LRC1 QEL954 D7LRC1 QEL955 D7LRC1 D	MEDTA POPTR ORYSI ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI PICSI PICSI PICSI PICSI PICSI PICSI ARALY ARATH MAIZE ARALY ARATH SOYBM	47 47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Din e 1, 47A2 Ola e 1, 47B1 Ola e 1, 47B1 Ola e 1, 47B2 Ola e 1, 47B3 Ola e 1, 47B3 Ola e 1, 47B3 Ola e 1, 48A3 Ola e 1, 48A3 Ola e 1, 48A5 Ola e 1, 48B3 Ola e 1, 48B3 Ola e 1, 48C1 Ola e 1, 48C2 Ola e 1, 48D3 Ola e 1, 48D4 Ola e 1, 48D5	Os12g0472800 Sod011s012840 Pollen ole e 1 allergen AT8010130 like protein AI5g10130 Putative pollen Ole e 1 allergen 39A03_10 Pollen-specific protein C13 Allergen-like protein BRSh20 Pollen specific protein Pollen specific protein C13	Q2QR52 B4FY38 B4T2W5 CBJRP5 CBJRP5 CJPAV0 07M2T9 B7U539 Q8LX15 C3JU38 D4ABQ7 B9U533 B4FN2 B9H533 B9H533 B9H513 B9H553 B9H513 B9H553 C3ABQ7 Q932V5 Q42077 Q932V5 Q42077 A9P956 A9P850 A9P850 A9P850 A9P850 A9P850	ORYY MAD SOF ARA ARA ARA ARA ARA ARA ARA ARA ARA AR
3 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole # 1_35Å1 Ole # 1_35Å1 Ole # 1_37Å1 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å2 Ole # 1_37Å3 Ole # 1_37Å1 Ole # 1_37Å1 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_38Å3 Ole # 1_40Å3 Ole # 1_40Å3 Ole # 1_40Å3 Ole # 1_40Å3 Ole # 1_40Å3 Ole # 1_40Å3	MirDRAFT_AC172742g21v1 POPTRDRAFT_584521 Ost_33013 Ost19g205700 Ost_26257 Ost_31017 Sb085g003010 	A20629 B9M/M0 A22513 QURV00 A2YM00 A2YM00 A2YM00 A2YM00 A9WV00 A9WV00 A9W2N8 A9	MEDTA POPTA ORYSI ORYSJ ORYSJ ORYSJ SORBJ MAJZE PICSI PICSI PICSI PICSI PICSI PICSI PICSI PICSI PICSI PICSI ARALY ARATH MAJZE ARALY ARATH SOYBN SOYBN	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Oin e 1,47A2 Oie e 1,47B3 Oie e 1,47B3 Oie e 1,47B3 Oie e 1,47B3 Oie e 1,47C1 Oie e 1,47C1 Oie e 1,47C1 Oie e 1,47C1 Oie e 1,48A2 Oie e 1,48A3 Oie e 1,48A3 Oie e 1,48B3 Oie e 1,48C3 Oie e 1,48C3 Oie e 1,48D3 Oie e 1,48D3 Oie e 1,48D3 Oie e 1,48D3 Oie e 1,48D3 Oie e 1,48D3	Ost290472808 S000115012840 Polien ole e 1 allergen A15010130 Alle protein A15g10130 Putative polien Ole e 1 allergen BitA03_10 Polien-specific protein C13 Aflergen-like protein BREh20 Polien specific protein	Q2QR52 B4FY58 B4T2W5 CBJRP6 CBJRP6 CBPAV0 07M2T9 B7U59 Q3LX15 C3UJ86 Q4ABQ7 B5U553 B9T4H0 D7M8H5 Q932V5 Q42077 A3P956 A3P956 A3P950 A3P4V1 B9RJQ5 Q21307	ORY MAD SOR MAA SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
	Ohe = 1 35Å1 Ohe = 1 35Å1 Ohe = 1 37Å1 Ohe = 1 37Å2 Ohe = 1 37Å2 Ohe = 1 37Å3 Ohe = 1 38Å3 Ohe = 1 38Å3 Ohe = 1 38Å3 Ohe = 1 38Å3 Ohe = 1 48Å3 Ohe = 1 40Å3 Ohe = 1 40Å3	MirDRAFT_AC172742g21v1 POPTRDRAFT_S64521 Ost_33013 Ost_32013 Ost_32013 Ost_32017 Sb05g003010 ARALYDRAFT_564511 A33g26960 Polien proteins Ole e 1 family ARALYDRAFT_35871 A15g41050 	A20629 B947M0 A22513 QURV00 A3C3E5 C544M4 B4FWB4 A91788 A91789 A91728 C397E0 A91728 C397E0 A91728 D7LRC1 QEL053 BR5LJ8 D7MI27 Q9FLM4 C6T792 C65215 B7FIQ2 B30F61	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI	47 47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dis. # 1, 47A2 Dis. # 1, 47B1 Die. # 1, 47B2 Die. # 1, 48A2 Die. # 1, 48A5 Die. # 1, 48B3 Die. # 1, 48B3 Die. # 1, 48B3 Die. # 1, 48C2 Die. # 1, 48C2 Die. # 1, 48C3 Die. # 1, 48D3 Die. # 1, 48D3 Die. # 1, 48D3 Die. # 1, 48D3 Die. # 1, 48D5 Die. # 1, 48D5 Die. # 1, 48D6	Ost290472808 Sod011s012840 Polien ole e 1 allergen A15010130 ille protein A15g10130 Putative polien Ole e 1 allergen BUA03_10 Polien-specific protein C13 Aftergen-like protein BREh20 Polien-specific protein C13 Polien-specific protein C13 Polien-specific protein C13	Q2OR52 B4FV38 B4TV45 C8JRP6 C9PAV0 07M279 B7U959 Q3LX15 C3UJ36 Q4ABQ7 B9H533 B974H0 D7M8H52 B9H513 B974H0 D7M8H5 Q32V5 Q42077 A3P956 A3P60 A3PCW2 A3PNV1 B8RJQ5 Q21307	ORY MAL SOF MAL ARA CAR ARA ARA ARA ARA ARA ARA ARA ARA
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	Ohe et _35Å1 Ohe et _36Å1 Ohe et _37Å1 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å3 Ohe et _37Å3 Ohe et _37Å3 Ohe et _37Å3 Ohe et _3ÅÅ3 Ohe et _3ÅÅ3 Ohe et _3ÅÅ3 Ohe et _3ÅÅ3 Ohe et _3ÅÅ3 Ohe et _4ÅÅ3 Ohe et _4ÅÅ3	MirDRAFT_AC172742g21v1 POPTRDRAFT_S84521 Ost_33013 Ost10g0205700 Ost_251017 Sb05g003610 ARALYDRAFT_564511 AI3g26960 Polien proteins Ole e 1 family ARALYDRAFT_564511 AI3g26960 Polien proteins Ole e 1 family ARALYDRAFT_355871 AI3g21050 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059270 RCOM_1447040	A20629 B5M7M0 A225T3 QURV00 A3C3E5 G5V4M4 B4FW84 A5MK80 A9M286 A9M286 C0PTE0 A9M286 C0PTE0 A9M278 D7LRC1 QEL953 BR5LJ6 D7M27 Q9FLM4 C67792 C65215 B7FIQ2 B9GF59 B9GF59 B9GF59 B9A52 B9GF59 B9A53 B9A57 B9A53	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Ois e 1,47A2 Ois e 1,47B1 Ois e 1,47B1 Ois e 1,47B3 Ois e 1,47B3 Ois e 1,47B3 Ois e 1,48A3 Ois e 1,48A3 Ois e 1,48A3 Ois e 1,48A3 Ois e 1,48A3 Ois e 1,48B3 Ois e 1,48B3 Ois e 1,48B3 Ois e 1,48B3 Ois e 1,48D3 Ois e 1,48D3	Os1290472800 Sod011s012840 Pollen ole e 1 allergen A15010130 ille protein A15g10130 Putative pollen Ole e 1 allergen S0A03_10 Pollen-specific protein C13 Allergen-like protein BRSh20 Pollen-specific protein C13 Pollen-specific protein BRSh20.	Q2QR52 B4FV38 B4T2W5 CBJRP5 CBJRP5 CBJRP5 Q3LX15 C3UJ86 Q4ABQ7 B3H513 B47H0 D7M8H5 Q32V5 Q42077 A3P956 A3P950 A3P950 A3P950 A3P6W2 A3P950 A3P6W2 A3P951 D7TR84 E2LMG1 Q35E54 Q84PK7	ORY MAD SOR MAD SOR MAD SOR MAD ARA ARA ARA ARA ARA ARA ARA ARA ARA A
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	Ohe e1_35Å1 Ohe e1_36Å1 Ohe e1_37Å1 Ohe e1_37Å2 Ohe e1_37Å2 Ohe e1_37Å2 Ohe e1_37Å2 Ohe e1_37Å3 Ohe e1_47Å3 Ohe e1_47Å3	MirDRAFT_AC172742g21v1 POPTRDRAFT_S84521 Ost_33013 Ost_32013 Ost_32017 Sb05g003010 ARALYDRAFT_564511 AI3g26960 Polion proteins Ole e 1 family ARALYDRAFT_564511 AI3g26960 Polion proteins Ole e 1 family ARALYDRAFT_355871 AI3g21050 POPTRDRAFT_1069266 POPTRDRAFT_106926 POPTRDRAFT_106926 POPTRDRAFT_106926 POPTRD	A20629 B5M7M0 A225T3 QURV00 A3C3E5 C5V4M4 B4FW5M A9N256 A9N256 C9FT60 A9N729 D7LRC1 Q8L053 BKSLJ6 07M127 Q8L053 BKSLJ6 07M127 Q8LM4 C67792 C65215 B7F1Q2 B9GF59 B9FL36 D759 A9PAE7 B9R436 D75VM0 Q9L5D9 Q9FY96 Q9FY96 Q9L5D9	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSJ	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dis e 1,47A2 Dis e 1,47B2 Die e 1,47B3 Die e 1,48A3 Die e 1,48A3 Die e 1,48B3 Die e 1,48B3 Die e 1,48B3 Die e 1,48B3 Die e 1,48B3 Die e 1,48D3 Die e 1,48D3 Di	Ost290472800 Sod011s012840 Pollen ole e 1 allergen At5010130 illes protein At5010130 illes protein Budative pollen Ole e 1 allergen Budative pollen Dischart Pollen-specific protein BRSh20 Pollen-specific protein C13 Pollen-specific protein C13 Pollen-specific protein BRSh20 Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein	Q2QR52 B4FV38 B4FV38 CRJRPE C0PAV0 07M2T9 B7U959 Q3LX15 C3UJ38 Q3LX15 C3UJ38 Q3LX15 C3UJ38 D4ABQ7 B9H513 B974H0 D7M8H5 Q32V5 Q42077 A9P950 A3P950 A3P950 A3P950 A3P950 Q21307 A5PPK1 Q32554 Q81PK7 Q84PK9 Q84PK8	ORY MAD SOR MAD SOR MAD ARA ARA ARA ARA ARA ARA ARA ARA ARA A
	Ole e 1 35Å1 Ole e 1 36Å1 Ole e 1 37Å1 Ole e 1 37Å1 Ole e 1 37Å2 Ole e 1 37Å3 Ole e 1 37Å2 Ole e 1 37Å3 Ole e 1 38Å2 Ole e 1 38Å3 Ole e 1 38Å3 Ole e 1 38Å3 Ole e 1 38Å3 Ole e 1 40Å3 Ole e 1 40Å3	MirDRAFT_AC172742g21y1 POPTRDRAFT_S64521 Owl_33013 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 A13g25560 POInt proteints Oile al family ARALYDRAFT_566571 A15g4165D POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_10033047001 P1 clone: MOJ10 A15g13140 ARALYDRAFT_488130	A20629 B5M7M0 A22573 QURV00 A27WD0 A27WD0 A27WD0 A27WD0 A39A285 C574M4 B4FWB4 A5MKB0 A5MX20 A5MX20 A5MX20 A5MX20 D7LRC1 QFE0 A5M720 D7LRC1 QFE0 D7LRC1 QFE0 D7LRC1 QFE0 D7LRC1 QFE0 D7LRC1 QFE0 B5G50 B7F1Q2 B5G51	MEDTA POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI ARALY ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARALY	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dia e 1, 47A2 Dia e 1, 47B1 Dia e 1, 47B1 Dia e 1, 47B3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48C3 Die e 1, 48D3 Die e 1, 48D3 Die e 1, 48D5 Die e 1, 48D5 Die e 1, 48D7	Ost2g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dise protein A15010130 dise protein Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien BRSn20 Polien-specific protein Collen-specific protein Sodfol_357 assembly12x Allergen-like protein BRSn20 Pulative SAH7 protein Putative SAH7 protein	Q2QR52 B4FY38 B4TZW5 CBJRP5 CIPAV0 07M2T9 D5/U559 Q8LX15 C3JU38 D4ABQ7 B9/U539 Q8LX15 C3JU38 D4ABQ7 B9/H53 B9/H53 B9/H53 G9/82V5 Q42077 A3P9/56 A3P8E0 A3P8E0 A3P8E0 A3P8E0 A3P8E0 A3P8E0 A3P8E0 Q2/J07 A5BPK1 B9RJG6 Q2/J07 A5BPK1 Q3E54 Q2/J07 A5BPK1 Q3E54 Q84PK9 Q84PK9 Q84PK8 Q84PK5	ORY MAD SOR MAD SOR MAD ARA ARA ARA ARA ARA ARA ARA ARA ARA A
	Ohe e1_35Å1 Ohe e1_36Å1 Ohe e1_37Å1 Ohe e1_37Å2 Ohe e1_37Å2 Ohe e1_37Å2 Ohe e1_37Å2 Ohe e1_37Å2 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_37Å3 Ohe e1_47Å3 Ohe e1_47Å3	MirDRAFT_AC172742g21v1 POPTRDRAFT_SE4521 Ost_33013 Ost_0g0205700 Ost_25257 Ost_31017 Sb05g003010 ARALYDRAFT_564511 A13g25950 Polien proteins Ole e1 family ARALYDRAFT_564511 A13g25950 Polien proteins Ole e1 family ARALYDRAFT_56573 A15g41050 POPTRDRAFT_55873 RCOM_1447049 VIT.00033047001 P1 cione: MOJ10 A15g13140 ARALYDRAFT_485130 VITISV_011133	A2Q629 B9A7M0 A2Z5T3 QURV00 A2YM00 A3C3E5 C5Y4M4 B4FW84 A9NK80 A9NZ88 A9NZ88 C9PTE0 A9NZ88 C9PTE0 A9NZ88 C9PTE0 A9NZ88 D7LRC1 QRL653 B65LJ8 D7K127 Q9FLM4 C6T792 C6S215 B7F1Q2 B9GF61 B9	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSJ	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dis e 1,47A2 Dis e 1,47B2 Die e 1,47B3 Die e 1,48A3 Die e 1,48A3 Die e 1,48B3 Die e 1,48B3 Die e 1,48B3 Die e 1,48B3 Die e 1,48B3 Die e 1,48D3 Die e 1,48D3 Di	Ost290472800 Sod011s012840 Pollen ole e 1 allergen At5010130 illes protein At5010130 illes protein Budative pollen Ole e 1 allergen Budative pollen Dischart Pollen-specific protein BRSh20 Pollen-specific protein C13 Pollen-specific protein C13 Pollen-specific protein BRSh20 Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein	Q2OR52 B4FV38 B4TV35 C8JRP6 C8JRP6 C8JRP6 C9PAV0 07M279 B7U959 Q3LX15 C3UJ36 Q4A9Q7 B9H553 B974H0 D7M8H5 Q32V5 Q42077 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 A9P956 Q32077 Q32984 Q32077 Q329854 Q329854 Q329859 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32997 Q32977 Q32977 Q329777 Q329777777777777777777777777777777777777	ORY MAD SOR MAD SOR MAD ARA ARA ARA ARA ARA ARA ARA ARA ARA A
	Ole e 1 35Å1 Ole e 1 36Å1 Ole e 1 37Å1 Ole e 1 37Å1 Ole e 1 37Å2 Ole e 1 37Å3 Ole e 1 37Å2 Ole e 1 37Å3 Ole e 1 38Å2 Ole e 1 38Å3 Ole e 1 38Å3 Ole e 1 38Å3 Ole e 1 38Å3 Ole e 1 40Å3 Ole e 1 40Å3	MirDRAFT_AC172742g21y1 POPTRDRAFT_S64521 Owl_33013 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 A13g25560 POInt proteints Oile al family ARALYDRAFT_566571 A15g4165D POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_10033047001 P1 clone: MOJ10 A15g13140 ARALYDRAFT_488130	A20629 B5M7M0 A22573 QURV00 A27WD0 A27WD0 A27WD0 A27WD0 A39A285 C574M4 B4FWB4 A5MKB0 A5MX20 A5MX20 A5MX20 A5MX20 D7LRC1 QFE0 A5M720 D7LRC1 QFE0 D7LRC1 QFE0 D7LRC1 QFE0 D7LRC1 QFE0 D7LRC1 QFE0 B5G50 B7F1Q2 B5G51	MEDTA POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI ARALY ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARALY	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dia e 1, 47A2 Dia e 1, 47B1 Dia e 1, 47B1 Dia e 1, 47B3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48C3 Die e 1, 48D3 Die e 1, 48D3 Die e 1, 48D5 Die e 1, 48D5 Die e 1, 48D7	Ost290472800 Sod011s012840 Pollen ole e 1 allergen At5010130 illes protein At5010130 illes protein Budative pollen Ole e 1 allergen Budative pollen Dischart Pollen-specific protein BRSh20 Pollen-specific protein C13 Pollen-specific protein C13 Pollen-specific protein BRSh20 Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein	Q2QR52 B4FY38 B4TZW5 CBJRP5 CIPAV0 07M2T9 D5/U559 Q8LX15 C3JU38 D4ABQ7 B9/U539 Q8LX15 C3JU38 D4ABQ7 B9/H53 B9/H53 B9/H53 G9/82V5 Q42077 A3P9/56 A3P8E0 A3P8E0 A3P8E0 A3P8E0 A3P8E0 A3P8E0 A3P8E0 Q2/J07 A5BPK1 B9RJG6 Q2/J07 A5BPK1 Q3E54 Q2/J07 A5BPK1 Q3E54 Q84PK9 Q84PK9 Q84PK8 Q84PK5	ORY MAL SOR MAL SOR MAL SOR MAL SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
	Ohe # 1_35Å1 Ohe # 1_37A1 Ohe # 1_37A1 Ohe # 1_37A2 Ohe # 1_37A3 Ohe # 1_37A3 Ohe # 1_37A1 Ohe # 1_37A1 Ohe # 1_37A1 Ohe # 1_37A2 Ohe # 1_37A3 Ohe # 1_37A3 Ohe # 1_37A4 Ohe # 1_37A3 Ohe # 1_37A4 Ohe # 1_40A3 Ohe # 1_40A3 Ohe # 1_40A3 Ohe # 1_40A3 Ohe # 1_40B3 Ohe # 1_40B3 Ohe # 1_40B3 Ohe # 1_40B4 Ohe # 1_40B5 Ohe # 1_40B4 Ohe # 1_42A1 Ohe # 1_42A2 Ohe # 1_42A3 Ohe # 1_42A3 Ohe # 1_42A3 Ohe # 1_42A43<	MirDRAFT_AC172742g21v1 POPTRDRAFT_S84521 Ost_33013 Ost_30013 Ost_320700 Ost_22527 Ost_31017 Sb05g003010 ARALYDRAFT_564511 A13g26960 Polien proteins Ole e 1 family ARALYDRAFT_564511 A13g26960 Polien proteins Ole e 1 family ARALYDRAFT_566513 A13g26960 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1069266 POPTRDRAFT_1489130 VIT_00013047001 P1 clone: MOJ10 A15g13140	A20629 B507M0 A225T3 QURV00 A325T3 QURV00 A325T3 C55V4M4 B4FW5M A9NX59 A9NZ56 C57V4M4 A9NX59 A9NZ56 C9PTE0 A9N729 D7LRC1 D7LRC1 QEL053 BK5LJ6 Q7M27 Q9FL04 QEL053 BK5LJ6 Q7FE0 A9N729 Q9FL04 C65215 B7FQ2 B9GF59 B9F458 D73VM0 Q3LSD9 Q9F59 Q9F451 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 B9CF59 A9PAE7 A5AJL6 B9CF59 A5AJL6 B9CF59 A5AJL6 B9CF59 A5AJL6 B9CF59 A5AJL6 B9CF59 A5AJL6 A5AJL6 B9CF59 A5AJL6 A5AJ	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSJ	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dis. e 1, 47A2 Dis. e 1, 47B1 Dis. e 1, 47B2 Dis. e 1, 47B3 Dis. e 1, 48A3 Dis. e 1, 48A5 Dis. e 1, 48B3 Dis. e 1, 48B2 Dis. e 1, 48D3 Dis. e 1, 48D3 Dis. e 1, 48D3 Dis. e 1, 48D4 Dis. e 1, 48D3 Dis. e 1, 48D3 Dis. e 1, 48D3 Dis. e 1, 48D3 Dis. e 1, 48D4 Dis. e 1, 48D3 Dis. e 1, 48D4 Dis. e 1, 48D3 Dis. e 1, 48D3 Dis. e 1, 48D4 Dis. e 1, 48D3 Dis. e 1, 48D4 Dis. e 1, 48E4 Dis. e 1, 48E4	Ost2g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dike protein A15010130 dike protein Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalike protein BR5n20 Polien-specific protein C13 Polien-specific protein Sodford_357 assembly12x Allergen-like protein BR5n20 Pulative SAH7 protein Putalive SAH7 protein Putalive SAH7 protein Putalive SAH7 protein	Q2QR52 B4FY38 B4TZW5 CBJRP6 C0PAV0 07M2T9 B7U959 Q3LX15 C3UJ38 Q3LX15 C3UJ38 Q3LX15 C3UJ38 Q3LX15 C3UJ38 Q3LX15 C3UJ38 B974H0 D7M8H5 Q32V5 Q42077 A3P956 A3P450 Q42077 A3P956 A3P450 Q42077 A3P956 Q42077 A3P956 Q42077 A3P956 Q42077 A3P956 Q42077 Q4777 Q4777 Q4777 Q4777 Q4777 Q4777 Q4777 Q47777 Q47777 Q47777 Q47777 Q477777 Q477777777	ORY MAD SOR MANA ARA ARA ARA ARA ARA ARA ARA ARA ARA
	Ohe et _35Å1 Ohe et _35Å1 Ohe et _37Å1 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å3 Ohe et _37Å3 Ohe et _37Å3 Ohe et _38Å2 Ohe et _38Å3 Ohe et _38Å3 Ohe et _38Å3 Ohe et _40Å3 Ohe et _43Å3 Ohe et _43Å3	MirDRAFT_AC172742g21y1 POPTRDRAFT_S64521 Owl_33013 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 A13g26360 POInt proteints Oile a 1 family ARALYDRAFT_564511 A13g26360 POInt proteints Oile a 1 family ARALYDRAFT_56673 RCOM_1147040 VT 100033047001 P1 clone: MOJ10 A15g13140 ARALYDRAFT_483130 VT15V_011133 POPTRDRAFT_841726 Mydfolase	A20629 B5M7M0 A22573 QURV00 A3C3E5 G5V4M4 B4FWB4 A5NKB0 A5NKB0 A5NKB0 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 B7E0 B8K55 B7FIQ2 B9GF59 B9RH38 D75VM0 Q3L5D9 Q5FV90 Q3L5D9 Q5FV90 Q3L5D9 Q5FV90 Q3L5D9 Q5FV90 Q5L5D9 D78K72 A5ALL8 B9GMF5 B9RM55 B9RM55	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI PICTI	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dia e 1, 47A2 Dia e 1, 47B1 Dia e 1, 47B1 Dia e 1, 47B3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48D3 Die e 1, 48E3	Os12g0472800 Sod011s012840 Pollen ole e 1 allergen ATS010130 like protein AtSg10130 Putative pollen Ole e 1 allergen B0A3,10 Pollen-specific protein C13 Attergen-like protein BRSh20 Pollen-specific protein Pollen-specific protein C13 Pollen-specific protein C13 Pollen-specific protein C13 Pollen-specific protein Sod104_357 assembly12x Allergen-like protein BRSh20 Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein	Q2QR52 B4FY38 B4TZW5 CBJRP5 CGJRAV0 O7M2T9 B7/U539 Q8LX15 C3JJ86 Q4ABQ7 B9/H53 Q3A255 Q4ABQ7 Q32Y5 Q42077 A39956 A39956 A39956 A39956 A39956 A39956 A39956 A39956 Q32J07 A597K1 D7TR84 E2LMG1 Q35554 Q84PK5 Q84PK5 Q84PK5 C65VR9 B7FN25	ORY MAD SOR MAD SOR MAD ARA ARA ARA ARA ARA ARA ARA ARA ARA A
8 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole = 1 35A1 Ole = 1 35A1 Ole = 1 37A1 Ole = 1 37A2 Ole = 1 37A1 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 38A3 Ole = 1 40A3 Ole = 1 40A3 Ole = 1 40A3 Ole = 1 40A3 Ole = 1 40B3 Ole = 1 42A3 Ole = 1 42A3	MirDRAFT_AC172742g21v1 POPTRDRAFT_SE4521 Ost_33013 Ost_3205700 Ost_3205700 Ost_3205700 Ost_320077 Sb085g003010 ARALYDRAFT_564511 A13g25950 Polien proteins Ole e 1 family ARALYDRAFT_56571 A13g27950 Polien proteins Ole e 1 family ARALYDRAFT_55571 A13g41650 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_55873 RCOM_1447049 VIT_50033047001 P1 clones MOJ10 A15g13140 ARALYDRAFT_485130 VITISV_011138 POPTRDRAFT_413878	A2Q629 B9A/M0 A2Z5T3 QURV00 A2YM00 A3C3E5 C5Y4M4 B4FWB4 A9N280 A9N280 A9N280 C9PT80 A9N780 D7LRC1 D7LRC1 D7LRC1 D7LRC1 QRL653 B65LJ8 O7MI27 Q9FLM4 C67792 C65215 B7FQ2 B9GF61 B9GF61 B9GF61 B9GF61 B9GF59 Q3L509 Q9FY90 Q9F	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAJZE PICSI PICTI PICTI PICSI PICSI PICSI PICSI PICSI PICSI PICTI	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Ois e 1 47A2 Ois e 1 47B1 Ois e 1 47B2 Oie e 1 48A1 Oie e 1 48A2 Oie e 1 48A3 Oie e 1 48A3 Oie e 1 48B2 Oie e 1 48B2 Oie e 1 48C3 Oie e 1 48C3 Oie e 1 48C3 Oie e 1 48D2 Oie e 1 48D3 Oie e 1 48E3 <td>Os12g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dike protein A15010130 dike protein Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien BREn20 Polien-specific protein C13 Polien-specific protein Sodford 357 assembly12x Allergen-like protein BREn20 Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein</td> <td>Q2OR52 B4FV38 B4TV35 C8JRP8 C8JRP8 C9PAV0 07M279 B7U059 Q3LX15 C3UJ35 Q4ABQ7 89HFN2 B91553 B974H0 D7M8H5 Q332V5 Q42077 A9P956 A3P950 A3P6W2 A3P6W2 A3P6W2 A3P6W2 A3P6W2 A3P6W2 Q2J307 A5BPK1 Q7R8H Q2J307 A5BPK1 Q7R8H Q32V5 Q84PK</td> <td>ORY MAL SOR MAL SOR MAL SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A</td>	Os12g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dike protein A15010130 dike protein Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien BREn20 Polien-specific protein C13 Polien-specific protein Sodford 357 assembly12x Allergen-like protein BREn20 Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein	Q2OR52 B4FV38 B4TV35 C8JRP8 C8JRP8 C9PAV0 07M279 B7U059 Q3LX15 C3UJ35 Q4ABQ7 89HFN2 B91553 B974H0 D7M8H5 Q332V5 Q42077 A9P956 A3P950 A3P6W2 A3P6W2 A3P6W2 A3P6W2 A3P6W2 A3P6W2 Q2J307 A5BPK1 Q7R8H Q2J307 A5BPK1 Q7R8H Q32V5 Q84PK	ORY MAL SOR MAL SOR MAL SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
3 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7	Ohe et _35Å1 Ohe et _35Å1 Ohe et _37Å1 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å2 Ohe et _37Å3 Ohe et _37Å3 Ohe et _37Å3 Ohe et _38Å2 Ohe et _38Å3 Ohe et _38Å3 Ohe et _38Å3 Ohe et _40Å3 Ohe et _43Å3 Ohe et _43Å3	MirDRAFT_AC172742g21y1 POPTRDRAFT_S64521 Owl_33013 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 A13g26360 POInt proteints Oile a 1 family ARALYDRAFT_564511 A13g26360 POInt proteints Oile a 1 family ARALYDRAFT_56673 RCOM_1147040 VT 100033047001 P1 clone: MOJ10 A15g13140 ARALYDRAFT_483130 VT15V_011133 POPTRDRAFT_841726 Mydfolase	A20629 B5M7M0 A22573 QURV00 A3C3E5 G5V4M4 B4FWB4 A5NKB0 A5NKB0 A5NKB0 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 A5NK20 B7E0 B8K55 B7FIQ2 B9GF59 B9RH38 D75VM0 Q3L5D9 Q5FV90 Q3L5D9 Q5FV90 Q3L5D9 Q5FV90 Q3L5D9 Q5FV90 Q5L5D9 D78K72 A5ALL8 B9GMF5 B9RM55 B9RM55	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAIZE PICSI PICTI	47 47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dia e 1, 47A2 Dia e 1, 47B1 Dia e 1, 47B1 Dia e 1, 47B3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48A3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48B3 Die e 1, 48D3 Die e 1, 48E3	Os12g0472800 Sod011s012840 Pollen ole e 1 allergen ATS010130 like protein AtSg10130 Putative pollen Ole e 1 allergen B0A3,10 Pollen-specific protein C13 Attergen-like protein BRSh20 Pollen-specific protein Pollen-specific protein C13 Pollen-specific protein C13 Pollen-specific protein C13 Pollen-specific protein Sod104_357 assembly12x Allergen-like protein BRSh20 Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein Putative SAH7 protein	Q2QR52 B4FY38 B4TZW5 CBJRP5 CGJRAV0 O7M2T9 B7/U539 Q8LX15 C3JJ86 Q4ABQ7 B9/H53 Q3A255 Q4ABQ7 Q32Y5 Q42077 A39956 A39956 A39956 A39956 A39956 A39956 A39956 A39956 Q32J07 A597K1 D7TR84 E2LMG1 Q35554 Q84PK5 Q84PK5 Q84PK5 C65VR9 B7FN25	ORY MAL SOR MAL SOR MAL SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
3 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole = 1 35A1 Ole = 1 35A1 Ole = 1 37A1 Ole = 1 37A2 Ole = 1 37A1 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 38A3 Ole = 1 40A3 Ole = 1 40A3 Ole = 1 40A3 Ole = 1 40A3 Ole = 1 40B3 Ole = 1 42A3 Ole = 1 42A3	MirDRAFT_AC172742g21v1 POPTRDRAFT_SE4521 Ost_33013 Ost_3205700 Ost_3205700 Ost_3205700 Ost_320077 Sb085g003010 ARALYDRAFT_564511 A13g25950 Polien proteins Ole e 1 family ARALYDRAFT_56571 A13g27950 Polien proteins Ole e 1 family ARALYDRAFT_55571 A13g41650 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_55873 RCOM_1447049 VIT_50033047001 P1 clones MOJ10 A15g13140 ARALYDRAFT_485130 VITISV_011138 POPTRDRAFT_413878	A2Q629 B9A/M0 A2Z5T3 QURV00 A2YM00 A3C3E5 C5Y4M4 B4FWB4 A9N280 A9N280 A9N280 C9PT80 A9N780 D7LRC1 D7LRC1 D7LRC1 D7LRC1 QRL653 B65LJ8 O7MI27 Q9FLM4 C67792 C65215 B7FQ2 B9GF61 B9GF61 B9GF61 B9GF61 B9GF59 Q3L509 Q9FY90 Q9F	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAJZE PICSI PICTI PICTI PICSI PICSI PICSI PICSI PICSI PICSI PICTI	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Ois e 1 47A2 Ois e 1 47B1 Ois e 1 47B2 Oie e 1 48A1 Oie e 1 48A2 Oie e 1 48A3 Oie e 1 48A3 Oie e 1 48B2 Oie e 1 48B2 Oie e 1 48C3 Oie e 1 48C3 Oie e 1 48C3 Oie e 1 48D2 Oie e 1 48D3 Oie e 1 48E3 <td>Os12g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dike protein A15010130 dike protein Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien BREn20 Polien-specific protein C13 Polien-specific protein Sodford 357 assembly12x Allergen-like protein BREn20 Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein</td> <td>Q2OR52 B4FY38 B4TY45 C8JRPE C8JRPE C8JRPE C8JRPE C8JRPE C8JRPA 07779 B7U859 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 Q3L</td> <td>ORY MAD SOR MADA SOR MADA SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A</td>	Os12g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dike protein A15010130 dike protein Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien Ole e 1 allergen Butalive polien BREn20 Polien-specific protein C13 Polien-specific protein Sodford 357 assembly12x Allergen-like protein BREn20 Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein Putalive SAM7 protein	Q2OR52 B4FY38 B4TY45 C8JRPE C8JRPE C8JRPE C8JRPE C8JRPE C8JRPA 07779 B7U859 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 C3UJ86 Q3LX15 Q3L	ORY MAD SOR MADA SOR MADA SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
3 5 5 5 5 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7	Ohe et _ 35Å1 Ohe et _ 37Å1 Ohe et _ 37Å1 Ohe et _ 37Å2 Ohe et _ 37Å2 Ohe et _ 37Å2 Ohe et _ 37Å2 Ohe et _ 37Å3 Ohe et _ 37Å1 Ohe et _ 37Å3 Ohe et _ 38Å3 Ohe et _ 38Å3 Ohe et _ 38Å3 Ohe et _ 40Å1 Ohe et _ 40Å3 Ohe et _ 43Å3 Ohe et _ 43Å3	MirDRAFT_AC172742g21v1 POPTRDRAFT_S84521 Owl_33013 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 Owl_26257 AT3003610 ARALYDRAFT_566511 AT3026360 POINT proteints Oile of Tamily ARALYDRAFT_566513 RCOM_1437049 WT_00033047001 P1 clone: MOJ10 AT5013140 ARALYDRAFT_485130 WT15V_011138 POPTRDRAFT_413578 Ep50 Owl_31975	A20629 B5M7M0 A22573 QURV00 A3C3E5 G5V4M4 B4FW8A A5MK80 A9N286 C0PTE0 A9N728 D7LRC1 QEL953 B655J6 D7M27 Q9FLM4 C67792 C65215 B7FIQ2 B9GF59 B9FF30 Q9FL59 A9PAE7 B9GF59 Q9FL59 Q9FL59 Q9FF90 Q9FY90 Q9FY90 Q9FY90 Q9FY90 Q9FY90 Q9FY90 B9GMP5 B9RM58 B9G2C8 B9G268 B9G265 B9RM58 B9G2C8 C6525 B7F102 C7558 C7557 C7558 C75577 C7557 C75577 C75577 C75577 C75577 C75577 C75577 C	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ PRCSI PICSI	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Dis. e 1, 47A2 Dis. e 1, 47B1 Dis. e 1, 47B1 Dis. e 1, 47B1 Dis. e 1, 47B2 Dis. e 1, 47B3 Dis. e 1, 47B3 Dis. e 1, 47B3 Dis. e 1, 47B3 Dis. e 1, 48A3 Dis. e 1, 48B3 Dis. e 1, 48B3 Dis. e 1, 48B3 Dis. e 1, 48D3 Dis. e 1, 48E3 Dis. e 1, 48E43	Os1290472800 So0011s012840 Pollen ole e 1 allergen ATS010130 ille protein AtSg10130 Putative pollen Ole e 1 allergen B0A03_10 Pollen-specific protein C13 Allergen-like protein BRSh20 Pollen-specific protein B0A04_357 assembly12x Allergen-like protein BRSh20 Putative SAH7 protein Putative SAH7 protein	Q2QR52 B4FV38 B4TZW5 CBJRP5 CBJRP5 CDPAV0 07M2T9 B7/U599 Q8LX15 C3JJ86 Q4ABQ7 B9H533 Q4ABQ7 Q4ABQ7 Q932V5 Q42077 A99956 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 A9P956 Q32977 A9956 A9P956 Q32977 A9956 A9P956 Q32977 A9956 A9P956 Q32977 A9956 A9P956 Q32977 A9956 A9P956 Q32977 A9956 Q32977 A9956 Q32977 Q32977 Q32977 Q32977 Q32977 Q32977 Q32977 Q32977 Q3297777 Q3297777 Q3297777 Q329777777777777777777777777777777777777	ORY MAD SOR MAD SOR MAD SOR MAD SOR ARA ARA ARA ARA ARA ARA ARA ARA ARA A
3 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole = 1 35A1 Ole = 1 35A1 Ole = 1 37A1 Ole = 1 37A2 Ole = 1 37A1 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 37A2 Ole = 1 38A3 Ole = 1 40A3 Ole = 1 40B3 Ole = 1 42A2 Ole = 1 42A3 Ole = 1 44B1 Ole = 1 42A3 Ole = 1 42A3 Ole = 1 44B1 Ole = 1 44A1 Ole = 1 44A1 Ole = 1 44A3	MirDRAFT_AC172742g21v1 POPTRDRAFT_SE4521 Ost_33013 Ost_3205700 Ost_3205700 Ost_3205700 Ost_3205700 Ost_3205700 Ost_320570 Ost_320570 ARALYDRAFT_564511 A13g25950 Polien proteints Ole e 1 family ARALYDRAFT_5664511 A13g25950 Polien proteints Ole e 1 family ARALYDRAFT_566751 A13g26950 Polien proteints Ole e 1 family ARALYDRAFT_566751 A13g26950 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_1059266 POPTRDRAFT_485130 VITISV_011138 POPTRDRAFT_413672 Ep50 Ost_31975 Oc09g0505200	A2Q629 B9A/M0 A2Z5T3 QURV00 A2YM00 A3C3E5 C5Y4M4 B4FWB4 A9H2N8 A9H2N8 A9H2N8 C9PTE0 A9H2N8 C9PTE0 A9H7K9 D7LRC1 D7LRC1 QRL653 B65L98 O7MI27 Q9FLM4 C67792 C65215 B7F1Q2 B9GF61 B9GF61 B9GF59 Q9L809 Q9FY98 Q9	MEDTR POPTR ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ SORBJ MAJZE PICSI	47 47 47 47 48 48 48 48 48 48 48 48 48 48 48 48 48	Ois # 1 47A2 Ois # 1 47B1 Ois # 1 47B2 Oie # 1 48A1 Oie # 1 48A2 Oie # 1 48A3 Oie # 1 48B2 Oie # 1 48B2 Oie # 1 48C3 Oie # 1 48C3 Oie # 1 48C3 Oie # 1 48C3 Oie # 1 48D3 Oie # 1 48D3 <td>Os12g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dike protein A15010130 dike protein B0403_10 Polien-specific protein C13 Polien-specific protein C13 Polien-specific protein C13 Polien-specific protein Sodford_357 assembly12x Allergen-like protein BRSh20 Pulative SAH7 protein Putative SAH7 protein</td> <td>Q20852 B47V38 B47V38 C8JRPE C8JRPE C9PAV0 07M279 B7U059 Q3LX15 C3U35 Q4ABQ7 89HFN2 B91553 B97440 D7M8H5 Q332V5 Q42077 A9P956 A3P950 Q42077 A9P956 A3P60 A3PCW2 A3PHV1 B98JG6 Q23307 A5BPK1 Q77R84 Q23307 A5BPK1 Q77R84 Q84PK5 Q84P</td> <td>ORY MAD SOR ARA CAR CAR CAR CAR CAR CAR ARA ARA AR</td>	Os12g0472800 Sod011s012840 Polien ole e 1 allergen A15010130 dike protein A15010130 dike protein B0403_10 Polien-specific protein C13 Polien-specific protein C13 Polien-specific protein C13 Polien-specific protein Sodford_357 assembly12x Allergen-like protein BRSh20 Pulative SAH7 protein Putative SAH7 protein	Q20852 B47V38 B47V38 C8JRPE C8JRPE C9PAV0 07M279 B7U059 Q3LX15 C3U35 Q4ABQ7 89HFN2 B91553 B97440 D7M8H5 Q332V5 Q42077 A9P956 A3P950 Q42077 A9P956 A3P60 A3PCW2 A3PHV1 B98JG6 Q23307 A5BPK1 Q77R84 Q23307 A5BPK1 Q77R84 Q84PK5 Q84P	ORY MAD SOR ARA CAR CAR CAR CAR CAR CAR ARA ARA AR
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Table 1. (continued). The Ole e 1 protein superfamily: new and unified nomenclature.

Systematic and Phylogenetic Analysis of the Ole e 1 Pollen Protein Family Members in Plants

48	Ote a 1_48H8		B4FKQ2	MAIZE	52	Ole #1_52C1	Gleat-like protein	049613	BETP
48	Ole s 1_48HS	Pallen-specific protein C13	BETTZO	MAIZE	52	Ole e 1 52D1	Pallen allergen Che a 1	BOSUAE	RICO
8	Gle e 1_4811	Putative pollen specific prot.C13	QURU50	ORYSJ	57	QI# 0 1_52E1	PN40024	DITJLT	VITV
8	Ole e 1 48/2	Os10g0371000 protein	Q0(Y39	ORYSJ	52	Ola e 1_52F1		C67L27	SOVE
8	Qie e 1_4813		AZZ6J6	ORYSI	52	Ole e 1_52F2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	B7FGN2	MED
8	Qie e 1_4814	Pollen-specific protein C13	B65.J40	MAIZE	52	Din e 1_52G1	Pollen allergen Che a 1	GELGRO	CHE
8	Qie e 1_485	Polian-specific protein C13	B67594	MAIZE	52	Ola e 1_52G2	Polien allergen Gro s 1	Q29W25	CRO
8	Ole e 1 4815	Sh0012s014630	C6JRR2	SORBI	52	Ole e 1 52H1	Salk 4	E2DOZA	SAL
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8	Ole e 1_4307	Polleo-specific protein	067764	HYAOR	52	Gle e 1_5211		89N635	POP
8	Ote e 1_48J1	Major pollen allergen Lol p 11	Q7M1X5	LOLPR	52	Ofe a 1_5212		BSPSZU	POP
8	Q14 8 1 48J2	Potten ellergen Phi p 11	QSM6L7	PHLPR	52	Ofe e 1_52/1	+	B911V1	POPT
8	Glen 1 4813	\$0030001020	C5XK86	SORBI	52	Gle e 1_5231	Anther-specific prot LATS?	B958K9	RICC
8	Ofu u 1_48.14	Pollen sliargen Phi p 11	B6T2Z8	MAIZE	57	Ole a 1 52Kt	A\$1	D7ROW3	605
8	Oiu a 1_4815		A2YE17	ORYSI	52	Ole e 1 52L1	Anther-specific prel. LAT52	P13447	SOL
8	Ole e 1 45Jii	Os06g0555800 protain	Q52710	ORYSJ	53	Ole e 1 53A1		D7KDQ5	ARAL
8	Ole at 4981	5b0/8g007260	C5YUU2	SOREI	54	Ole e 1 54A1	Pollen-specific protein - like	049527	ARA
8	Qle # 1_48K2		B4FCC1	MAIZE	55	Ole e 1_55A1	Putative Ole e 1-fike protein	AJF4A6	MicL
8	and the second second little in succession of the	Parling all cars Date at		and the second se	56	And the second sec			
-	Ole et_48K3	Pollen allergen Ph) p 11	BETNIS	MAIZE		Die e 1_56A1	Major pollen allergen Pia f 1	P82242	PLA
8	Q10 0 1_48L1		BBBEUB	ORYSI	57	Die e 1_5/A1	Allergen Fra e 1.0101	O7XAV4	FRAI
8	Ole @ 1_48L2		AJCIRS	ORVEJ	57	Ola a 1_57A2	Fra e 1.0102 major allungen	OSEX.16	FRAM
8	Ole a 1_48L1	Putative Pollen specific protein	Q65024	ORYSJ	57	Ole # 1_57A3	Major pollen allergen Lig v 1	082015	LION
		C13	00760	D.D.W.D.L	57	Ols 0 1_57A4	Ole a 1 olive pollen allergen	X75397	OlsE
8	Qte e 1_4EL4	Os09g0572900 protein	GOIZFO	ORYSJ	57	Die # 1_57A5	Ofe a 1 olive pollen allergen	AF532765	DIGE
8	Qte e 1_49L5	Qs07g0500560 protein	Q6ZLH6	ORYSJ	57	Ole e 1 57A6	Ole e 1 oitve polien altergen	AF532766	OIOE
8	Ole e 1_49L6		A3BLQ7	ORYSJ	57	Ole e1 37A7	Ole e 1 olive polien allergen	AF532767	DINE
8	Oluni 48L7	and the second se	A2YNB3	ORYSI	57	Ole a 1 57A6	Ole #1 offve polisin allergen	X76396	QUE
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0	Ole s 1 50AZ	Potten ole e 1 atlengen	D7KV68	ARALY	57	Ole e 1_57A11	Ote e 1 olfve potien allergen	X76395	Otes
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0	Ole a 1_SDA5	Pollen specific pretein	Q42043	ARATH	57	Ole # 1_57A14	Ole e 1 olive polien allergen	AF500900	Olas
1	Ole # 1_5TA1	F28K19.26 protein	Q9SGZ6	ARATH	57	Ole e 1_67A15	Ole e 1 olive pollen allergen	AF515277	OlaE
2	Ole # 1_52A1	AHg29140	OBIWDE	ARATH	51	Clen 1_37A1E	Die s 1 dive polien allergen	AF515271	Olec
2	Qle e 1_52AZ	F2BNZ4.16 protein	Q9LP44	ARATH	57	Ofe # 1_57A17	Ote e 1 olive potten altergen	AF515280	OfeE
2	Dia e 1_5281	Ar5g45830	Geaula	ARATH	57	Oie # 1_57A18	Ole e 1 olive pollen allergen	AF515279	OleE
2	Die e 1_52B2	Die e I-line protein	G8L9P9	ARATH	57	Oine 1_57A19	Ole e 1 olive pollen allergen	AF515281	Dief
2	Ole a 1 5783		D7MSQ6	ARALY	57	Ole # 1 57A20	Ola e 1 olive polian allergan	AF532755	QIEE
2	Ole n 1 5284	At4g18595	QBNMJZ	ARATH	57	Ole # 1 57A21	Ole e 1 olive polien allergen	AF632756	QUE
12	Ole e 1_5285	Pollen ole e 1 allergen	D7MCQ3	ARALY	57	Ole a 1_57A22	Ole a 1 olive pollen allergen	AF537757	Ofee
2	Ole e 1_5286	Ole e I-like protein	Q9FJ4II	ARATH	57	Qie # 1_57A21	Ofe e 1 olive polien altergen	AF532760	OleE
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1	Cla e 1_57A24	Oie a 1 oliva pollen allergen	AF532753	CleEu	61	Ole s 1_61A2	Ar2g16630	Q8SLF4	ARA
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7 7 7 7 7	Ole e 1_57A25 Qie e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A38	Ole e 1 olive pollen allergen Ole e 1 olive pollen allergen	AF532754 AY137467 AY137463 AY137463 AY137469 S75766	OleEu OleEu OleEu OleEu OleEu	61 61 61 61 61	Ole # 1_61A2 Ole # 1_81A3 Ole # 1_61B1 Ole # 1_61B2 Ole # 1_61B3 Ole # 1_61B4		D/L7M3 B9H159 A9PG40 B95QJ5 D7U593	ARA POP POP RICC
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7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole e 1_57A25 Ote e 1_57A26 Ote e 1_57A28 Ote e 1_57A28 Ote e 1_57A38 Ote e 1_57A30 Ote e 1_57A32 Ote e 1_57A32 Ote e 1_57A33 Ote e 1_57A33	Oie e 1 olive pollen allergen Oie e 1 olive pollen allergen	AF532754 AY137467 AY137468 AY137469 S75766 Y12426 AF532758 AF532758 AF532761 AF532762	OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu	61 61 61 61 62 62 62 62	Ote # 1_61A2 Ote # 1_61A3 Ote # 1_61B1 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B4 Ote # 1_61B4 Ote # 1_62A2 Ote # 1_62A2 Ote # 1_62B2	PN40024	D7L7M3 B9N159 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4F2V6	ARAI POP POP RICC VITO ORY ORY MAIZ MAIZ
7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole e 1_57A25 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A30 Ole e 1_57A30 Ole e 1_57A31 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A33	Ois e 1 olive pollen allergen Ois e 5 olive pollen allergen	AF532754 AY137467 AY137469 AY137469 S75766 Y12426 AF532758 AF532761 AF532762 AF532762	OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu OleEu	61 61 61 62 62 62 62 62 62 62	Ote # 1_61A2 Ote # 1_81A3 Ote # 1_61B1 Ote # 1_61B2 Ote # 1_61B2 Ote # 1_61B3 Ote # 1_61B4 Ote # 1_62A2 Ote # 1_62B2 Ote # 1_62B2 Ote # 1_62B3	PN40024	D7L7M3 B9N159 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4FZV6 B6TR12	ARAN POP POP RICC VITO ORY ORY MAIZ MAIZ
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole e 1_57A25 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A29 Ole e 1_57A30 Ole e 1_57A30 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A34 Ole e 1_57A34 Ole e 1_57A34	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen	AF532754 AY137467 AY137469 AY137469 AY137469 S75766 Y12426 AF532758 AF532758 AF532761 AF532762 AF532762	OteEu OteEu OteEu OteEu OteEu OteEu OteEu OteEu OteEu OteEu OteEu OteEu	61 61 61 62 62 62 62 62 62 62 63	Ote # 1_61A2 Ote # 1_61A3 Ote # 1_01B1 Ote # 1_01B2 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B4 Ote # 1_62B1 Ote # 1_62B1 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62B3	PN40024	D7L7M3 B9H159 A9PG40 B95QJ5 D7U593 A2W2R9 A3A255 B6TF27 B4F206 B6TR12 B6UFQ0	ARAA POP RICC VITO ORY ORY MAIZ MAIZ MAIZ
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1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A39 Ole e 1_57A32 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A34 Ole e 1_57A35 Ole e 1_57A36 Ole e 1_57A39 Ole e 1_57A39 Ole e 1_57A39 Ole e 1_57A39	Oie e 1 olive pollen allergen Oie e 1 olive pollen allergen	AF532754 AY137467 AY137467 AY137467 B75766 Y12426 AF532762 AF532762 AF532762 AF532762 AF532764 AF532764 AF532764 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763	OleEu	61 61 61 61 62 62 62 62 62 62 62 62 63 64 64 84	Ote # 1, 61A2 Ot# # 1, 61A2 Ot# # 1, 61A3 Ot# # 1, 61B3 Ot# # 1, 61B3 Ot# # 1, 61B3 Ot# # 1, 61B3 Ot# # 1, 62B3 Ot# # 1, 62B3 Ot# # 1, 63A1 Ot# # 1, 63A1 Ot# # 1, 63A1 Ot# # 1, 63A1 Ot# # 1, 63A3	PN40024	D7L7M3 B9H158 A9PG40 B95G40 B95G35 D7U593 A2WZR9 A3A255 B6TF27 B4FZ06 B6TF27 B4FZ06 B6TF27 B6UFG0 A3RQ15 B6UFG0 DBTAV9 D8TDP3	ARAI POP POP RICC VITO ORY ORY MAIZ MAIZ MAIZ MAIZ MAIZ PHYS SELM
1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole et 1, 57A26 Ole et 1, 57A30 Ole et 1, 57A31 Ole et 1, 57A41	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Altergen Frae 1	AF532754 AY137467 AY137467 AY137469 S75766 Y12426 AF532762 AF532767 AF532762 AF532762 AF532762 AF532763 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764	OleEu	61 61 61 62 62 62 62 62 63 64 64 64 55 65 65 66	Ote # 1_61A2 Ote # 1_81A3 Ote # 1_0181 Ote # 1_0181 Ote # 1_6182 Ote # 1_6182 Ote # 1_62A2 Ote # 1_62A2 Ote # 1_62A2 Ote # 1_62A3 Ote # 1_63A1 Ote # 1_63A2 Ote # 1_63A2 Ote # 1_63A2	PN40024	D7L7M3 B3H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4FZ06 B6TR72 B4FZ06 B6TR72 B6UFG0 A3RQ15 A9SHJ0 D8TAV9 D8TDP3 D8TW20	ARAI POP POP RICC VITO ORY ORY MAIZ MAIZ MAIZ MAIZ MAIZ PHYS SELM SELM ARAI
17777777777777777777777777777777777777	Ole et 1, 57A26 Ole et 1, 57A276 Ole et 1, 57A276 Ole et 1, 57A276 Ole et 1, 57A276 Ole et 1, 57A376 Ole et 1, 57A377 Ole et 1, 57A37777 Ole et 1, 57A377777777777777777777777777777777777	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen	AF532754 AY137467 AY137468 AY137468 S75766 AF532762 AF532762 AF532762 AF532762 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AY159880 AY159881 Q6U740 X76540	OleEu	61 61 61 61 62 62 62 62 62 62 62 62 62 63 64 64 64 64 65 66 66	Ote # 1_61A2 Ote # 1_61A2 Ote # 1_61B3 Ote # 1_61B2 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B4 Ote # 1_61B4 Ote # 1_62A2 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_63A1 Ote # 1_63A1 Ote # 1_65A2 Ote # 1_66A1 Ote # 1_66A2	PN40024	D7L7M3 B3H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF07 B6UF00 A3RQ15 A95HJ0 D8TAV9 D8TDP3 D7MY20 O84586	ARAI POP RICC VIT ORY ORY MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ
1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Ole e 1, 57A25 Ole e 1, 57A26 Ole e 1, 57A27 Ole e 1, 57A32 Ole e 1, 57A32 Ole e 1, 57A33 Ole e 1, 57A33 Ole e 1, 57A34 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A46 Ole e 1, 57A47 Ole e 1, 57A47 Ole e 1, 57A43	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Altergen Frae 1	AF532754 AY137467 AY137469 AY137469 S75766 Y12426 AF532762 AF532762 AF532762 AF532762 AF532763 AF532764 AF532763 AF532764 AF532763 AY159884 QGU740 X76541 X76540 X76539	OleEu	61 61 61 62 62 62 62 62 62 62 62 62 62 63 64 64 64 64 65 65 65 65	Ote # 1, 61A2 Oix # 1, 61A3 Oix # 1, 61A3 Oix # 1, 61B2 Oix # 1, 61B2 Oix # 1, 61B3 Oix # 1, 61B3 Oix # 1, 61B3 Oix # 1, 62B3 Oix # 1, 62B3 Oix # 1, 62B3 Oix # 1, 63A1 Oix # 1, 65A2 Oix # 1, 66A2 Oix # 1, 66A3 Oix # 1, 66A3	PN40024	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 D6TTP3 D7TM Y20 D8TDP3 D7TM Y20 D64586 D7LH37	ARAI POP POP RICC VIT ORY ORY MAIZ MAIZ MAIZ MAIZ PHY SELM SELM ARAI ARAI
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777777777777777	Ole et 1, 57A28 Ole et 1, 57A30 Ole et 1, 57A31 Ole et 1, 57A33 Ole et 1, 57A31 Ole et 1, 57A31 Ole et 1, 57A43 Ole et 1, 57A43	Ois e 1 olive pollen allergen Ois a 1 olive pollen allergen Ois a 1 olive pollen allergen	AF532754 AY137467 AY137468 AY137468 S75766 AF532768 AF532768 AF532768 AF532768 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AY159880 AY159880 AY159880 AY159880 AY159880 B7FNF5 B7FNF5 B7FNF5	OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU	61 61 61 62 62 62 62 62 62 63 64 64 64 64 64 65 65 66 66 67 67	Ote e 1_61A2 Ote e 1_61A2 Ote e 1_61B1 Ote e 1_61B2 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_62B2 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62A1 Ote e 1_66A1 Ote e 1_66A2 Ote e 1_66A2 Ote e 1_67A2	PN40024 	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A2W2R9 A3A255 B6TF27 B4F206 B6TF07 B6UFG0 B6UFG0 B6UFG0 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D7L437 D7L437 D7L437 D7L437 D7L437 D7L437	ARAI POP PIOP RICC VITY ORY: MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ PHYI SELM ARAI ARAI ARAI ARAI
Y 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 1 H H H	019 e 1 57A29 Ofe e 1 57A30 Ofe e 1 57A31 Ofe e 1 57A31 Ofe e 1 57A32 Ofe e 1 57A32 Ofe e 1 57A32 Ofe e 1 57A33 Ofe e 1 57A36 Ofe e 1 57A36 Ofe e 1 57A39 Ofe e 1 57A39 Ofe e 1 57A43 Ofe e 1 58A2 Ofe e 1 58A2	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Altorgen Fra 4 1 Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen	AF532754 AY137467 AY137469 S75766 Y12426 Y12426 AF532762 AF532762 AF532762 AF532763 AF532764 AF532763 AF532764 AF532763 AY159884 Q60740 X76540 X76540 X76540 X76540 X76540 X76549 B7FNF3 C65YEJ	OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU OIPEU	61 61 61 62 62 62 62 62 62 62 62 62 62 62 63 64 55 65 65 65 65 65 65 67 67	Ote # 1_61A2 Ote # 1_61A3 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B4 Ote # 1_61B4 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_63B3 Ote # 1_63A3 Ote # 1_65A3 Ote # 1_66A3 Ote # 1_67A3 Ote # 1_67A3	PH40024	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF02 B60FQ0 A9RQ15 B60FQ0 D8TAV9 D8TDP3 D8TDP3 D8TDP3 D7L437 D7LGE7 P33013 Q9FZA2	ARAI POP RICC VITY ORY: MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ
*******************************	Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A32 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A33 Ole e 1_57A34 Ole e 1_57A36 Ole e 1_57A36 Ole e 1_57A36 Ole e 1_57A37 Ole e 1_57A40 Ole e 1_57A43 Ole e 1_57A43 Ole e 1_57A43 Ole e 1_57A43 Ole e 1_57A43 Ole e 1_58A4 Ole e 1_58A4 Ole e 1_58A4	Ois e 1 olive pollen allergen Ois a 1 olive pollen allergen Ois a 1 olive pollen allergen	AF532754 AY137467 AY137467 AY137467 AY137469 S75766 Y12426 AF532762 AF532762 AF532762 AF532762 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 BF532763 B7FNF3 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5	OleEu	61 61 61 62 62 62 62 62 62 62 62 62 62 62 62 62	Ois e 1_61A2 Ois e 1_81A3 Ois e 1_61B1 Oie e 1_61B2 Oie e 1_61B2 Oie e 1_61B2 Oie e 1_61B3 Oie e 1_61B4 Oie e 1_61B4 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_63A1 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A3 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A3 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A3 Oie e 1_63A3 Oie e 1_63A3 Oie e 1_63A3 Oie e 1_63A4 Oie e 1_63A5 Oie e 1_67A5 Oie e 1_67A5	PN40024 	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4FZ06 B6TF27 B4FZ06 B6TF27 B4FZ06 B6TF27 B6UFG0 A3RQ15 B6UFG0 A3RQ15 B6UFG0 D8TAV9 D8TDP3 D7M Y20 O84586 D7LH37 D7LGE7 P93013 Q9FZA2 Q0WP47	ARA POP POP RICC VITI ORY ORY MAIZ MAIZ MAIZ MAIZ MAIZ PHY SELM SELM ARA ARA ARA ARA ARA
77777777777777777777	Ole e 1, 57A28 Ole e 1, 57A30 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A32 Ole e 1, 57A32 Ole e 1, 57A33 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A41 Ole e 1, 57A42 Ole e 1, 57A42 Ole e 1, 57A42 Ole e 1, 57A42 Ole e 1, 57A43 Ole e 1, 57A43	Ole e 1 olive pollen allergen Ole a 1 olive pollen allergen Ole a 1 olive pollen allergen Ole a 1 olive pollen allergen	AF532754 AY137467 AY137467 AY137469 S75766 AF532768 AF532768 AF532761 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AY159880 AY159880 AY159880 AY159880 AY159880 AY159880 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 AMMR5 A9MPL2	OIPEU OIPEU	61 61 61 62 62 62 62 62 63 64 64 64 65 65 65 65 65 65 67 67 67	Ote e 1_61A2 Ote e 1_61A2 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_63A1 Ote e 1_63A1 Ote e 1_63A1 Ote e 1_65A3 Ote e 1_66A1 Ote e 1_66A3 Ote e 1_66A3 Ote e 1_66A3 Ote e 1_66A3 Ote e 1_67B3 Ote e 1_67B3	PN40024 PN40024 prolice-rich glycopyrettein Al2g33790 Al1g28200 prolice-rich protein	D7L7M3 B3H158 B95QJ5 D7U593 A3W2R9 A3W2R9 A3W2R9 A3W2R9 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 D8WFQ0 D8TDP3 D8WFQ0 D84586 D7L437 D7L627 P33013 Q45282 Q0WP47 D7KCU8	ARAI POPP RICCO ORY: MAI2 ORY: MAI2 MAI2 PHYT PHYT SELIM ARAI ARAI ARAI ARAI ARAI ARAI ARAI
7777777777777777777	Ole e 1, 57A28 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A32 Ole e 1, 57A32 Ole e 1, 57A33 Ole e 1, 57A34 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A39 Ole e 1, 57A39 Ole e 1, 57A39 Ole e 1, 57A41 Ole e 1, 57A42 Ole e 1, 57A42 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 58A3	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Extensin-like protein	AF532754 AY137467 AY137468 AY137468 AY137468 AY137468 AY137468 AY137468 AF532762 AF532762 AF532762 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AY159884 Q60740 X76541 X76540 X76540 X76540 X76540 X76540 AY159884 Q60740 C6642 B7FNF3 C66422 A9MMR5 B7FNF3 C66422 A9MMR5	OIPEU OIPEU	61 61 61 62 62 62 62 62 62 62 62 62 62 62 63 64 64 64 65 65 65 65 65 67 67 67 67 67	Ote # 1_61A2 Ote # 1_61A3 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B3 Ote # 1_61B4 Ote # 1_61B4 Ote # 1_62A1 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62B3 Ote # 1_62A1 Ote # 1_63A1 Ote # 1_63A2 Ote # 1_66A1 Ote # 1_67A2 Ote # 1_67B3 Ote # 1_67B3 Ote # 1_67B3 Ote # 1_67B3 Ote # 1_67B3 Ote # 1_67B3 Ote # 1_67B3	PN40024 	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF07 B6UFQ0 B6UFQ0 A9RQ15 A9SHJ0 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D7L437 D7L6E7 P33013 Q9FZA2 Q0WP47 D7K6U8 G0PIW3	ARAI POPP RICCO ORY: MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ
77777777777777777778WWN999	Ole e 1, 57A28 Ole e 1, 57A30 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A32 Ole e 1, 57A32 Ole e 1, 57A33 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A41 Ole e 1, 57A41 Ole e 1, 57A42 Ole e 1, 57A42 Ole e 1, 57A42 Ole e 1, 57A43 Ole e 1, 57A43	Ole e 1 olive pollen allergen Ole a 1 olive pollen allergen Ole a 1 olive pollen allergen Ole a 1 olive pollen allergen	AF532754 AY137467 AY137467 AY137469 S75766 AF532768 AF532768 AF532761 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AF532769 AY159880 AY159880 AY159880 AY159880 AY159880 AY159880 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 AMMR5 A9MPL2	OIPEU OIPEU	61 61 61 62 62 62 62 62 63 64 64 64 65 65 65 65 65 65 67 67 67	Ote e 1_61A2 Ote e 1_61A2 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_62B2 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_63A1 Ote e 1_63A1 Ote e 1_65A1 Ote e 1_65A3 Ote e 1_67B3 Ote e 1_67B3	PN40024 PN40024 prolice-rich glycopyrettein Al2g33790 Al1g28200 prolice-rich protein	D7L7M3 B3H158 B95QJ5 D7U593 A3W2R9 A3W2R9 A3W2R9 A3W2R9 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 D8WFQ0 D8TDP3 D8WFQ0 D84586 D7L437 D7L627 P33013 Q45282 Q0WP47 D7KCU8	ARAI POPP RICCO ORY: MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ
777777777777777777848899999	Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A28 Ole e 1_57A31 Ole e 1_57A31 Ole e 1_57A31 Ole e 1_57A32 Ole e 1_57A32 Ole e 1_57A35 Ole e 1_57A36 Ole e 1_57A36 Ole e 1_57A36 Ole e 1_57A39 Ole e 1_57A39 Ole e 1_57A39 Ole e 1_57A39 Ole e 1_57A41 Ole e 1_57A42 Ole e 1_57A42 Ole e 1_57A42 Ole e 1_58A2 Ole e 1_58A2 Ole e 1_58A2	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Extensin-like protein	AF532754 AY137467 AY137468 AY137468 AY137468 AY137468 AY137468 AY137468 AF532762 AF532762 AF532762 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AY159884 Q60740 X76541 X76540 X76540 X76540 X76540 X76540 AY159884 Q60740 C6642 B7FNF3 C66422 A9MMR5 B7FNF3 C66422 A9MMR5	OIPEU OIPEU	61 61 61 62 62 62 62 62 62 62 62 62 62 62 63 64 64 64 65 65 65 65 65 67 67 67 67 67	Ote s 1_61A2 Ote s 1_61A3 Ote s 1_61A3 Ote s 1_61B3 Ote s 1_61B3 Ote s 1_61B3 Ote s 1_61B4 Ote s 1_61B4 Ote s 1_62A1 Ote s 1_62A2 Ote s 1_62B2 Ote s 1_62B3 Ote s 1_62B3 Ote s 1_62B3 Ote s 1_62B3 Ote s 1_62A1 Ote s 1_63A1 Ote s 1_63A3 Ote s 1_65A3 Ote s 1_66A1 Ote s 1_67A2 Ote s 1_67B3 Ote s 1_67B3 Ote s 1_67B3 Ote s 1_67B3 Ote s 1_67B3 Ote s 1_67B3 Ote s 1_67B3	PN40024 	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF07 B6UFQ0 B6UFQ0 A9RQ15 A9SHJ0 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D8TAV9 D7L437 D7L6E7 P33013 Q9FZA2 Q0WP47 D7K6U8 G0PIW3	ARAI POPP POP RICC VITI ORYY ORYY ORYY MAI2 MAI2 MAI2 MAI2 MAI2 MAI2 MAI2 MAI2
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Y 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 9	Ole e 1, 57A25 Ole e 1, 57A26 Ole e 1, 57A30 Ole e 1, 57A32 Ole e 1, 57A33 Ole e 1, 57A33 Ole e 1, 57A33 Ole e 1, 57A33 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A37 Ole e 1, 57A37 Ole e 1, 57A43 Ole e 1, 58A4 Ole e 1, 58A5 Ole e 1, 58A5 Ole e 1, 59A4 Ole e 1, 59A4 Ole e 1, 59A4 Ole e 1, 59A4	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Altergen Fra e 1 Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen	AF532754 AY137467 AY137468 AY137468 AY137469 S75766 Y12426 AF532762 AF532767 AF5327767 AF5327 AF5327 AF532778 AF532767 AF532767 AF532767 AF532767 AF532767 AF532767 AF5327 AF5327 AF532767 AF53277 AF5327 AF532777 AF532777 AF532777 AF532777 AF532777 AF532777	OIREU OIREU	61 61 61 62 62 62 62 62 62 62 62 62 62 62 62 62	Ois e 1_61A2 Ois e 1_81A3 Ois e 1_61B1 Oie e 1_61B2 Oie e 1_61B2 Oie e 1_61B3 Oie e 1_61B4 Oie e 1_61B4 Oie e 1_61B4 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_63A1 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A3 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A3 Oie e 1_63A3 Oie e 1_63A3 Oie e 1_67A3 Oie e 1_67A1 Oie e 1_67A3 Oie e 1_67A1 Oie e 1_67A2	PH40024 PH40024 proline-rich glycopentein At2g33790 At1g28290 proline-rich protein HyPRP1 Arsbinogalactan protein proline-rich protein	D7L7M3 B9H158 B950J5 D7U593 A2WZR9 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B6UF00 A3RQ15 B6UF00 D8TAV9 D8TDP3 D8 D8TDP3 D8 D8 D8 D8 D8 D8 D8 D8 D8 D8 D8 D8 D8	ARAI POPP POP RICC VITN ORYY ORYY MAI2 MAI2 MAI2 MAI2 MAI2 MAI2 MAI2 MAI2
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777777777777777777777784889995900000000	Ole e 1, 57A25 Ole e 1, 57A26 Ole e 1, 57A26 Ole e 1, 57A26 Ole e 1, 57A27 Ole e 1, 57A26 Ole e 1, 57A31 Ole e 1, 57A32 Ole e 1, 57A33 Ole e 1, 57A33 Ole e 1, 57A34 Ole e 1, 57A35 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A41 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 59A2 Ole e 1, 59A3 Ole e 1, 50A43 Ole e 1, 50A44 Ole e 1, 50A5 Ole e 1, 50A2 Ole e 1, 50A3 Ole e 1, 50A41	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Extensin-like protein Extensin-like protein Att g2/100/7/N9_15 Pollen ole 1 allergen	AF532754 AY137467 AY137469 S75766 Y12426 Y12426 AF532762 AF532762 AF532762 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF5532778 AF55377778 AF5537778 AF553778 AF553778 AF55377778 AF5537778 AF55777	OIPEU OIPEU	61 61 61 62 62 62 62 63 64 65 65 65 65 65 65 65 65 65 65	Ote e 1_61A2 Ote e 1_61A2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B4 Ote e 1_62B2 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_63A2 Ote e 1_65A2 Ote e 1_65A2 Ote e 1_65A2 Ote e 1_65A3 Ote e 1_65A3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_68B3 Ote e 1_68B3 Ote e 1_68B3 Ote e 1_68B3	PH40024 PH40024 proline-rich glycopretein Ar2033790 Ar1g28200 proline-rich protein HyPRP1 Arabinogalactan protein proline-rich protein	D/L7M3 B3H158 B3H158 B3F159 D7U593 A3P2640 B950J5 D7U593 B4F240 B4F25 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 D8TAV9 D8TDP3 D7L437 D7L437 D7L437 D7L437 D7L437 D7L437 D7L437 D7L437 D7L437 C4528 D7L437 D7L538 D7L437 D7L	ARAA POPP RIOCORY MAD ORY MAD MAD MAD MAD MAD MAD MAD MAD MAD MAD
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77777777777777777778489999999000000000	Ole e 1, 57A25 Ole e 1, 57A26 Ole e 1, 57A26 Ole e 1, 57A26 Ole e 1, 57A27 Ole e 1, 57A26 Ole e 1, 57A31 Ole e 1, 57A32 Ole e 1, 57A33 Ole e 1, 57A33 Ole e 1, 57A34 Ole e 1, 57A35 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A36 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A36 Ole e 1, 57A37 Ole e 1, 57A37 Ole e 1, 57A38 Ole e 1, 57A37 Ole e 1, 57A37 Ole e 1, 57A37 Ole e 1, 57A37 Ole e 1, 57A38 Ole e 1, 57A41 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 59A2 Ole e 1, 59A3 Ole e 1, 50A41 Ole e 1, 50A5 Ole e 1, 50A2 Ole e 1, 50A2 Ole e 1, 50A2 Ole e 1, 50A3	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Extensin-like protein Extensin-like protein Att g2/100/7/N9_15 Pollen ole e 1 allergen	AF532754 AY137467 AY137469 S75766 Y12426 Y12426 AF532762 AF532762 AF532762 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF532763 AF5532778 AF55377778 AF5537778 AF553778 AF553778 AF55377778 AF5537778 AF55777	OIPEU OIPEU	61 61 61 62 62 62 62 62 62 62 62 62 62	Ote e 1_61A2 Ote e 1_61A2 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B4 Ote e 1_61B4 Ote e 1_62B2 Ote e 1_62B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_62B3 Ote e 1_63B3 Ote e 1_63B3 Ot	PN40024 PN40024 proline-rich glycoprettein Ar2g33790 Ar1g28200 proline-rich protein HyPRP1 Arabinogalactan protein proline-rich protein Structural constituent of call wall PN40024	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B6UFQ0 D84586 D7L437 D7M720 O84586 D7L437 D7M720 O84586 D7L437 D7M720 O84586 D7L437 D7M720 C64586 D7L437 D7K608 G0PIW3 C6FUD2 C6	ARAA POPP RIOCORY WATCORY MAIO MAIO MAIO MAIO MAIO MAIO MAIO MAIO
7777777777777777778489995500000000	Ole e 1, 57A28 Ole e 1, 57A32 Ole e 1, 57A31 Ole e 1, 57A32 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A33 Ole e 1, 57A33 Ole e 1, 57A31 Ole e 1, 57A33 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A31 Ole e 1, 57A41 Ole e 1, 57A41 Ole e 1, 57A41 Ole e 1, 57A43 Ole e 1, 57A43 Ole e 1, 57A41 Ole e 1, 57A42 Ole e 1, 58A3 Ole e 1, 58A2 Ole e 1, 58A2 Ole e 1, 58A3 Ole e 1, 59A3 Ole e 1, 59A3 Ole e 1, 59A4 Ole e 1, 59A5 Ole e 1, 50A2 Ole e 1, 50A3 Ole e 1, 50A4 Ole e 1, 50A5 Ole e 1, 50A6 Ole e 1, 50A4 <	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen	AF532754 AY137467 AY137467 AY137468 AY137469 S75766 AF532758 AF532761 AF532767 AF532767 AF532767 AF532767 AF532769 AF532	OIPEU OIPEU	61 61 61 62 62 62 62 62 62 62 62 62 62	Ois e 1_61A2 Ois e 1_81A3 Ois e 1_61B1 Oie e 1_61B2 Oie e 1_61B2 Oie e 1_61B2 Oie e 1_61B3 Oie e 1_61B4 Oie e 1_61B4 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A1 Oie e 1_63A1 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A1 Oie e 1_67B1 Oie e 1_67B2 Oie e 1_67B1 Oie e 1_68B1 Oie e 1_68B21 Oie e 1_68D2<	PN40024 PN40024 Proline-rich glycopretein Proline-rich glycopretein Ar2g33790 Ar1g28290 proline-rich protein HyPRP1 Arsbinogalactan protein Proline-rich protein Structural constituent of call well PN40024 Arsbinogalactan protein	D/L7M3 B9H158 B9H158 D7U593 D7U593 A3W2R9 A3A255 B5F727 B5F2U6 B6TR12 B6UFG0 D8TF27 B5F2U6 B6TR12 B6UFG0 D8TF27 D7U525 D8TF27 D7U525 D8TF27 D7W720 D7W53 B9PAV5 A9PAV5 A9PAV5 A9PAV5 B9N307 B9H271 A0P545 B9N307 B9H271 A0P545 B9N307	ARAI POPP RIOCO ORY: MAD MAD MAD MAD MAD MAD MAD MAD MAD MAD
7777777777777777777898999555000000000000	Ole e 1 57A28 Ole e 1 57A31 Ole e 1 57A32 Ole e 1 57A31 Ole e 1 57A32 Ole e 1 57A33 Ole e 1 57A34 Ole e 1 57A35 Ole e 1 57A34 Ole e 1 57A35 Ole e 1 57A34 Ole e 1 57A35 Ole e 1 57A36 Ole e 1 57A37 Ole e 1 57A31 Ole e 1 57A41 Ole e 1 57A41 Ole e 1 58A2 Ole e 1 58A2 Ole e 1 58A2 Ole e 1 58A3 Ole e 1 59A5 Ole e 1 59A5 Ole e 1 50A4 Ole e 1 50A3 Ole e 1 50A4 Ole e 1 <	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Extensin-like protein A Ti g2/100/T7N9_16 Pollen ole 1 allergen Pikt0024 Os02g0317800 protein	AF532754 AY137467 AY137467 AY137468 S75766 V12426 AF532762 AF532762 AF532762 AF532763 AF553763 AF553763 BFFNF3 C65YE3 A90MR6 B7FNF3 C65YE3 A90MR6 E02E82 E02E82 E02E82 E02E82 E02E82 C6T474 A9P2A0 A9PFL1 B9SAF6 D77895 A2X417 Q62841	OIPEU OIPEU	61 61 61 62 62 62 62 62 62 62 62 62 62	Ote e 1_61A2 Ote e 1_61A2 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B3 Ote e 1_61B4 Ote e 1_61B4 Ote e 1_62B2 Ote e 1_62B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_62B3 Ote e 1_63B3 Ote e 1_63B3 Ot	PN40024 PN40024 proline-rich glycoprettein Ar2g33790 Ar1g28200 proline-rich protein HyPRP1 Arabinogalactan protein proline-rich protein Structural constituent of call wall PN40024	D7L7M3 B9H158 A9PG40 B95QJ5 D7U593 A2WZR9 A3A255 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B4F206 B6TF27 B6UFQ0 D84586 D7L437 D7M720 O84586 D7L437 D7M720 O84586 D7L437 D7M720 O84586 D7L437 D7M720 C64586 D7L437 D7K608 G0PIW3 C6FUD2 C6	ARAL POPP RICO ORY: MAU2 MAU2 MAU2 MAU2 MAU2 MAU2 MAU2 MAU2
777777777777777777788889999990000000000	Ole e 1 57A28 Ole e 1 57A32 Ole e 1 57A31 Ole e 1 57A41 Ole e 1 58A1 Ole e 1 58A2 Ole e 1 58A3 Ole e 1 58A2 Ole e 1 59A3 Ole e 1 50A3 Ole e 1 50A3 Ole e 1 50A4 Ole e 1	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen	AF532754 AY137467 AY137469 AY137469 AY137469 AY137469 AY137469 AY137469 AY137469 AY137469 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF532764 AF53276539 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 B7FNF5 C65YE3 C65YE3 Q94E3 Q94E33 Q94E33 Q94E3	OIPEU OIPEU	61 61 61 62 62 62 62 62 62 62 62 62 62	Ois e 1_61A2 Ois e 1_81A3 Ois e 1_61B1 Oie e 1_61B2 Oie e 1_61B2 Oie e 1_61B2 Oie e 1_61B3 Oie e 1_61B4 Oie e 1_61B4 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_62B3 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A1 Oie e 1_63A1 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A1 Oie e 1_63A2 Oie e 1_63A1 Oie e 1_67B1 Oie e 1_67B2 Oie e 1_67B1 Oie e 1_68B1 Oie e 1_68B21 Oie e 1_68D2<	PN40024 PN40024 Proline-rich glycopretein Proline-rich glycopretein Ar2g33790 Ar1g28290 proline-rich protein HyPRP1 Arsbinogalactan protein Proline-rich protein Structural constituent of call well PN40024 Arsbinogalactan protein	D/L7M3 B9H158 B9H158 D7U593 D7U593 A3W2R9 A3A255 B5F727 B5F2U6 B6TR12 B6UFG0 D8TF27 B5F2U6 B6TR12 B6UFG0 D8TF27 D7U525 D8TF27 D7U525 D8TF27 D7W720 D7W53 B9PAV5 A9PAV5 A9PAV5 A9PAV5 B9N307 B9H271 A0P545 B9N307 B9H271 A0P545 B9N307	ARAT ARAT ARAT POPP NICO VITY MAZZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ MAIZ
7777777777777777777898999555000000000000	Ole e 1 57A28 Ole e 1 57A31 Ole e 1 57A32 Ole e 1 57A31 Ole e 1 57A32 Ole e 1 57A33 Ole e 1 57A34 Ole e 1 57A35 Ole e 1 57A34 Ole e 1 57A35 Ole e 1 57A34 Ole e 1 57A35 Ole e 1 57A36 Ole e 1 57A37 Ole e 1 57A31 Ole e 1 57A41 Ole e 1 57A41 Ole e 1 58A2 Ole e 1 58A2 Ole e 1 58A2 Ole e 1 58A3 Ole e 1 59A5 Ole e 1 59A5 Ole e 1 50A4 Ole e 1 50A3 Ole e 1 50A4 Ole e 1 <	Ois e 1 olive pollen allergen Ois e 1 olive pollen allergen Extensin-like protein A Ti g2/100/T7N9_16 Pollen ole 1 allergen Pikt0024 Os02g0317800 protein	AF532754 AY137467 AY137467 AY137468 S75766 V12426 AF532762 AF532762 AF532762 AF532763 AF553763 AF553763 BFFNF3 C65YE3 A90MR6 B7FNF3 C65YE3 A90MR6 E02E82 E02E82 E02E82 E02E82 E02E82 C6T474 A9P2A0 A9PFL1 B9SAF6 D77895 A2X417 Q62841	OIPEU OIPEU	61 61 61 62 62 62 63 64 65 65 65 65 65 65 65 65 65 65	Ote e 1_61A2 Ote e 1_61A2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B2 Ote e 1_61B4 Ote e 1_62B2 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_62B3 Ote e 1_63A2 Ote e 1_63A2 Ote e 1_63A2 Ote e 1_65A2 Ote e 1_65A2 Ote e 1_65A2 Ote e 1_65A3 Ote e 1_67B2 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_67B3 Ote e 1_68B3 Ote e 1_68D3 Ote e 1_68D3	PN440024 PN440024 proline-rich giycopretein At2g33790 At1g22200 proline-rich protein MyPRP1 Arabinogalactan protein proline-rich protein Structural constituent of call wall PM40024	D/L7M3 B3H158 A3PC40 B950J5 D7U593 A3W2R5 A3A255 B8TF27 B3F2U6 B6TF27 B3F2U6 B6TF27 B3F2U6 B6TF27 B3F2U6 D6TAV9 D8TDP3 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 D7LG57 B3F159 A3PA42 B9R307 B3PA55 B3R6C9 D7TGB4 Q3F282 B3F6C9 D7TGB4	ARAIA POPP RICC ORY: MAIZ MAIZ MAIZ MAIZ MAIZ PHYY PHYY SELM MAIZ PHYY SELM MAIZ ARAI ARAI ARAI ARAI ARAI ARAI ARAI A

Table 1. (continued). The Ole e 1 protein superfamily: new and unified nomenclature.

74 71 72 72		Pistil extensio-like profeite	Q40385	NIGAL	80	Ois e 1_80A2		Q22258	ARA
12	Ole s 1_71A2	Pisili-specific extensin-like prot.	Q03217	PEXLP	81	Die e 1_B1A1		DSTCES	SEL
-	Ole a 1_7181	Pistil extensin like protein	Q40549	TOBAC	81	QI# # 1_81A2		D8TF48	SEL
1	Ole a 1_7181	Pistil extensio like protein	Q40552	TOBAC	81	Ole e 1_8181		D8TCE7	BELI
	Ole e 1_72A1	120 kDa style glycoprotein	049986	NICAL	87	Cie e 1_82A1		DETCEO	SEL
4	Ole e 1_72AZ	120 kDs pistil extensin-like prot.	Q49/28	NicLa	83	040 01_83A1	Pollen ole e 1 allergen	D7LYX8	ARA
1	Ois e 1_72A3	120 kDa pistil astensin-like prot.	Q49129	NicLa	83	Oin e 1 83A2	A15g05500	Q9FFG5	ARA
T	Ole e 1_72A4	120 kDa pistil entensio-like prot.	Q49827	NicLa	83	Ole e 1 8381		B9HHU1	POP
-1	Olu e 1_72A5	120 hDa pistil extensio-like prot.	Q49132	NicLa	83	Ole e 1_8382		BSHSK7	POP
+	Die e 1_72A0	120 kDa pistil extensin-like prol.	Q49133	NICPL	83	Die e 1_8383		BRSGRU	RIC
+	OH & 1 72A7	120 kDa pisili externin-like prot.	Q49134	TOBAC	83	ON 6 1 8384	PN40024	D7T4L1	VIT
-	Ole o 1 73A1	120 kDx gistli extensin-like prot.	Q49130	NicLa	63	Cle e 1 8385		ASCEV2	VIT
-		and the second				and the second se			
	Ois e 1_74A1	Pollen ole e 1 aliergen	D7MA28	ARALY	84	Ola e 1_84A1		AZWL03	08
1	Ola #1_74A2	At4002270	Q81417	ARATH	84	Oin e 1 84A2		GELIN2	OR
	Ole s 1_75A1	- E	C67577	SOYBN	84	Ole e 1_84A3	-0-	A2WL01	QR
	ON 01_75A2	Drought resistance problem	E0A235	SOYEN	84	Ole e 1_84A4	in the second	B9ETU7	OR
i	Ole e 1_75A3		C87425	SOYEN	84	Q10 0 1 84A5	B1189A09.32	Q5VR32	OR
	Ole e 1_7581	-	B9I8P3	POPTR	64	Cie e 1_84A6	· · · · · · · · · · · · · · · · · · ·	A2WL00	OR
6 T	Ole e 1_7582		B99P2	POPTR	84	Ole e 1_84A7		A2WL05	OR
	Old s 1 75C1	K 1920	B9MX40	POPTR	84	Ole u 1 84An		AZWLOS	0R
	Ole #1_75C2		B9P957	POPTR	84	Ole e 1_84A9		GELJMB	OR
	Ole e 1 75D1		B9GSD2	POPTR	84	Cise 1 54A10		AZWL07	08
	Ole a 1 76A1		BSSAVD	RICCO	84	Cise 1 StA11		QELIME	OR
_		-	the second s		the second se			and an other statements	
	Olu a 1_7681	Structural constituent cell well	89SAV4	RICCO	54	Ole # 1_SLA12		A2WL04	OR
-	Ofe a 1_77A1	1	B9GSD1	POPTR	84	OIR 0 1 SAA13		QRLJN3	OR
	Ofe e 1_77A2	Structure constituent cell wall	BRSAV3	RICCO	84	Ofe e 1_84A14	+	A2ZPKB	OR
	Ole #1_7781	PN40024	D7U2C5	VITVI	84	Ole # 1_34A15	B1189A09.34	Q5VR30	OR
1	Ole e 1_7782		ASB1Z7	VITVI	84	Ola e 1_8481		AZWL02	OR
	Ole s 1_77C1	PN40024	D7U2C3	VITVI	84	Oin #1_84C1		A2WL12	OR
	Ole a 1_77C2		A5B125	VITVI	84	Ote # 1_84C2		QRLJM5	OR
	Old a 1_77D1	Polten ole e 1 allergen	D7LGP2	ARALY	84	Qle e 1_84C3		BRADES	OR
				ARALI	and the second se	station of the local data and the second sec	-	AZZPL3	-
	Ole e 1_77D2	A12047540	072257	and the second se	84	Die o 1_84C4	Bittero and da	and the second second second second	OR
	Ole a 1_78A1		A58126	VITVI	84	Oin e 1_84C5	B1189A09,42	Q5VR18	OR
	Ole e 1_78A2	PN40024	D7U2C4	VITVI	84	Ole n 1_84Ch		A2WL11	05
	Ob# 8 1_78A1		D7KQ21	ARALY	84	Ole e 1_84C7		QELJME	OR
	Ole s 1_79AZ		D7KQ24	ARALY	.84	Dis # 1_8401	B1189A09.38	Q5VR13	OR
1	Ofe # 1_79A3	Proline-rich protein 1	Q9FZ35	ARATH	84	Qten 1_84E1		BRETON	OR
	Die e 1_79A4	Proline-rich protein 1	Q9M7P1	ARATH.	- 64	Ola e 1 B4F1		AZZPL6	OR
	Ole # 1 7945	Proline-cich protein	G9LZJ7	ARATH	84	Ofe e 1 BIF2	B1189A09.45	Q5VR17	OR
	Ofe u 1 75A5	Proline-rich protein 3	Q987N9	ARATH	84	Ole e 1 84G1		A2WL13	OR
9	Oh # 1_76A7	-	D71,786	ARALY	84	Oie e 1_54G2	Sb03g005060	C5XP48	50
0	Ohe a 1 BOA1		D7LGP0	ARALY	85	Die a 1 85A1		DISHHA	SE
15	Ole v 1_8581	i.	DETSED	SELML	97	Q1e e 1 97A1	\$b02g642740	C5X5J0	SO
6	Die e 1_35AT		DISSING	SELML	98	Ole 9 1 88A1		AZXGJ7	OR
1	Ois e 1_87A1		087554	SELML	98	Ois a 1 98A2		QTOLNA	OR
8	Oin e 1, 88A1		DBR4E3	SELML	98	Ole a 1_9861			-
	Ole e 1_88A2			and the second se	the second se	the second s			
		1	and the second sec					A2XGJ8	and the second second
	and the second se		DSRKB7	SELML	the second se	Ole e 1_9882	Os03g0342100	Q10LN2	OR
	Ole e 1_89A1	Pollen ole e 1 allergen	D8RKB7 D7L8E4	ARALY	98	Ole e 1_98C1	G503g0342100 Sb01g035830	Q10LNZ C5X0Q2	OR SO
	and the second se		DSRKB7	the same product the residence of the same	98 99			Q10LNZ C5X0Q2 B5UHT3	OR SO
	Ole e 1_89A1	Pollen ole e 1 allergen	D8RKB7 D7L8E4	ARALY		Ole e 1_98C1		Q10LNZ C5X0Q2	OR SO MA
	Ole e 1_89A1 Ole e 1_89A2	Pollen ole e 1 allergen	DSRKB7 D7L8E4 Q3EBA2	ARALY	99	Ola e 1_98C1 Ola e 1_99A1		Q10LNZ C5X0Q2 B5UHT3	OR SO MA OR
	Ole e 1_89A1 Ole e 1_89A2 Ole e 1_89B1	Pollen ole e 1 allergen	DSRKB7 D7L8E4 Q3EBA2 B9MTK8	ARALY ARATH POPTR	99 100	Ole e 1_98C1 Ole e 1_99A1 Ole e 1_100A1 Ole e 1_100A2	Sb0tg035830	Q10LN2 C5X0Q2 B6UHT3 A2WUN2	OR SO MA OR OR
	Ole e 1_99A1 Ole e 1_99A2 Ole e 1_99B1 Ole e 1_99B2	Pullen ole e 1 allergen	D8RKB7 D7L8E4 Q3EBA2 B9MTK8 B9S0B7	ARALY ARATH POPTR RICCO	93 100 100	Ole e 1_98C1 Ole e 1_99A1 Ole e 1_100A1	Sb0tg035830	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q8\$158	OR SO MA OR OR OR
	Ole e 1_83A1 Ole e 1_83A2 Ole e 1_83B1 Ole e 1_83B2 Ole e 1_83B2 Ole e 1_83C1 Ole e 1_90A1	Polien de e 1 allengen	DSRKB7 D7L3E4 Q3EBA2 B9MTKS B9S0B7 C6T3U6 D7TIW5	ARALY ARATH POPTR RICCO SOYBN VITVI	95 100 100 100 100	Ole e 1_98C1 Ole e 1_99A1 Ole e 1_100A1 Ole e 1_100A2 Ole e 1_100A3 Ole e 1_100A3	5b01g035630 	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q8S158 A2ZXF1 C5XIF5	OR SO MA OR OR SO
	Ole e 1_83A1 Ole e 1_83A2 Ole e 1_83B1 Ole e 1_83B2 Ole e 1_83B2 Ole e 1_83C1 Ole e 1_90A1 Ole e 1_90A2	Pollen ote e 1 allergen - - - - - - - - - - - - - - - - - - -	DSRKB7 D7L8E4 Q3EBA2 B9MTKS B9S0B7 C6T3U6 D7TIW5 D7TIW5	ARALY ARATH POPTR RICCO SOYBN VITVI VITVI	95 100 100 100 100 100	Ole e 1_99A1 Ole e 1_99A1 Ole e 1_100A1 Ole e 1_100A2 Ole e 1_100A3 Ole e 1_100A3 Ole e 1_100A4 Ole e 1_100B1	5b01g035830 Os01g0725900 Sb03g033350 Sb03g033366	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q8S158 A2ZXF1 C5XIF5 C5XIF5	OR SO MA OR OR OR SO
	Ole e 1_83A1 Ole e 1_83A2 Ole e 1_83B1 Ole e 1_83B2 Ole e 1_83B2 Ole e 1_83C1 Ole e 1_90A1 Ole e 1_90A2 Ole e 1_91A1	Pullen ole e 1 allengen PN40024 PN40024	DBRKB7 D7L8E4 Q3EBA2 B9MTK8 B9S0B7 C6T3U0 D7TIW6 D7TIW6 D7TIX1 A2Z9X7	ARALY ARATH POPTR RICCO SOYBN VITVI VITVI ORVSI	99 100 100 100 100 100 100	Ole e 1_58C1 Ole e 1_99A1 Ole e 1_99A1 Ole e 1_100A1 Ole e 1_100A2 Ole e 1_100A3 Ole e 1_100A3 Ole e 1_100B1 Ole e 1_100B1	5b01g035630 	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q75K53	OR SO MA OR OR OR SO SO
	Oise e1_83A1 Oise e1_83A2 Oise e1_83B2 Oise e1_83B2 Oise e1_83B2 Oise e1_83B2 Oise e1_83A1 Oise e1_93A2 Oise e1_93A2 Oise e1_93A2	Pollen ole e 1 allergen PN40024 PN40024 Ost0g0546100	D8RKB7 D7L8E4 Q3EBA2 B9MTK8 B3S0B7 C6T3U0 D711K1 AZZ9K7 Q5AV21	ARALY ARATH POPTR RICCO SOYBN VITVI VITVI ORVSI ORVSI	99 100 100 100 100 100 100 100	Ole +1_98C1 Ole +1_99A1 Ole +1_99A1 Ole +1_100A1 Ole +1_100A2 Ole +1_100A3 Ole +1_100B1 Ole +1_100C1 Ole +1_100C2	5b01g035830 Os01g0725900 Sb03g033350 Sb03g033366	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q8S158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q75K53 B9FH39	OR SO MA OR OR OR SO SO OR OR
	Oie e 1_83A1 Oie e 1_83A2 Oie e 1_83A2 Oie e 1_83B2 Oie e 1_83B2 Oie e 1_83C1 Oie e 1_83A2 Oie e 1_93A2 Oie e 1_91A1 Oie e 1_91A3	Pollen ote e 1 allergen PN40024 PN40024 Ox10g05465100 Sb01g030090	D8RKB7 D7L8E4 Q3EBA2 B9MTK8 B3S0B7 C67306 D711W6 D711W6 D711W6 D711X1 AZZ9K7 QSAV31 C5WTH1	ARALY ARATH POPTR RICCO SOYBN VITVI VITVI ORVSI ORVSI ORYSJ SORBI	99 100 100 100 100 100 100 100 100	Ole e1_98C1 Ole e1_99A1 Ole e1_19A1 Ole e1_100A1 Ole e1_100A2 Ole e1_100A3 Ole e1_100A3 Ole e1_100A4 Ole e1_100C1 Ole e1_100C1 Ole e1_100C2 Ole e1_100C3	5b01g035830 Os01g0725900 Sb03g033350 Sb03g033350 QJ1131_E09.17	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q86158 A22XF1 C5XIF5 C5XIF5 C5XIF5 C5XIF5 B3FH39 A2Y6T6	OR SO MA OR OR SO SO SO OR OR OR
	Oie e 1_83A1 Oie e 1_83A2 Oie e 1_83A1 Oie e 1_83B1 Oie e 1_83B2 Oie e 1_83C1 Oie e 1_83C1 Oie e 1_83A2 Oie e 1_81A1 Oie e 1_81A2 Oie e 1_81A2 Oie e 1_91A2 Oie e 1_91A2	Pollen of e 1 allengen P9440024 P9440024 Os10g0545100 Sb01g0090	D8RKB7 D7L8E4 Q3EBA2 B9MTK8 B9S0B7 C6T306 D7TW8 D7TW8 D7TW8 D7TW8 D7TX1 A2Z9K7 Q9AV31 C5WTH1 D7LH66	ARALY ARATH POPTR RICCO SOYBN VITVI VITVI ORYSI ORYSI SORBI ARALY	95 100 100 100 100 100 100 100 100 100	Ole #1_98C1 Ole #1_99A1 Ole #1_100A1 Ole #1_100A2 Ole #1_100A3 Ole #1_100A3 Ole #1_100A4 Ole #1_100C1 Ole #1_100C2 Ole #1_100C4	5b01g035830 Ds01g0725900 Sb03g033350 Sb03g0333560 OU1131_E09.17 Os05g0531400 protein	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q75K53 B3FH39 A2Y6T5 Q0DGH6	OR SO MA OR OR SO SO SO OR OR OR
	Oie e1_83A1 Oie e1_83A2 Oie e1_83A2 Oie e1_83B1 Oie e1_83B2 Oie e1_83B2 Oie e1_83A2 Oie e1_93A2 Oie e1_91A1 Oie e1_91A1 Oie e1_91B1 Oie e1_92A2	Pollen ole e 1 allergen PN40024 PN40024 Ost0xg0546100 Sb01g030090 A42g41400	DSRKB7 D7L8E4 Q3EBA2 B9MTK8 B9S0B7 C67306 D7TIW6 D7TIW6 D7TIW6 D7TIX1 A2Z9X7 Q5AV31 C5WTH1 D7LH66 Q6DBF8	ARALY ARATH POPTR RICCO SOYBN VITVI VITVI ORVSI ORVSI ORVSJ SORBI ARALY ARATH	95 100 100 100 100 100 100 100 100 100 10	Ole = 1_98C1 Ole = 1_99A1 Ole = 1_100A1 Ole = 1_100A2 Ole = 1_100A3 Ole = 1_100A3 Ole = 1_100A3 Ole = 1_100A3 Ole = 1_100C1 Ole = 1_100C1 Ole = 1_100C4 Ole = 1_100C4 Ole = 1_100C4	5b01g035830 Os01g0725900 Sb03g033350 Ou1131_E09,17 Os05g0531400 protein Sb03g026510	Q10LN2 C5X0Q2 B6UHT3 A2W0N2 Q86158 A22XF1 C5XIF5 C5XIF5 C5XIF5 Q75K53 B3FH39 A2Y6T6 Q0DGH6 C5YUF6	OR SO MA OR OR SO SO SO OR OR OR OR SO
	Ole e 1 89A1 Ole e 1 89A2 Ole e 1 89A2 Ole e 1 89B2 Ole e 1 89B2 Ole e 1 89B2 Ole e 1 90A1 Ole e 1 90A2 Ole e 1 90A2 Ole e 1 91A2 Ole e 1 91A2 Ole e 1 92A3 Ole e 1 92A3	Pollen ole e 1 allergen PN40024 PN40024 Ox10g0546100 Sb01g030020 Al2g41400 RAFL22-034812	DSRKB7 D7L8E4 Q3EBA2 B9MTK8 B9MTK8 B3S0B7 C67300 D7TIW5 D7TIW5 D7TIW5 D7TIW5 Q5AV31 C5WTH1 D7LH66 Q6DBF8 Q67217	ARALY ARATH POPTR RICCO SOYBN VITVI VITVI ORYSI ORYSI SORBI ARALY ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e1_98C1 Oie e1_99A1 Oie e1_99A1 Oie e1_100A1 Oie e1_100A2 Oie e1_100A2 Oie e1_100A2 Oie e1_100C1 Oie e1_100C2 Oie e1_100C3 Oie e1_100C1 Oie e1_100C1 Oie e1_100C2	5b01g035830 Ds01g0725900 Sb03g033350 Sb03g0333560 OU1131_E09.17 Os05g0531400 protein	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 Q75K53 B3FH39 A2Y6T6 Q0DGH6 C5YUF6 B6SLV3	OR SO OR OR SO SO OR OR OR SO MA
	Ole e1_89A1 Ole e1_89A2 Ole e1_89B1 Ole e1_89B1 Ole e1_89B1 Ole e1_89B2 Ole e1_89A2 Ole e1_89A2 Ole e1_90A2 Ole e1_91A1 Ole e1_91A3 Ole e1_92A3 Ole e1_92A3 Ole e1_92A3 Ole e1_92A3	Pollen ote e 1 allergen PN40024 PN40024 Ox10g0546100 S50rg030090 A42g41400 RAFL22-93-M12 A(2g41400	DSRKB7 D7L8E4 Q3EBA2 B9MTK3 B3S0B7 C673U0 D7TW5 D7TW5 D7TW5 D7TW5 D7TK45 C5WTH1 D7LH65 Q6A217 Q82VC5	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI SORBI ARALY ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e 1_98C1 Oie e 1_99A1 Oie e 1_100A1 Oie e 1_100A2 Oie e 1_100A2 Oie e 1_100A3 Oie e 1_100A1 Oie e 1_100C1 Oie e 1_100C3 Oie e 1_100C4 Oie e 1_100C4 Oie e 1_100C4 Oie e 1_100C4	5b01g035830 Os01g0725900 Sb03g033350 Sb03g033356 OU1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogslactan protein	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q75K53 B3FH39 A2Y6T6 Q0DGH6 C5YUF6 B6SLV3 A2Y6T4	OR SO OR OR SO OR OR OR OR OR OR OR
	Ole e1 59241 Ole e1 5922 Ole e1 592 Ole e1 592 Ole e1 592 Ole e1 5924 Ole e1 5924 Ole e1 5924 Ole e1 5924 Ole e1 5924 Ole e1 5124 Ole e1 5224 Ole e1 5224 Ole e1 5224 Ole e1 5281	Pollen ote e 1 allengen P9440024 P9440024 Os10g0545100 Sb01g030020 A12g41400 RAFL22-313412 A12g41400 A12g41390	DSRKB7 D7L8E4 Q3EBA2 BSMTK8 BSMB7 C6F3U0 D7TIW6 D7TIW6 D7TIW6 D7TIW6 D7TIW6 C5W7H1 D7LH66 Q6DBF8 Q672J7 Q82VC5 Q92VC4	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSI ORYSI ORYSI ORYSI ARATH ARATH ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e1_98C1 Oie e1_99A1 Oie e1_99A1 Oie e1_100A1 Oie e1_100A2 Oie e1_100A2 Oie e1_100A2 Oie e1_100C1 Oie e1_100C2 Oie e1_100C3 Oie e1_100C1 Oie e1_100C1 Oie e1_100C2	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033356 OU1131_E09.17 Os05g0531400 protein Sb09g026510 Arabinogalactar protein Os05g0531200 protein	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 Q75K53 B3FH39 A2Y6T6 Q0DGH6 C5YUF6 B6SLV3	OR SO OR OR SO OR OR OR OR OR OR OR
	Ole e1_89A1 Ole e1_89A2 Ole e1_89B1 Ole e1_89B1 Ole e1_89B1 Ole e1_89B2 Ole e1_89A2 Ole e1_89A2 Ole e1_90A2 Ole e1_91A1 Ole e1_91A3 Ole e1_92A3 Ole e1_92A3 Ole e1_92A3 Ole e1_92A3	Pollen ote e 1 allergen PN40024 PN40024 Ox10g0546100 S50rg030090 A42g41400 RAFL22-93-M12 A(2g41400	D3RKB7 D7L8E4 Q3EBA2 B9MTK3 B9MTK3 B9S0B7 C673U0 D7Tk46 D7Tk46 D7Tk46 C5WTh41 D7L466 Q6DB78 Q672I7 Q92VC5 Q952VC4 Q9FF72	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSI ORYSI ORYSI ORYSI ORYSI ARATH ARATH ARATH ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e1_98C1 Oie e1_99A1 Oie e1_100A1 Oie e1_100A2 Oie e1_100A2 Oie e1_100A2 Oie e1_100A2 Oie e1_100A1 Oie e1_100C1 Oie e1_100C3 Oie e1_100C4 Oie e1_100D2 Oie e1_101A1 Oie e1_101A2	5b01g035830 Os01g0725900 Sb03g033350 Sb03g033350 QJ1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogalactar protein Os05g0531200 protein Pistli-spacefic statensin-like	Q10LN2 C5X0Q2 B6UHT3 A2WUN2 Q86158 A2ZXF1 C5XIF5 C5XIF5 Q75K53 B3FH39 A2Y6T5 Q0DGH6 C5YUF6 B6SLV3 A2Y6T4 Q75K55	OR SO OR OR SO SO OR OR OR OR OR OR OR
	Ole e1 59241 Ole e1 5922 Ole e1 592 Ole e1 592 Ole e1 592 Ole e1 5924 Ole e1 5924 Ole e1 5924 Ole e1 5924 Ole e1 5924 Ole e1 5124 Ole e1 5224 Ole e1 5224 Ole e1 5224 Ole e1 5281	Pollen ote e 1 allengen P9440024 P9440024 Os10g0545100 Sb01g030020 A12g41400 RAFL22-313412 A12g41400 A12g41390	DSRKB7 D7L8E4 Q3EBA2 BSMTK8 BSMB7 C6F3U0 D7TIW6 D7TIW6 D7TIW6 D7TIW6 D7TIW6 C5W7H1 D7LH66 Q6DBF8 Q672J7 Q82VC5 Q92VC4	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSI ORYSI ORYSI ORYSI ARATH ARATH ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e 1_98C1 Oie e 1_99A1 Oie e 1_100A1 Oie e 1_100A2 Oie e 1_100A2 Oie e 1_100A2 Oie e 1_100A3 Oie e 1_100A3 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100C4 Oie e 1_100D2 Oie e 1_101A1 Oie e 1_101A2 Oie e 1_101A3	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033356 OJ1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogslactan protein Os05g0531200 protein Pistli-specific actensin-like protein	Q10LH2 C5X0Q2 B6UH73 A2WUN73 Q88158 A2ZXF1 C5XIF5 Q5XIF5 Q5XIF5 Q0DGH6 C5YUF6 B6SLV3 A2Y675 B6SLV3 A2Y675 B6SLV3 B6SLV3 B655 B65LV3	OR SO OR OR SO SO OR OR OR OR OR OR OR OR MA
	Ole e1 89A1 Ole e1 89A2 Ole e1 89A2 Ole e1 89A2 Ole e1 89B2 Ole e1 89B2 Ole e1 90A1 Ole e1 90A1 Ole e1 90A1 Ole e1 91A2 Ole e1 91A2 Ole e1 91A3 Ole e1 91A3 Ole e1 91A3 Ole e1 92A3 Ole e1 92A3 Ole e1 92B1 Ole e1 92B1	Pollen ote e 1 allengen P9440024 P9440024 Os10g0545100 Sb01g030020 A12g41400 RAFL22-313412 A12g41400 A12g41390	D3RKB7 D7L8E4 Q3EBA2 B9MTK3 B9MTK3 B9S0B7 C673U0 D7Tk46 D7Tk46 D7Tk46 C5WTh41 D7L466 Q6DB78 Q672I7 Q92VC5 Q952VC4 Q9FF72	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSI ORYSI ORYSI ORYSI ORYSI ARATH ARATH ARATH ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Ole = 1_98C1 Ole = 1_99A1 Ole = 1_100A1 Ole = 1_100A2 Ole = 1_100A2 Ole = 1_100A2 Ole = 1_100A2 Ole = 1_100A2 Ole = 1_100A2 Ole = 1_100C1 Ole = 1_100C2 Ole = 1_100C2 Ole = 1_100C2 Ole = 1_100C2 Ole = 1_100C2 Ole = 1_100A2 Ole = 1_101A2 Ole = 1_101A2 Ole = 1_101A2	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033356 OJ1131_E09,17 Os05g0551400 protein Sb09g026510 Arabinogalactar protein Os05g0551200 protein Pistil-specific extensin-like protein	Q10LH2 CSX0Q2 BSUHT3 A2W0N7 Q8515B A2W0N7 Q8515B A22XF1 C5XIF5 C5XIF5 C5XIF5 C5XIF5 C5XIF5 Q75K55 B8FH39 A2Y6T3 Q0DH6 C5YUF6 BSSLV3 A2Y6T3 Q75K55 BSUHM8 B4FGH8	OR SO MAA OR OR SO OR SO OR SO OR SO OR SO MAA MAA
	Ole e 1 89A1 Ole e 1 89A2 Ole e 1 89A2 Ole e 1 89B2 Ole e 1 89B2 Ole e 1 89B2 Ole e 1 89B2 Ole e 1 89A2 Ole e 1 90A2 Ole e 1 91A3 Ole e 1 91A3 Ole e 1 92A3 Ole e 1 92A3 Ole e 1 92B3 Ole e 1 92B3 Ole e 1 92B3 Ole e 1 92B3	Pollen ole e 1 allergen PN410024 PN40024 Ost080545100 Sb01g030090 A42g41400 RAFL22-03-8112 A42g41400 A42g41390 A45g05020	DBRKB7 D7.18E4 Q3EBA2 BS90T83 BS90T83 BS90B7 C673U8 D7T1X8 D7X8 D7X8 D7X8 D7X8 D7X8 D7X8 D7X8 D7	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI SORBI ARALY ARATH ARATH ARATH ARATH ARATH ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e1_98C1 Oie e1_99A1 Oie e1_99A1 Oie e1_100A1 Oie e1_100A2 Oie e1_100A3 Oie e1_100A3 Oie e1_100A1 Oie e1_100C3 Oie e1_100C3 Oie e1_100C3 Oie e1_100C1 Oie e1_100D1 Oie e1_100A1 Oie e1_101A1 Oie e1_101A3 Oie e1_101B3	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033356 OJ1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogslactan protein Os05g0531200 protein Pistli-specific actensin-like protein	Q10LN2 CSX002 BSUHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q75K53 BSFH39 A2Y6T6 Q0DH6 C5YUF6 BSFLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 BSSLV3 BSSLV3 BSSLV3 C5YUF6 C5YUF7 C5Y	OR SO OR OR SO OR OR OR OR SO OR OR SO OR SO OR SO SO SO SO SO SO SO SO SO SO SO SO SO
	Ole e1 55A1 Ole e1 55A2 Ole e1 57A1 Ole e1 57A3 Ole e1 57A3 Ole e1 57A3	Pollen ote e 1 allergen PN40024 PN40024 Ost002545100 Sb0rtg030090 A42g41400 RAFL22-03-M12 A12g41400 A12g41400 A12g41390 A13g16660	DBRKB7 D7.1264 Q3EBA2 B9MTK3 B9S0B7 C673U0 D7TW5 D7TW5 D7TW5 D7TW5 D7TW5 D7TW5 D7TW5 D7TW5 D7TW5 Q5727 C5WTH1 C5WT	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ORYSJ ARATH ARATH ARATH ARATH ARATH ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie = 1_98C1 Oie = 1_99A1 Oie = 1_100A1 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A1 Oie = 1_100A1 Oie = 1_100C1 Oie = 1_100C1 Oie = 1_100C1 Oie = 1_100C2 Oie = 1_100C2 Oie = 1_100C2 Oie = 1_100C2 Oie = 1_100C2 Oie = 1_101A2 Oie = 1_101A2 Oie = 1_101B3 Oie = 1_101B3 Oie = 1_102A1	Sb01g035830 Os01g0725900 Sb03g031350 Sb03g031350 Os05g0531400 protein Sb03g026510 Arabinogslactan protein Pistli-specific actensin-like protein Sb09g02fi500	Q10LH2 CSX002 B6UH73 Q85158 A2WUN2 Q85158 C5XIF5 C5XIF5 C5XIF5 Q05CH6 Q05CH6 Q05CH6 D5VIF6 B65LV3 A2Y673 A2Y673 A2Y674 Q75K55 B6UHM8 B4FGH8 C52TH9 A2WUN3	OR SO OR OR OR SO OR OR OR SO OR OR SO O OR SO O OR SO O OR SO O O O
	Ole e1_55A1 Ole e1_55A1 Ole e1_55A1 Ole e1_55A1 Ole e1_55A1 Ole e1_55A1 Ole e1_55A1 Ole e1_55A1 Ole e1_55A1 Ole e1_55A1	Pollen ole e 1 allergen PM40024 PM40024 Os10g0546100 Sb01g030090 A42g41400 RAFL22-03-M12 A12g41400 A12g415660 MGLF	D8RKB7 D7L8E4 Q3EBA2 B9MTR8 B9MTR8 B9S0B7 C673U8 D7TLV8 D7TLV8 Q5AV31 D7TLV8 Q5AV31 D7TLV8 Q5AV31 D7TLV8 Q5AV31 Q5	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI SORBI ARALY ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie = 1_98C1 Oie = 1_99A1 Oie = 1_100A1 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A1 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_101A2 Oie = 1_101A2 Oie = 1_101B3 Oie = 1_101B3 Oie = 1_101B3 Oie = 1_102A2	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033356 OU1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogalactan protein Pistli-specific actensin-like protein Sb03g025500 Os01g0726100 protein	Q10LH2 CSX0Q2 BSUHT3 A2W0N2 Q851SB A2W0N2 CSXIF5 CS	OR SO OR OR OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR
	Ole e 1 89A1 Ole e 1 89A2 Ole e 1 89A2 Ole e 1 89B2 Ole e 1 89B1 Ole e 1 89B1 Ole e 1 89B2 Ole e 1 89A2 Ole e 1 90A2 Ole e 1 91A3 Ole e 1 91A3 Ole e 1 92A3 Ole e 1 95A3 Ole e 1 95A3 Ole e 1 95A3 Ole e 1 95A3	Pollen ote e 1 allergen PN40024 PN40024 Ox10g0546100 S50rg030090 A42g41400 RAFL22-93-M12 A12g41400 A12g41390 A12g41390 A15g05020 A13g18660 MGLf	D8RKB7 D7L864 Q3EBA2 B9MTR8 B9MTR8 B9MTR8 B9MTR8 B9MTR8 B9MTR8 B7TRV8 D7TLV6 Q5AV21 C6T20 Q5AV21 C7TLV6 Q5AV21 Q5A	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSJ SORBI ARALY ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e1_98C1 Oie e1_99A1 Oie e1_99A1 Oie e1_100A1 Oie e1_100A2 Oie e1_100A2 Oie e1_100A2 Oie e1_100A1 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100A2 Oie e1_101A1 Oie e1_101A1 Oie e1_101B1 Oie e1_101B1 Oie e1_102A2 Oie e1_102A2 Oie e1_102A2	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033350 QJ1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogalactan protein Pistlicspecific actensin-like protein Sb03g0226500 Os01g0726100 protein Sb03g033370	Q10LH2 CSX0Q2 BSUHT3 A2WUN2 Q85159 A2ZXF1 CSXIF5 CSXIF5 CSXIF5 Q75K53 BSFH39 A2Y6T5 Q0DGH6 CS5VF6 B6SLV3 A2Y6T4 Q75K55 BSUHM8 BSUHM8 CS5VF7	OR SO OR OR OR SO OR OR OR SO OR OR SO OR SO OR SO OR SO OR SO OR SO OR
	Ole e 1 59A1 Ole e 1 59A1 Ole e 1 59A2 Ole e 1 59A2 Ole e 1 59B2 Ole e 1 59A1 Ole e 1 59A1 Ole e 1 59A2 Ole e 1 59A2 Ole e 1 51A2 Ole e 1 51A1 Ole e 1 57A1 Ole e 1 57A2 Ole e 1 57A1 Ole e 1 55A1 Ole e 1 55A2 Ole e 1 55A3 Ole e 1 55A3 Ole e 1 55A3	Pollen ole e 1 allergen PN40024 PN40024 Os10g05465100 Sb01g030020 A22g41400 RAFL22-03-8112 A12g41400 A12g41390 A12g41390 A12g41390 A12g41390 A12g660 MGL5	DBRKB7 D7.1264 Q3EBA2 B9MTK3 B9MTK3 B9MTK3 B9MTK3 D7TIK6 D7TIK6 D7TIK6 D7TIK6 D7TIK6 Q5AV37 Q5AV37 Q5AV37 Q5AV47 Q5AV	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSI ORYSI ORYSI SORBI ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie = 1_98C1 Oie = 1_99A1 Oie = 1_100A1 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A1 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_101A2 Oie = 1_101A2 Oie = 1_101B3 Oie = 1_101B3 Oie = 1_101B3 Oie = 1_102A2	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033356 OU1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogalactan protein Pistli-specific actensin-like protein Sb03g025500 Os01g0726100 protein	Q10LH2 CSX0Q2 BSUHT3 A2W0N2 Q851SB A2W0N2 CSXIF5 CS	OR SO OR OR OR SO OR OR OR SO OR OR SO OR SO OR SO OR SO OR SO OR SO OR
	Ole e1_89A1 Ole e1_89A2 Ole e1_89B1 Ole e1_89B1 Ole e1_89B2 Ole e1_89B2 Ole e1_89A2 Ole e1_90A1 Ole e1_90A2 Ole e1_91A1 Ole e1_92A3 Ole e1_92A3 Ole e1_92A3 Ole e1_92A3 Ole e1_92A3 Ole e1_92A4 Ole e1_92B1 Ole e1_92A3 Ole e1_93A1 Ole e1_93A3 Ole e1_95A3 Ole e1_95A3 Ole e1_95A3 Ole e1_95B2 Ole e1_95B2	Pollen ole e 1 allergen PN40024 PN40024 Ox10g05465100 Sb0rg030020 A22g41400 RAFL22-034812 A12g41400 A12g41390 A12g41390 A13g16660 MGL5 A73g16670/MGL6_12	DBRKB7 D718E4 Q3EBA2 B9MTK3 B9MTK3 B9S0B7 C67300 D7TK4 D7TK4 D7TK4 D7TK4 D7TK4 Q5AV21 C5WTH1 D7TK4 Q5AV21 C5WTH1 D7TK4 Q5AV21 Q5AV21 D7TK4 Q5AV21 D7TC5 Q5AV21 D7TC5 Q5AV21 D7TC5 Q5AV21 D7TC5 Q5AV21 D7TC5 Q5AV3 D7TC5 Q5AV3 D7TC5 Q5AV3 D7TC5 Q5AV3 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 Q5AV5 D7TC5 D7	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI ORVSI ARALY ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e1_98C1 Oie e1_99A1 Oie e1_99A1 Oie e1_100A1 Oie e1_100A2 Oie e1_100A2 Oie e1_100A2 Oie e1_100A1 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100C2 Oie e1_100A2 Oie e1_101A1 Oie e1_101A1 Oie e1_101B1 Oie e1_101B1 Oie e1_102A2 Oie e1_102A2 Oie e1_102A2	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033350 QJ1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogalactan protein Pistlicspecific actensin-like protein Sb03g0226500 Os01g0726100 protein Sb03g033370	Q10LH2 CSX0Q2 BSUHT3 A2WUN2 Q85159 A2ZXF1 CSXIF5 CSXIF5 CSXIF5 Q75K53 BSFH39 A2Y6T5 Q0DGH6 CS5VF6 B6SLV3 A2Y6T4 Q75K55 BSUHM8 BSUHM8 CS5VF7	OR OR SOO OR OR SOO OR OR OR OR SOO OR SOO OR SOO OR SOO OR SOO SOO
	Ole e1 55A1 Ole e1 55A2 Ole e1 55A2 Ole e1 55A2 Ole e1 55A1 Ole e1 55A1 Ole e1 55A2 Ole e1 55A2 Ole e1 55A3 Ole e1 55A3 Ole e1 55A3 Ole e1 55A3	Pollen ole e 1 allergen PN410024 PN40024 Ost002545100 Sb01g030090 A42g41400 RAFL22-03-M12 A12g41300 A12g41300 A12g41300 A12g41300 A13g16650 MGL/i A13g16670/MGL6_12 PN40024	D8RKB7 D7L8E4 Q3EBA2 B9MTK8 B9MTK8 B9MTK8 B9MTK8 B9MTK8 D7TLV6 D7TLV6 D7TLV6 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 Q5V7D1 D7KW90 Q5V7B D7L655 Q6L0RE D5V7D2	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI ORVSI ORVSI ORVSI ORVSI ARALY ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH OPTR VITVI	99 100 100 100 100 100 100 100 100 100 1	Oie = 1_98C1 Oie = 1_99A1 Oie = 1_100A1 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A1 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_101A2 Oie = 1_101B3 Oie = 1_101B3 Oie = 1_102A2 Oie = 1_102A2 Oie = 1_102A2 Oie = 1_102A2 Oie = 1_102A2	Sb01g035830 Os01g0725900 Sb03g033350 Sb03g033350 QJ1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogalactan protein Pistlicspecific actensin-like protein Sb03g0226500 Os01g0726100 protein Sb03g033370	Q10LH2 CSX0Q2 BSUHT3 A2WUN2 Q851SB A2WUN2 CSXIF5 CSXIF5 CSXIF5 CSXIF5 Q7K55 BSFH39 A2Y6T6 Q0DdF BSFH39 A2Y6T6 Q0DdF BSFH39 A2Y6T6 BSFH39 BSFH39 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T7 BSSLV3 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y6T7 BSSLV3 A2Y65 BSSLV3 A2 BSSL	OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO SO SO SO SO SO SO SO SO SO SO SO SO
	Ole e 1 55A1 Ole e 1 55A1 Ole e 1 55A2 Ole e 1 55A2 Ole e 1 55A2 Ole e 1 55A1 Ole e 1 55A2 Ole e 1 55A2 Ole e 1 55A2 Ole e 1 55A3 Ole e 1 55A3 Ole e 1 55A3 Ole e 1 55A3 Ole e 1 55A3	Pollen ole e 1 allergen Ph40024 Ph40024 Ph40024 Ox10g0545100 Sb01g030090 A42g41400 RAFL22-83-8412 A42g41400 A12g41390 A42g41400 A12g41390 A13g16660 MGL6 A13g16660 MGL6 Ph40024 Ph40024 Ph40024	DBRKB7 D7.1%E4 Q3EB42 B9MTK3 B9S0B7 C673U0 D7T1K5 D7T1K5 D7T1K5 D7T1K5 D7T1K1 C5F720 Q5AV31 Q5AV31 Q5AV31 Q5AV42 Q5AV54 Q5AV54 Q5AV54 Q5AV54 Q5AV54 Q5AV54 Q5AV54 Q5AV54 Q5AV54 Q5AV54 Q5AV55 Q5AV54 Q5AV55 Q	ARALY ARATH POPTR RICCO SOYBN VITVI ORYSJ ORYSJ SORBI ARALY ARATH	99 100 100 100 100 100 100 100 100 100 1	Oie e 1_98C1 Oie e 1_99A1 Oie e 1_99A1 Oie e 1_100A1 Oie e 1_100A2 Oie e 1_100A2 Oie e 1_100A2 Oie e 1_100A1 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100A1 Oie e 1_101A2 Oie e 1_101A1 Oie e 1_101B1 Oie e 1_101B1 Oie e 1_101B2 Oie e 1_102B1 Oie e 1_102B1 Oie e 1_102B1 Oie e 1_102B1 Oie e 1_102B1 Oie e 1_102B1 Oie e 1_102B1	Sb01g0725900 Os01g0725900 Sb03g033350 OU1131_E09.17 Os05g0531400 protein Sb03g02510 Arabinogalactan protein Pistili-spacific actensin-like protein Sb09g026500 Os01g0726100 protein Sb09g026500	Q10LH2 CSX002 BSUHT3 A2W0N2 Q8515B A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q75K53 BSFH39 A2Y6T5 Q0D4F6 C5YUF6 B6SLV3 A2Y6T4 Q75K55 BSUHM8 BSUHM8 BAFG48 C52TH9 A2W0N3 Q85154 C5XIF7 BSUHE3 D8AZL3	OR SO OR OR OR SO O OR SO O OR SO O OR SO O O O
	Ole e 1 89A1 Ole e 1 89A Ole e 1 89A Ole e 1 89B1 Ole e 1 89B1 Ole e 1 89B1 Ole e 1 89B1 Ole e 1 90A1 Ole e 1 90A1 Ole e 1 91A1 Ole e 1 91A1 Ole e 1 91A1 Ole e 1 92A1 Ole e 1 92A1 Ole e 1 92A1 Ole e 1 92B1 Ole e 1 95A2 Ole e 1 95B1 Ole e 1 95C2 Ole e 1 95C2	Pollen ole e 1 allergen PM40024 PM40024 PM40024 Ox10g0546100 Sb07g030090 A12g41400 RAFL22-03-M12 A12g41400 A12g41660 MGL5	DBRKB7 D712824 Q35BA2 B9MTK3 B9MTK3 B9S0B7 C67308 D7TIK4 D7TIK4 D7TIK4 D7TIK4 D7TIK4 D7TIK4 Q5AV21 C5WTH1 D7TIK4 Q5AV21 C5WTH1 D7TIK4 Q5AV21 Q5AV21 D7TIK4 Q5AV21 D7TIK4 Q5AV21 D7XW90 Q8QV78 Q9LU785 D71659 Q9LU785 B9HXT5 D75Y08 B9HXT5 D75Y08	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI ORVSI ORVSI ARALY ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH SOYBN OFTR VITVI RICCO SOYBN	99 100 100 100 100 100 100 100 100 100 1	Oie e 1_98C1 Oie e 1_99A1 Oie e 1_99A1 Oie e 1_100A1 Oie e 1_100A2 Oie e 1_100A3 Oie e 1_100A3 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100C3 Oie e 1_100C4 Oie e 1_100C4 Oie e 1_100D2 Oie e 1_100D2 Oie e 1_101A1 Oie e 1_101B3 Oie e 1_102B3 Oie e 1_102B3 Oie e 1_102B4 Oie e 1_102B4	Sb01g0725900 Os01g0725900 Sb03g033360 OU1131_E09.17 Os05g0531400 protein Sb03g026510 Arabinogalactan protein Pistil-specific actensin-like protein Sb03g025500 Os01g0726100 protein Sb03g033370 Pistil-specific axtensin-like prot.	Q10LH2 CSX002 BSUHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q75K53 BSFH39 A2Y6T6 Q0DGH6 C5YUF6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 A2Y6T6 BSSLV3 BSSLV3 A2Y6T6 BSSLV3 BS	OR SO OR OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO OR SO SO SO SO SO SO SO SO SO SO SO SO SO
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	Ole e 1 85A1 Ole e 1 85A2 Ole e 1 90A2 Ole e 1 91A3 Ole e 1 91A3 Ole e 1 91A3 Ole e 1 91A3 Ole e 1 92A3 Ole e 1 95A3 Ole e 1 95B3 Ole e 1 95F1 Ole e 1 95F1 Ole e 1 95F1 Ole e 1 95F1 Ole e 1 95B3 Ole e 1 95B3 Ole e 1 95F1 Ole e 1 95B3 Ole e 1 95B3 Ole e 1 95F1	Pullen ole e 1 allergen PN40024 PN40024 PN40024 Ox10g0545100 Sb07g030090 A42g41400 RAFL22-03-M12 A42g41400 A42g41400 A42g41400 A42g41400 A13g16660 MGL5 A13g16660 MGL5 A13g16660 MGL5 Phy8oplanin Phy8oplanin Phy8oplanin Phy8oplanin	DBRKB7 D7.1%E4 Q3EBA2 B9MTK3 B9S0B7 C673UB D7T1W5 D7T1W5 D7T1W5 D7T1W5 D7T1W5 D7T1W5 D7T1W5 D7T1W5 D7T1W5 QSAV51 C5771 QSAV51 QS	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI ARALY ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ORVSI	99 100 100 100 100 100 100 100 100 100 1	Oie = 1_98C1 Oie = 1_99A1 Oie = 1_100A1 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A3 Oie = 1_100A3 Oie = 1_100A3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_100A1 Oie = 1_101A3 Oie = 1_101A3 Oie = 1_102A3 Oie = 1_102A3	Sb01g0725900 Os01g0725900 Sb03g033350 OU1131_E09.17 Os05g0531400 protein Sb03g02510 Arabinogalactan protein Pistilospacific actensin-like protein Sb09g026500 Os01g0726100 protein Sb03g03370 Pistilospecific actensin-like prot.	Q10LH2 CSX002 BSUHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q0DGH6 C5XIF5 BSLV3 BSSLV3 BSSLV3 BSSLV3 A2Y6T6 Q0DGH6 CSYUF6 BSSLV3 A2Y6T6 A2Y6T6 BSSLV3 BSS	OR SOO OR OR OR OR OR OR OR OR OR OR SOO OR SOO OR SOO OR SOO SOO
	Ole e 1 89A1 Ole e 1 89A Ole e 1 89A Ole e 1 89B1 Ole e 1 90A1 Ole e 1 91A1 Ole e 1 91A1 Ole e 1 91A1 Ole e 1 92A3 Ole e 1 92A3 Ole e 1 92B1 Ole e 1 92B1 Ole e 1 92B1 Ole e 1 92B1 Ole e 1 95A2 Ole e 1 95B3 Ole e 1 95B3 Ole e 1 95B3 Ole e 1 95B3	Pollen ole e 1 allergen PM40024 PM40024 PM40024 Os10g0546100 Sb07g030090 A12g41400 RAFL22:03:412 A12g41400 A12g41400 A12g41400 A12g41400 A12g41400 A12g41400 A12g415660 MGL5 A13g16660 MGL5 PN40024 Phylloplanin Phylloplanin Phylloplanin	DBRKB7 D718E4 Q3EB42 B391TK3 B391TK3 B391TK3 B391TK3 B391TK3 B391TK3 D71K4 D71K4 D71K4 D71K4 D71K4 Q54V21 C5WTH1 D71K4 Q54V21 Q54V21 Q54V21 D71K57 D71653 Q69EF72 D71653 D716557 D71653 D716557 D716557 D71658 Q91URS D71659 Q91URS D71659 Q91URS D71659 D71659 Q91URS D71659 D75000 D75000 D75000 D75000 D75000 D75000 D75000 D750000000000	ARALY ARATH POPTR RICCO SOYBN VITVI ORVSI ORVSI ORVSI ARALY ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ARATH ORVSI	99 100 100 100 100 100 100 100 100 100 1	Oie = 1_98C1 Oie = 1_99A1 Oie = 1_100A1 Oie = 1_100A2 Oie = 1_100A2 Oie = 1_100A3 Oie = 1_100A3 Oie = 1_100A3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C3 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_100C4 Oie = 1_100A1 Oie = 1_101A3 Oie = 1_101A3 Oie = 1_102A3 Oie = 1_102A3	Sb01g0725900 Os01g0725900 Sb03g033350 OU1131_E09.17 Os05g0531400 protein Sb03g02510 Arabinogalactan protein Pistilospacific actensin-like protein Sb09g026500 Os01g0726100 protein Sb03g03370 Pistilospecific actensin-like prot.	Q10LH2 CSX002 BSUHT3 A2WUN2 Q85158 A2ZXF1 C5XIF5 C5XIF5 C5XIF5 Q0DGH6 C5XIF5 BSLV3 BSSLV3 BSSLV3 BSSLV3 A2Y6T6 Q0DGH6 CSYUF6 BSSLV3 A2Y6T6 A2Y6T6 BSSLV3 BSS	OR SOO OR OR OR OR OR OR OR OR OR OR SOO OR SOO OR SOO OR SOO SOO

Table 1. (continued). The Ole e 1 protein superfamily: new and unified nomenclature.

3.2 Phylogenetic analysis of the extended Ole e 1 protein families

A member of each retrieved full-length Ole e 1 sequences family was aligned to determine phylogenetic relationships within the Ole e 1 extended family. A phylogenetic tree of the Ole e 1 extended sequences is depicted in Figure 1.

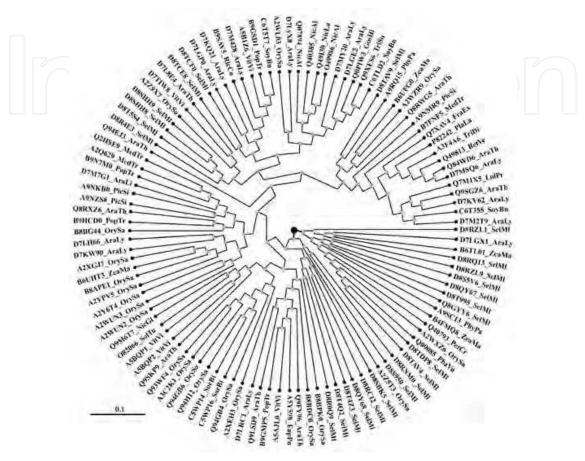


Fig. 1. Phylogenetic analysis of plant Ole e 1 proteins. Neighbour-Joining (NJ) method was used to perform a phylogenetic analysis of Ole e 1 proteins from 109 families. One representative sequence of each family was used, based in its higher consensus ability. Plant species analyzed included *Arabidopsis*, poplar, rice, spikemoss, tobacco, maize, potato, grape, *Sorghum*, kidney bean, barrel medic, *Pinus*, poinsettia, perennial ryegrass, soybean, white birch, ash, *Platanus*, *Physcomitrella*, cotton, subterranean clover, Persian tobacco and castor bean.

The phylogenetic tree shows that the 109 Ole e 1 extended families, although highly divergent, are split into two clades. The smaller clade was integrated by a few species like *Selaginella moellendorffii*, *Arabidopsis* and maize among others. The second clade included the majority of the Ole e 1 family proteins, clustering together almost all the biological functions (Figure 1). Numerous branches aroused from this clade.

3.3 Ole e 1 protein superfamilies: Structural and conformational variability

The crystallographic structural coordinates of relatively few proteins of the Ole e 1 family have been deposited in the Protein Database (PDB) up to date. To our knowledge, detailed comparative studies of the structural and conformational features of members of the Ole e 1

extended protein families have not been performed in higher plants. Using computational modelling analysis, we have determined and modelled the molecular-structural features of selected members of the Ole e 1 extended families. A first overview of the generated models (Figure 2) indicated a relatively high level of similitude.

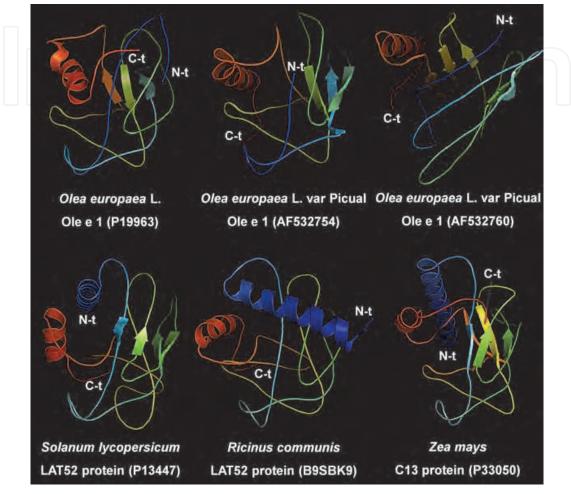


Fig. 2. Three-dimensional structure analysis of selected members of Ole e 1 family proteins. The model proteins are depicted as cartoon diagrams. The secondary elements of the crystallographic structures are rainbow coloured, with N-terminus in blue, and C-terminus in red.

However, a more detailed analysis allowed identifying certain differences in the generated models, particularly consisting in 2D structural features. These differences can be distinguished even between very close proteins like P19963, AF532754 and AF532760 (Ole e 1_57A9, Ole e 1_57A25 and Ole e 1_57A23 with the new nomenclature), corresponding to the olive pollen major allergen cloned from different varietal sources or even to different clones of the same cultivar (Figure 2). The differences become higher when models of the same protein obtained from different plant species are compared. This is the case of P13447 and B9SBK9 (Ole e 1_52L1 and Ole e 1_52J1), which correspond to the LAT52 gene product in tomato and *Ricinus*, respectively (Figure 2). Divergences are even more obvious between the models indicated above and that of a P33050 (Ole e 1_48H6), a different member of the Ole e 1 superfamily corresponding to a pollen protein from maize (C13 protein) (Figure 2).

4. Discussion

Research as regard to the proteins of the Ole e 1 family has been carried out steadily since its definition. At present, many genes from the allergen Ole e 1 family of proteins have been characterized, and data are available concerning the sequence, structure, expression and biological function (e.g. extensin-like proteins constituting part of the cell wall). However, and as depicted in this chapter, the precise identification of more than half members of this family remains uncompleted. Up to now, Ole e 1 and Ole e 1-like genes are deposited into the databases, many of them with repetitive or arbitrary naming system by authors. This nomenclature includes a variety of generic names, such as Ole e 1 major olive pollen allergen, putative Ole e 1-like protein, anther-specific Ole e 1-like protein, and others depending of the protein location in the chromosome, e.g. At3g26960, Os09g0508200, or simply giving a random name e.g. P1 clone: MOJ10. For those members of the Ole e 1 family which have been recognized like allergens, a more sustainable and precise nomenclature has been built, by following the recommendations of the International Union of Immunological Societies (IUIS) (http://www.allergen.org/). However, these allergenic proteins only represent a part of the members of the Ole e 1 family, and this nomenclature still does not display the relationships among these proteins. In several cases, it is still common for researchers to use different names for the same allergen. Allergen biochemistry is now entering a new time of structural biology and proteomics that will require sophisticated tools for data processing and bioinformatics, and might require further definition of the nomenclature. Increasingly, the wealth of structural information is enabling the biologic function of allergens to be established and the assignment of allergen function to diverse protein families. Therefore, the arbitrary nomenclature currently in use is not sustainable for adequate comparative mega-functional genomics studies, especially as the number of Ole e 1 genes has increased steadily and will continue with this upward trend with the completion of the sequencing projects corresponding to more plant genomes.

The implementation of modifications in the nomenclature as proposed here may assist further developments of allergy understanding and new clinical approaches. As an example, nomenclature and structural biology have been proposed to play a crucial role in defining allergens for research studies and for the development of new clinical products [Chapman et al. 2007]. Sequence comparisons and assignments to protein families provide a molecular basis for clinical cross-reactions between food, pollen, and latex allergens that give rise to oral allergy syndromes [Wagner et al. 2002, Scheiner et al. 2004, van Ree 2004]. For food and pollen allergens, intrinsic protein structure probably plays an important role in determining allergenicity by conferring, for example, heat stability or resistance to digestion in the digestive tract, e.g. storage proteins from seed/nuts or legumes [Orruño and Morgan 2011]. Interestingly, analysis of databases, e.g. pFAM shows that there are currently more than 120 molecular architectures that are responsible for eliciting IgE responses. It will be important to link nomenclature with classification of allergens into protein families and subfamilies to provide complete definition of allergens and their structure-functional relationships as part of a comprehensive bioinformatics database. The practical consequences of this approach are seen most clearly with genetically modified foods, in which sequence comparisons can be used for safety assessment of genetically modified organisms [Goodman and Tetteh 2011].

The success of our new and unified nomenclature lies in its simplicity, with genetic basis and structural-functional characterizations of the proteins, regardless of the species origin, with the possibility to further nomenclature expansion, to include as-yet-unidentified protein allergens from different sources or species: mites, insects, pollens, molds and foods. It might be also possible to include in the system engineered protein molecules, such as hypoallergens, or others being described as non-protein allergens. Allergens entered into the nomenclature could be used to develop allergen-specific diagnostics and to formulate recombinant allergen vaccines that will benefit patients [Chapman et al. 2000, Ferreira et al. 2004, Jutel et al. 2005, Sastre 2010].

The proposed system may also assist to clarify the importance of allergen polymorphism. Allergens often display numerous variants. These are proteins with typically greater than 90% sequence identity, but with enough differences in their amino acid sequences to make worth individual structural and or functional characterization and identification. This polymorphism has been deeply analyzed in mites, as their allergens present an extensive number of isoforms: 23 for Der p 1 and 13 for Der p 2 [Smith et al. 2001, Smith et al. 2001]. Furthermore, these polymorphisms might affect T-cell responses or alter antibody-binding sites. These differences can be structurally characterized to distinguish isoforms in a welldefined nomenclature system, by mean of structural-functional differentiation, helping to design allergen formulations for immunotherapy [Jutel et al. 2005, Piboonpocanun et al. 2006]. In the case of pollen allergens, Ole e 1 from olive pollen is a clear example of extreme polymorphism, both in its peptide and in its carbohydrate moieties, as demonstrated by peptide mapping and N-glycopeptide analysis [Castro et al. 2010]. Olive cultivar origin is a major cause of polymorphism for Ole e 1 pollen allergen [Hamman-Khalifa et al. 2008, Castro et al. 2010]. The olive tree has an extremely wide germplasm, with over 1200 varieties cultivated over the world [Bartolini et al. 1994]. Therefore, the number of Ole e 1 isoforms yet to be characterized in olive pollen is expected to be enormous. A similar situation is also likely to occur in many other plant species.

Overall, our developed unified nomenclature system is helpful in a quick functional prediction of any newly cloned Ole e 1 gene(s), because from the nomenclature point of view, the newly sequenced gene(s) will always be characterized/named with sequence similarity with previously characterized Ole e 1 genes/proteins, as well as a protein structure-functional characterization and comparison. The changes that have been introduced reflect into which extended family or subfamily a certain Ole e 1 protein belongs. Accordingly, the new nomenclature will have no significant impact on already published data with old/arbitrary naming system. However, we urge scientists working on Ole e 1's to adopt this new and easy nomenclature system. In this regard, we have made an effort to preserve the user friendly linkage between the old and the new designations, which we hope will help researchers to adapt the new names. As the revised nomenclature should facilitate communication and understanding within the community interested in Ole e 1 allergen proteins, we advocate that this new naming system be used in all future studies.

The classification model used here has been developed under the basis of a previously designed gene nomenclature model for male fertility restorer (RF) proteins in higher plants [Kotchoni et al. 2010]. The increasing numbers of RF genes described in the literature represented an ongoing challenge in their clear identification and logical classification which was solved using the proposed nomenclature. Undoubtedly, similar approaches could be applied to numerous protein families involving relevant levels of nomenclature heterogeneity, many of them registered in specialized databases like pFam. In the case of allergens, other numerous protein families like profilins (Ole e 2 in the case of olive pollen)

prolamins, cupins, Bet v 1-related proteins etc., which are currently included in the AllFam database [Radauer et al. 2008] (http://www.meduniwien.ac.at/allergens/allfam/) could benefit of the use of similar approaches.

5. Conclusion

We propose for first time a unified naming system for Ole e 1-like genes and pseudogenes across all plant species, which accommodates the numerous sequences already deposited in several databases, offering the needed flexibility to incorporate additional Ole e 1-like proteins as they become available. Additionally, we provide an analysis of the phylogenetic relationships displayed by the members of the Ole e 1-like family and use computational protein modelling to determine structural features of selected members of this family. These data are of particular relevance for the understanding of their biological activity and allergenic cross-reactivity.

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7. References

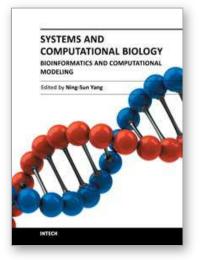
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