



Gramene: A Resource for Comparative Plant Genomics

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Integrating functional, genetic, and comparative information for discovery and hypothesis-based research

Home Page

Sample Genome Entry Page

Twenty-five complete genomes, twelve chromosome 3 short arms from wild rices.

Produced in collaboration with [EnsemblPlants](#)

Custom Queries and Downloads

Export to Excel or text via [biomart](#)

Orthologs in <i>A. lyra</i> , grape, poplar, rice, <i>Brachypodium</i> , sorghum maize, & moss
All transmembrane-targeted genes, showing InterPro domains, GO terms, and AFFY id's
All Myb-domain genes with "STOP_GAINED" SNP allele in gemplasm
Taxon of origin for paralog pairs of cyclin-domain genes that have an ortholog in <i>Physcomitrella</i>

Gene Networks & Plant Reactome

- Mirror for BioCyc pathway databases
- Compare *Arabidopsis*¹, rice², sorghum², maize², *Brachypodium*², Solanaceae³ (tomato, potato, pepper), coffee⁴, Medicago⁵, and poplar¹ pathways to find homologs and enrich functional annotations
- Overlay your gene expression (microarray, RNAseq), metabolomics, and proteomics data onto the pathway cellular overview to see pathway enrichment in your data
- Plant Reactome beta features 121 curated rice pathways extracted from RiceCyc v3.3

¹ DABMPN; ² Gramene; ³ SCN; ⁴ Noble Foundation

The Browser: Focus on Diversity

- Millions of SNPs, thousands of ecotypes
- View functional consequences w/in gene & protein domains
- Genotypes displayed in graphical & tabular form

Comparative Genomics & Phylogenomics

- Whole genome alignments vs 8 reference genomes (BLASTZ-CHAIN-NET)
- Compare gene trees trace evolutionary histories in over 35,000 families
- Ortholog & paralog classification
- Taxon dating of duplication nodes
- Interspecies browsing in multi-species view and synteny view

Multi-species view: *Arabidopsis lyrata*, grapevine, and poplar in pairwise alignments with *Arabidopsis thaliana*

What's New & Upcoming

New in build 37

- Maize B73 RefGene_v3* assembly and gene annotation (Ensembl assembly converter available)
- Medicago truncatula* genome
- Oryza punctata* genome
- 121 rice pathways in Plant Reactome beta

Upcoming... Build 38 and beyond

- Triticum urartu* (wheat A-genome progenitor)
- Aegilops tauschii* (wheat D-genome)
- Newly curated *vitamin B* pathways in MaizeCyc
- Arabidopsis* pathways in Plant Reactome

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