

GEPHE SUMMARY

	Gephebase Gene		GepheID
Frigida (FRI) (<a +frigida+(fri)^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+Frigida+(FRI)^#gephebase-summary-title)		GP00000357	
	Entry Status	Martin	Main curator
Published			

PHENOTYPIC CHANGE

	Trait Category		
Physiology (<a +physiology^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait+Category=">https://www.gephebase.org/search-criteria?/and+Trait+Category="+Physiology^#gephebase-summary-title)			
	Trait		
Flowering time (<a +flowering+time^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Flowering+time^#gephebase-summary-title)			
	Trait State in Taxon A		
Arabidopsis thaliana			
	Trait State in Taxon B		
Arabidopsis thaliana Col accession			
	Ancestral State		
Taxon A			
	Taxonomic Status		
Intraspecific (<a +intraspecific^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status="+Intraspecific^#gephebase-summary-title)			
Taxon A		Taxon B	
	Latin Name		Latin Name
Arabidopsis thaliana (<a +arabidopsis+thaliana^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Arabidopsis+thaliana^#gephebase-summary-title)		Arabidopsis thaliana (<a +arabidopsis+thaliana^#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Arabidopsis+thaliana^#gephebase-summary-title)	
	Common Name		Common Name
thale cress		thale cress	
	Synonyms		Synonyms
thale cress; mouse-ear cress; thale-cress; Arabidopsis thaliana (L.) Heynh.; Arabidopsis thaliana (thale cress); Arabidopsis_thaliana; Arbisopsis thaliana; thale kress		thale cress; mouse-ear cress; thale-cress; Arabidopsis thaliana (L.) Heynh.; Arabidopsis thaliana (thale cress); Arabidopsis_thaliana; Arbisopsis thaliana; thale kress	
	Rank		Rank
species		species	
	Lineage		Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; rosids; malvids; Brassicales; Brassicaceae; Camelineae; Arabidopsis		cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; rosids; malvids; Brassicales; Brassicaceae; Camelineae; Arabidopsis	
	Parent		Parent
Arabidopsis () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3701)		Arabidopsis () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3701)	
	NCBI Taxonomy ID		NCBI Taxonomy ID
3702 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3702)		3702 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3702)	
	is Taxon A an Infrappecies?		is Taxon B an Infrappecies?
No		Yes	
			Taxon B Description
		Arabidopsis thaliana Col accession	

GENOTYPIC CHANGE

	Generic Gene Name		UniProtKB Arabidopsis thaliana
FRI		P0DH90 (http://www.uniprot.org/uniprot/P0DH90)	
	Synonyms		GenebankID or UniProtKB
-		AF228499 (https://www.ncbi.nlm.nih.gov/nucleotide/AF228499)	
	String		
-			
	Sequence Similarities		
Belongs to the Frigida family.			
	GO - Molecular Function		
-			
	GO - Biological Process		
GO:0030154 : cell differentiation (https://www.ebi.ac.uk/QuickGO/term/GO:0030154)			
GO:0009908 : flower development (https://www.ebi.ac.uk/QuickGO/term/GO:0009908)			
	GO - Cellular Component		
GO:0016607 : nuclear speck (https://www.ebi.ac.uk/QuickGO/term/GO:0016607)			

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

Presumptive Null

Coding ([https://www.gephebase.org/search-criteria?/and+Molecular Type=~Coding^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Molecular+Type=~Coding^#gephebase-summary-title))

Molecular Type

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

Aberration Type

10-99 bp

Deletion Size

16bp deletion aa313-318 in exon 2 and premature stop codon

Molecular Details of the Mutation

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

Experimental Evidence

Molecular analysis of FRIGIDA, a major determinant of natural variation in Arabidopsis flowering time. (2000) (<https://pubmed.ncbi.nlm.nih.gov/11030654>)

Main Reference

Johanson U; West J; Lister C; Michaels S; Amasino R; Dean C

Authors

Vernalization, the acceleration of flowering by a long period of cold temperature, ensures that many plants overwinter vegetatively and flower in spring. In Arabidopsis, allelic variation at the FRIGIDA (FRI) locus is a major determinant of natural variation in flowering time. Dominant alleles of FRI confer late flowering, which is reversed to earliness by vernalization. We cloned FRI and analyzed the molecular basis of the allelic variation. Most of the early-flowering ecotypes analyzed carry FRI alleles containing one of two different deletions that disrupt the open reading frame. Loss-of-function mutations at FRI have thus provided the basis for the evolution of many early-flowering ecotypes.

Abstract

Additional References

RELATED GEPHE

Related Genes

12 (AGAMOUS-LIKE 50, Cryptochrome 2 (CRY2) EDI allele, EARLY FLOWERING 3(ELF3), FLC (Flowering Locus C), FLM (MAF1), Flowering locus T (FT), Frigida like 1 (FRL1), Frigida like 2 (FRL2), MADS AFFECTING FLOWERING 2 (MAF2), SVP (SHORT VEGETATIVE PHASE), VIN3, HUA2) ([https://www.gephebase.org/search-criteria?/or+Taxon ID=~3702^/and+Trait=Flowering time/and+groupHaplotypes=true#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Taxon+ID=~3702^/and+Trait=Flowering+time/and+groupHaplotypes=true#gephebase-summary-title))

Related Haplotypes

18 ([https://www.gephebase.org/search-criteria?/or+Gene Gephebase=~Frigida \(FRI\)^/and+Taxon ID=~3702^/or+Gene Gephebase=~Frigida \(FRI\)^/and+Taxon ID=~3702^#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Gene+Gephebase=~Frigida+(FRI)^/and+Taxon+ID=~3702^/or+Gene+Gephebase=~Frigida+(FRI)^/and+Taxon+ID=~3702^#gephebase-summary-title))

EXTERNAL LINKS

COMMENTS