GEPHE SUMMARY

Gephebase Gene
Style2.1 (https://www.gephebase.org/search-criteria?/and+Gene Gephebase=^Style2.1^#gephebase-summary-title)

GepheID
GP00001081

Entry Status
Published

Main curator
Martin

PHENOTYPIC CHANGE

Trait #1

Trait Category
Morphology (https://www.gephebase.org/search-criteria?/and+Trait Category=^Morphology^#gephebase-summary-title)

Trait
Flower morphology (style length) (https://www.gephebase.org/search-criteria?/and+Trait=^Flower morphology (style length)^#gephebase-summary-title)

Trait State in Taxon A
Solanum pennellii wild

Trait State in Taxon B
Solanum lycopersicum domesticated

Trait #2

Trait Category
Physiology (https://www.gephebase.org/search-criteria?/and+Trait Category=^Physiology^#gephebase-summary-title)

Trait
Autogamy (https://www.gephebase.org/search-criteria?/and+Trait=^Autogamy^#gephebase-summary-title)

Trait State in Taxon A
-

Trait State in Taxon B
-

Ancestral State
Taxon A

Taxonomic Status
Domesticated (https://www.gephebase.org/search-criteria?/and+Taxonomic Status=^Domesticated^#gephebase-summary-title)

Taxon A

Latin Name
Solanum pennellii (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Solanum pennellii^#gephebase-summary-title)

Common Name
-

Synonyms
Lycopersicon pennellii; Lycopersicon pennelllii; Lycopesion pennellii; Solanum pennelli; Lycopersicon pennellii (Correll) D'Arcy; Solanum pennellii Correll

Rank
species

Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; asterids; lamiids; Solanales; Solanaceae; Solanoideae; Solaneae; Solanum; Lycopersicon

Parent
Lycopersicon () - (Rank: subgenus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 49274)

NCBI Taxonomy ID
28526 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 28526)

is Taxon A an Infraspecies?
No

Taxon B

Latin Name
Solanum lycopersicum (https://www.gephebase.org/search-criteria?/and+Taxon and Synonyms=^Solanum lycopersicum^#gephebase-summary-title)

Common Name
tomato

Synonyms
Lycopersicon esculentum var. esculentum; Solanum esculentum; Solanum lycopersicum var. humboldtii; tomato; Lycopersicon esculentum Mill.; Solanum esculentum Dunal; Solanum lycopersicum L.; Lycopersicon lycopersicum; Lycopersicum esculentum; Solanum lycopersicon

Rank
species

Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; asterids; lamiids; Solanales; Solanaceae; Solanoideae; Solaneae; Solanum; Lycopersicon

Parent
Lycopersicon () - (Rank: subgenus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 49274)

NCBI Taxonomy ID
4081 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4081)

is Taxon B an Infraspecies?
Yes

Taxon B Description
Solanum lycopersicum domesticated

GENOTYPIC CHANGE

Generic Gene Name

100301942

UniProtKB Solanum lycopersicum

B6CG44 (http://www.uniprot.org/uniprot/B6CG44)

Synonyms

-

GenebankID or UniProtKB

EU161281 (https://www.ncbi.nlm.nih.gov/nuccore/EU161281)

String

-

Sequence Similarities

-

GO - Molecular Function

GO:0046983 : protein dimerization activity (https://www.ebi.ac.uk/QuickGO/term/GO:0046983)

GO - Biological Process

GO:0006355 : regulation of transcription, DNA-templated (https://www.ebi.ac.uk/QuickGO/term/GO:0006355)

GO - Cellular Component

-

Presumptive Null

Unknown (https://www.gephebase.org/search-criteria?/and+Presumptive Null=^Unknown^#gephebase-summary-title)

Molecular Type

Cis-regulatory (https://www.gephebase.org/search-criteria?/and+Molecular Type=^Cis-regulatory^#gephebase-summary-title)

Aberration Type

Unknown (https://www.gephebase.org/search-criteria?/and+Aberration Type=^Unknown^#gephebase-summary-title)

Molecular Details of the Mutation

Not identified

Experimental Evidence

Linkage Mapping (https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Linkage Mapping^#gephebase-summary-title)

Main Reference

Changes in regulation of a transcription factor lead to autogamy in cultivated tomatoes. (2007) (https://pubmed.ncbi.nlm.nih.gov/17962563)

Authors

Chen KY; Cong B; Wing R; Vrebalov J; Tanksley SD

Abstract

We report the cloning of Style2.1, the major quantitative trait locus responsible for a key floral attribute (style length) associated with the evolution of self-pollination in cultivated tomatoes. The gene encodes a putative transcription factor that regulates cell elongation in developing styles. The transition from cross-pollination to self-pollination was accompanied, not by a change in the STYLE2.1 protein, but rather by a mutation in the Style2.1 promoter that results in a down-regulation of Style2.1 expression during flower development.

Additional References

RELATED GEPHE

Related Genes

No matches found.

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS