

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)	GP00000359	
Entry Status		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 BUI An-1			
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; Pentapetales; rosids; malvids; Brassicales; Brassicaceae; Camelineae; Arabidopsis		cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetales; 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 Intraspecies?		is Taxon B an Intraspecies?	
No		Yes	
		Taxon B Description	
		Arabidopsis thaliana BUI An-1	

GENOTYPIC CHANGE

Generic Gene Name		UniProtKB Arabidopsis thaliana
FRI		P0DH90 (http://www.uniprot.org/uniprot/P0DH90)
Synonyms		GenebankID or UniProtKB
-		AF228500 (https://www.ncbi.nlm.nih.gov/nuccore/AF228500)
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 (#gephebase-summary-title)	Presumptive Null
Coding (#gephebase-summary-title)	Molecular Type
Indel (#gephebase-summary-title)	Aberration Type
10-99 bp	Indel Size
Del 2257-2355 in exon 3; deletion of 99 bp combined with an insertion of 61 bp	Molecular Details of the Mutation
Candidate Gene (#gephebase-summary-title)	Experimental Evidence
DNA polymorphism at the FRIGIDA gene in Arabidopsis thaliana: extensive nonsynonymous variation is consistent with local selection for flowering time. (2002) (https://pubmed.ncbi.nlm.nih.gov/12140238)	Main Reference
Le Corre V; Roux F; Reboud X	Authors
FRIGIDA (FRI) is a major gene involved in the regulation of flowering time in Arabidopsis thaliana. Nucleotide variation at this gene was investigated by sequencing 25 field ecotypes collected from western Europe. Genetic diversity at FRI was characterized by a high number of haplotypes and an excess of low-frequency polymorphisms. A large excess of intraspecific nonsynonymous variation associated with low synonymous variation was detected along the first exon in the FRI gene. In contrast, no excess of nonsynonymous divergence was detected between A. thaliana and A. lyrata. The Tajima and McDonald and Kreitman tests, however, suggested that this gene has evolved in a nonneutral fashion. Nonsynonymous variation included eight loss-of-function mutations that have probably arisen recently and independently in several locations. A phenotypic evaluation of the sequenced ecotypes confirmed that these loss-of-function mutations were associated with an early-flowering phenotype. Taken together, our results suggest that DNA polymorphism at the FRI gene in A. thaliana from western Europe has been shaped by recent positive selection for earliness in a set of isolated populations.	Abstract
	Additional References

RELATED GEPHE

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)	Related Genes
18 (#gephebase-summary-title)	Related Haplotypes

EXTERNAL LINKS

COMMENTS