

Figure S1

Illustration of using PO browser. (a) The term 'endosperm' is searched for term name or synonyms using a free text match rather than an exact match. A list of terms appears and the search string is highlighted. Search can be restricted by the aspect of the ontology, e.g. plant structure or plant growth stage. (b) Term Details page shows name, ID/Accession, definition, comments, its lineage, external references and number of annotation associated to the term. (c) A table of annotations associated to the term "Endosperm" and its children are displayed. The table includes information on the object such as gene, QTL or stock, species it belongs, reference, evidence code and the link to Gene Ontology (GO) if annotations exists in GO database for the same object. (d) Annotation Details page shows information and all the annotations to the object, e.g. *ae1* gene from *Oryza sativa*. (e) For genes and gene products that are annotated to GO, an external link takes the users to the GO database. The black arrow points to the sequential views a user will see while navigating from search to the annotation details.

Figure S1

(a) Term Search Results

15 results for **endosperm** in field(s) **term name, synonyms**

Filter search results [?](#)

Ontology Remove all filters

All Plant Growth Stage Plant Structure

Term

basal **endosperm** transfer cell ; **PO:0009018** [\[show def\]](#) [\[view annotations\]](#)

basal **endosperm** transfer layer ; **PO:0009019** [\[show def\]](#) [\[view annotations\]](#)

cellular **endosperm** ; **PO:0000199** [\[show def\]](#) [\[view annotations\]](#)

central **endosperm** ; **PO:0006220** [\[show def\]](#) [\[view annotations\]](#)

chalazal cyst ; **PO:0000201** [\[show def\]](#) [\[view annotations\]](#)
Query matches synonym: chalazal **endosperm** cyst

endosperm ; **PO:0009089** [\[show def\]](#) [\[view annotations\]](#)

endosperm development stage ; **PO:0007633** [\[show def\]](#) [\[view annotations\]](#)

endosperm parenchyma ; **PO:0005415** [\[show def\]](#) [\[view annotations\]](#)

endosperm (c)

Term annotations Term information Term lineage External references

Filter annotations displayed [?](#)

Filter annotations: Species Data source Evidence Code View annotations

All Curator Approved All Gramene Genes All Gramene QTL All MaizeCDB All IC All IDA All IEP

Annotations to **endosperm ; PO:0009089** and its children

Get this data as **RDF/XML**.

endosperm ; PO:0009089 [\[show def\]](#)

Qualifier	Name / Symbol	Information	Evidence	Reference	Assigned by	Associated to
	ABI4 ABA INSENSITIVE 4	gene from <i>Arabidopsis thaliana</i>	IDA	PMID:16844907	TAIR	GO
	ACT11 ACTIN-11	gene from <i>Arabidopsis thaliana</i>	IDA	PMID:9037165	TAIR	GO
	ADC2 ARGININE DECARBOXYLASE 2	gene from <i>Arabidopsis thaliana</i>	IDA	PMID:15733873	TAIR	GO
	ae1 amylose extender-1					
	ae1 amylose extender1					
	ae2 amylose extender-2					

(b) Term Information

Term information Term lineage External references Term annotations

Accession PO:0009089

Ontology plant structure

Synonyms None

Definition Nutritive tissue in a seed, in angiosperms usually triploid and formed after fertilization by the fusion of the polar nucleus, sometimes diploid or polyploid. [source: APWeb:Glossary, GR:0000000000]

Comment None

Term Lineage

Filter tree view [?](#)

Filter Annotation Objects Counts: Term View Options Term ancestors Term parents, siblings and children

Data source: All Gramene Genes Gramene QTL MaizeCDB

all: all [15859]

- PO:0009011: plant structure [15768]
- PO:0009003: sporophyte [13227]
- PO:0006342: infructescence [4109]
 - PO:0009001: fruit [4108]
 - PO:0009010: seed [2927]
 - PO:0009089: endosperm [714]**
- PO:0009010: seed [2927]
 - PO:0009089: endosperm [714]**
- PO:0009007: tissue [1580]
 - PO:0009089: endosperm [714]**

(d) Information

Name(s) amylose extender-1

Type gene

Species *Oryza sativa*

Synonyms High amylose mutant

Database Gramene Genes, [GR_gene:GR:0060016](#)

Associated No associations to GO

Sequence No peptide sequence available

Term Annotations

Filter annotations displayed [?](#)

Filter Annotations: Evidence Code All Curator Approved All IC All IDA All IEP

Qualifier	Term	Ontology	Evidence	Reference	Assigned by
	FR.04 fruit ripening complete [view annotations]	plant growth and development stage	IMP	GR ref:5683	Gramene (via Gramene Genes)
	endosperm [view annotations]	plant structure	IMP	GR ref:5683	Gramene (via Gramene Genes)

(e) the Gene Ontology AmiGO

Advanced Search BLAST search Browse Help

Search GO Terms Genes or proteins Exact Match

ACT11

Information

Name(s) ACTIN-11

Type gene

Species *Arabidopsis thaliana*

Synonyms ACTIN-11 AT3G12110

Database TAIR, TAIR:gene:1944673

Sequence [View sequence](#) [use as BLAST query sequence](#)

Term Associations

Filter associations displayed [?](#)

Filter Associations: Evidence Code All Curator Approved All IC All IDA All IEP

Qualifier	Term	Ontology	Evidence	Reference	Assigned by
	cytoskeleton [view annotations]	cellular component	ISS	PMID:9037165	TAIR
	structural constituent of cytoskeleton [view annotations]	molecular function	ISS	PMID:9037165	TAIR
	actin cytoskeleton organization and biogenesis [view annotations]	biological process	TAS	TAIR:Publication:501683766	TAIR