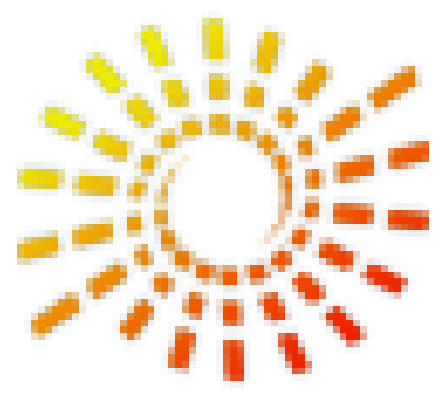




The Solanaceae Genomics Network: Community-based annotation for linking genomes with phenomes



Naama Menda, Isaak Tecle, Anuradha Pujar, Aureliano Bombarley, Tom York,
Adri Mills, Joseph Gosselin, Robert Buels and Lukas Mueller

Community Locus & Phenotype Database

The [Locus database](#) contains information about experimentally characterized genes, with associations to mapping information, Gene Ontology and Plant Ontology terms, images, sequences, and literature references.

Each locus has a Locus Editor, a designated SGN user who is an expert on the locus and who can edit the locus descriptions and associated information.

sol genomics network home | forum | contact | help | devbar

search maps sequencing tools sol search

Naama Menda (log out) My SGN

Tomato locus name: 'Phytoene synthase 1'

Download GMOD XML | Note to Editors | Annotation guidelines

[New] [Edit] [Delete]

Locus name: **Phytoene synthase 1**

Locus symbol: **psy1**

Gene activity: **phytoene synthase**

Description: **Psy1 encodes phytoene synthase 1. It is expressed in early seedling, in the corolla (petals), stamen cone (anthers). Psy1 transcript is almost undetectable in the fruit from the onset of maturation until the Mature Green stage. From the Breaker stage onward, the transcript level increases dramatically reaching its maximum at the Pink stage and decreasing slowly with the progression of fruit ripening. Psy1 transcript is undetectable in roots.**

Chromosome: **3**

Arm: **short**

[Associate a registry with this locus]

Locus synonyms: **7: GTOM5 yellow flesh ry pTOM5 r psy1 unknown** [Add/Remove]

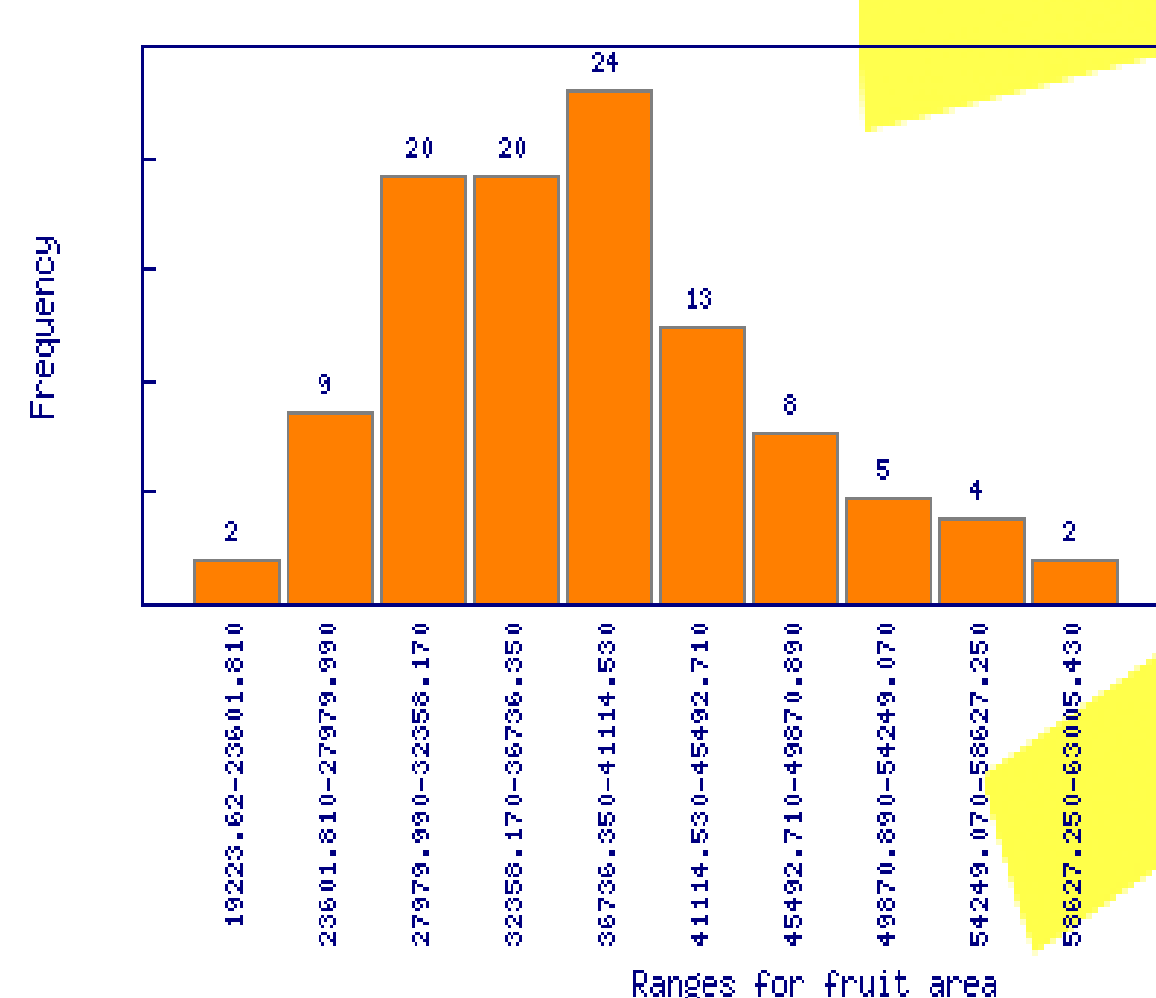
Phytoene synthase 1 is a [TGR5 gene](#)

Locus editors: Giovanni Glorio



[Add new image]

Quantitative phenotypes

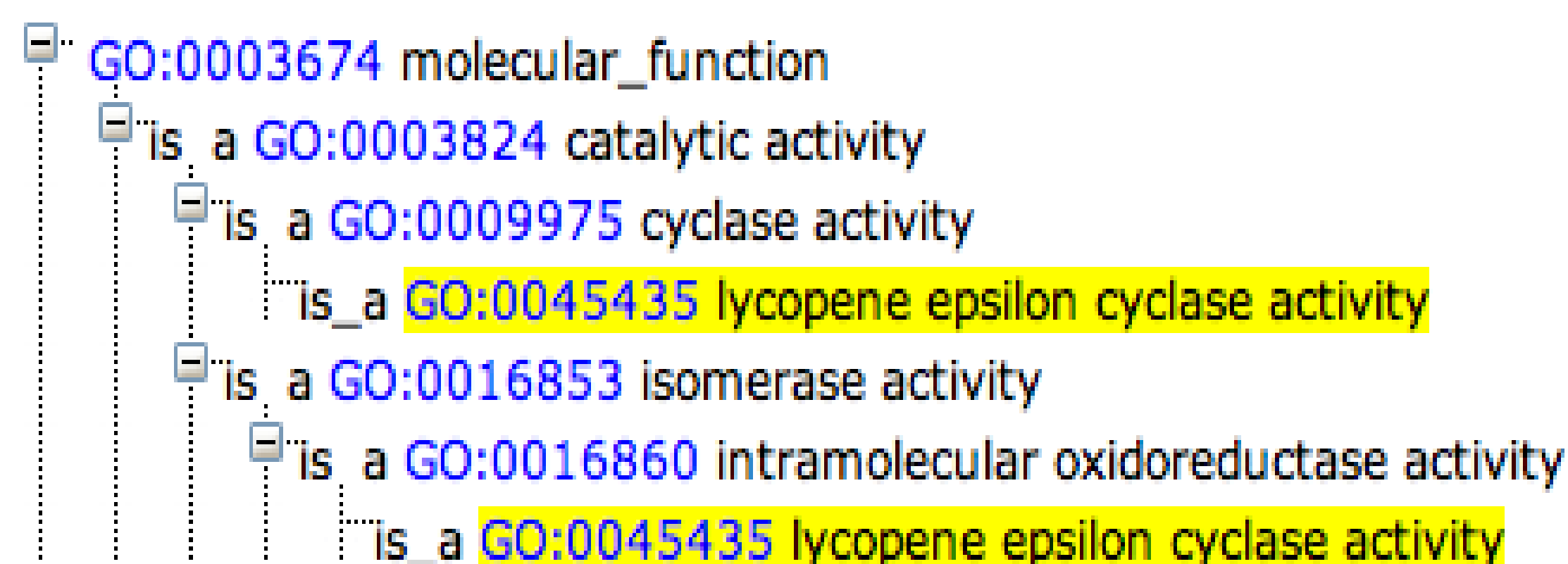


Frequency distribution of experimental lines from population QTL Tomato Sausage x LA1589 F2 evaluated for fruit area. Bars represent the number of experimental lines with fruit area values greater than the lower limit but less or equal to the upper limit of the range.

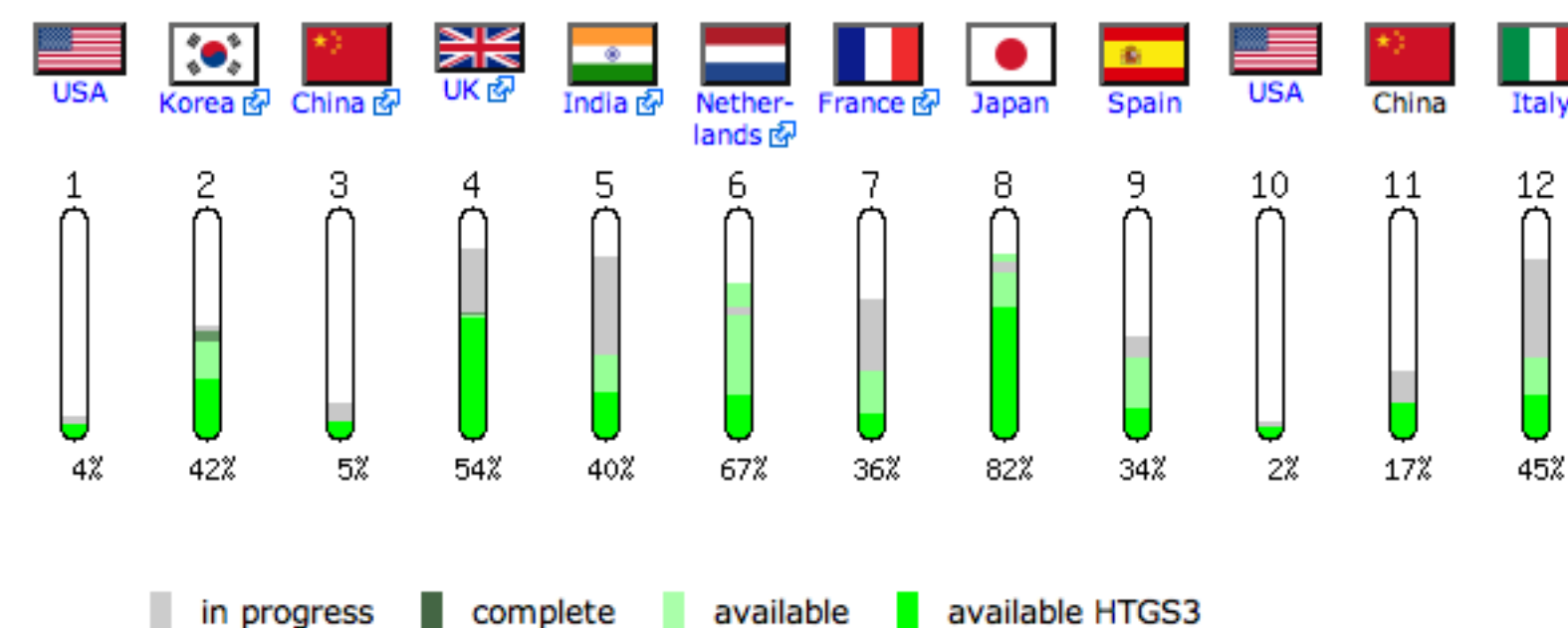
Data Summary:
No. of observation units: 107
Minimum: 19223.63
Maximum: 63005.43
Mean: 38052.68
Standard deviation: 8885.72

Web-user annotation tools

An [ontology annotation tool](#) allows SGN curators, and users from the community with granted 'submitter' permissions, to associate controlled vocabulary terms with Solanaceae genes



Tomato genome project



Ten participating countries are sequencing the BACs for their respective chromosomes.

Image database

Submitters can upload and associate images with individual accessions. Images can be searched independently by description and associated tags.

[Edit] [Delete]

Image Name: **e0902m1**

Image Description: **Flower of EMS mutant accession e0902m1**

Uploaded by: **Naama Menda**

Show image size: | thumbnail | small | medium | large |

From genotype to phenotype

Linking genotype with phenotype. Users can create cross links between phenotyped accessions and loci. Phenotypes are usually derived from mutants, transgenes, or breeders lines.

Accessions and images

[associate new accession]

Accession name: **e36** [associate accession]

e3633m1--sterile

e3639m1--sterile

e3623m1--partial sterility

e3625m1--embryonic flower

e3625m2--sterile

e3626m1--sterile

e3627m1--strong disease response

e3627m2--small plant & fruit

e3628m1--lanceolate allele - long simple leaves; partial sterility; partial dominant mutation

e3630m1--cherry fruit

Would you like to specify an allele?

default

Gene networks, Orthologs, paralogs, pathways, and gene interactions can be listed. The relationships will appear on all the related gene pages.

Associated loci

Paralog: Pepper phytoene synthase 1 phytoene synthase [Remove]

Ortholog: Tomato phytoene synthase 2 [Remove]

[Associate new locus]

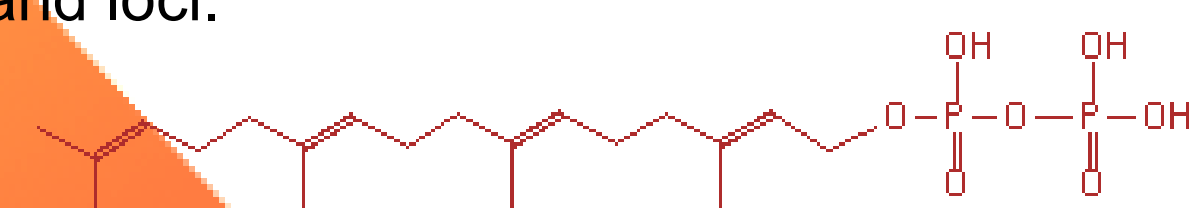
phytoe

Potato --- pds --- phytoene desaturase

[Associate locus]

Biochemical pathways

SolCyc is a database of annotated Solanaceae biochemical reactions, with cross links to SGN unigen sequences and loci.



2 geranylgeranyl-PP

Literature indexing and text mining

Related publications are index and matched against the locus database and controlled vocabulary terms to assist curators in annotation of gene function.

Publication list for locus Phytoene synthase 1

Suggested publication list

Rodríguez, Concepción; Ahumada, I.; Diez, Juez; Sauret, Gárate; Lois, LM; Gallego, F; Carretero, Paulet; Campos, N; Boronati, A (2001) 1-Deoxy-D-xylulose 5-phosphate reductoisomerase and plastid isoprenoid biosynthesis during tomato fruit ripening.. The Plant journal : for cell and molecular biology. 27(3):213-22 Match score = **0.266913**

[associate publication]

Lois, LM; Rodríguez, Concepción; Gallego, F; Campos, N; Boronati, A (2000) Carotenoid biosynthesis during tomato fruit development: regulatory role of 1-deoxy-D-xylulose 5-phosphate synthase.. The Plant journal : for cell and molecular biology. 22(6):503-13 Match score = **0.169287**

[associate publication]

no

yes

maybe

Kiano, JW; Shipton, CA; Fraser, PD; Romer, S; Schuch, W; Bramley, PM; Pyke, KA (2003) Increases in cell plastid compartment size and phytoene synthase activity underlie the phenotype of the high pigment-1 mutant of tomato.. Planta. 217(6):896-903 Match score = **0.160598**

[associate publication]

<http://sgn.cornell.edu>

contact SGN at sgn-feedback@sgn.cornell.edu

Funding sources

The following funding agencies are gratefully acknowledged:



SGN code and software

Open Source and free to download!
<ftp://ftp.sgn.cornell.edu>