

## GEPHE SUMMARY

<p>MADS AFFECTING FLOWERING 2 (MAF2) (<a href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=MADS+AFFECTING+FLOWERING+2+(MAF2)^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=MADS+AFFECTING+FLOWERING+2+(MAF2)^#gephebase-summary-title</a>)</p> <p>Published</p>	<p>Gephebase Gene</p> <p>GP00000561</p> <p>Martin</p> <p>Entry Status</p>	<p>GepheID</p> <p>Main curator</p>
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## PHENOTYPIC CHANGE

<p>Physiology (<a href="https://www.gephebase.org/search-criteria?/and+Trait+Category=Physiology^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait+Category=Physiology^#gephebase-summary-title</a>)</p> <p>Flowering time (<a href="https://www.gephebase.org/search-criteria?/and+Trait=Flowering+time^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Trait=Flowering+time^#gephebase-summary-title</a>)</p> <p>Arabidopsis thaliana</p> <p>Arabidopsis thaliana</p> <p>Data not curated</p> <p>Intraspecific (<a href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=Intraspecific^#gephebase-summary-title">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=Intraspecific^#gephebase-summary-title</a>)</p>	<p>Trait Category</p> <p>Trait</p> <p>Trait State in Taxon A</p> <p>Trait State in Taxon B</p> <p>Ancestral State</p> <p>Taxonomic Status</p>	<p>Arabidopsis thaliana</p> <p>thale cress</p> <p>thale cress; mouse-ear cress; thale-cress; Arabidopsis thaliana (L.) Heynh.; Arabidopsis thaliana (thale cress); Arabidopsis...thaliana; Arbisopsis thaliana; thale kress</p> <p>species</p> <p>cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; rosids; malvids; Brassicales; Brassicaceae; Camelineae; Arabidopsis</p> <p>Arabidopsis () - (Rank: genus) (<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3701">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3701</a>)</p> <p>3702 (<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3702">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3702</a>)</p> <p>No is Taxon A an Infrasppecies?</p>	<p>Latin Name</p> <p>Common Name</p> <p>Synonyms</p> <p>Rank</p> <p>Lineage</p> <p>Parent</p> <p>NCBI Taxonomy ID</p> <p>is Taxon B an Infrasppecies?</p>	<p>Arabidopsis thaliana</p> <p>thale cress</p> <p>thale cress; mouse-ear cress; thale-cress; Arabidopsis thaliana (L.) Heynh.; Arabidopsis thaliana (thale cress); Arabidopsis...thaliana; Arbisopsis thaliana; thale kress</p> <p>species</p> <p>cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; eudicotyledons; Gunneridae; Pentapetalae; rosids; malvids; Brassicales; Brassicaceae; Camelineae; Arabidopsis</p> <p>Arabidopsis () - (Rank: genus) (<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3701">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3701</a>)</p> <p>3702 (<a href="https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3702">https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=3702</a>)</p> <p>No is Taxon B an Infrasppecies?</p>	<p>Latin Name</p> <p>Common Name</p> <p>Synonyms</p> <p>Rank</p> <p>Lineage</p> <p>Parent</p> <p>NCBI Taxonomy ID</p> <p>is Taxon B an Infrasppecies?</p>
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## GENOTYPIC CHANGE

<p>MAF2</p> <p>-</p> <p>-</p> <p>-</p> <p>GO:0046983 : protein dimerization activity (<a href="https://www.ebi.ac.uk/QuickGO/term/GO:0046983">https://www.ebi.ac.uk/QuickGO/term/GO:0046983</a>)</p> <p>GO:0000977 : RNA polymerase II regulatory region sequence-specific DNA binding (<a href="https://www.ebi.ac.uk/QuickGO/term/GO:0000977">https://www.ebi.ac.uk/QuickGO/term/GO:0000977</a>)</p> <p>GO:0045944 : positive regulation of transcription by RNA polymerase II (<a href="https://www.ebi.ac.uk/QuickGO/term/GO:0045944">https://www.ebi.ac.uk/QuickGO/term/GO:0045944</a>)</p>	<p>Generic Gene Name</p> <p>Synonyms</p> <p>String</p> <p>Sequence Similarities</p> <p>GO - Molecular Function</p> <p>GO - Biological Process</p>	<p>Q84J38 (<a href="http://www.uniprot.org/uniprot/Q84J38">http://www.uniprot.org/uniprot/Q84J38</a>)</p> <p>AY231443 (<a href="https://www.ncbi.nlm.nih.gov/nuccore/AY231443">https://www.ncbi.nlm.nih.gov/nuccore/AY231443</a>)</p> <p>UniProtKB Arabidopsis thaliana</p> <p>GenebankID or UniProtKB</p>
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GO:0016021 : integral component of membrane  
 (https://www.ebi.ac.uk/QuickGO/term/GO:0016021)  
 GO:0005634 : nucleus (https://www.ebi.ac.uk/QuickGO/term/GO:0005634)

No (https://www.gephebase.org/search-criteria?/and+Presumptive Null=^No^#gephebase-summary-title)

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

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

unknown

Insertion alleles - several

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

Natural diversity in flowering responses of *Arabidopsis thaliana* caused by variation in a tandem gene array. (2010) (https://pubmed.ncbi.nlm.nih.gov/20551443)

Rosloski SM; Jali SS; Balasubramanian S; Weigel D; Grbic V

Tandemly arrayed genes that belong to gene families characterize genomes of many organisms. Gene duplication and subsequent relaxation of selection can lead to the establishment of paralogous cluster members that may evolve along different trajectories. Here, we report on the structural variation in MADS AFFECTING FLOWERING 2 (MAF2) gene, one member of the tandemly duplicated cluster of MADS-box-containing transcription factors in *Arabidopsis thaliana*. The altered gene structure at the MAF2 locus is present as a moderate-frequency polymorphism in *Arabidopsis* and leads to the extensive diversity in transcript patterns due to alternative splicing. Rearrangements at the MAF2 locus are associated with an early flowering phenotype in BC(5) lines. The lack of suppression of flowering time in a MAF2-insertion line expressing the MAF2-specific artificial miRNA suggests that these MAF2 variants are behaving as loss-of-function alleles. The variation in gene architecture is also associated with segregation distortion, which may have facilitated the spread and the establishment of the corresponding alleles throughout the Eurasian range of the *A. thaliana* population.

Presumptive Null

Molecular Type

Aberration Type

Insertion Size

Molecular Details of the Mutation

Experimental Evidence

Main Reference

Authors

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 (FRI), Frigida like 1 (FRL1), Frigida like 2 (FRL2), 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

Related Haplotypes

No matches found.

## EXTERNAL LINKS

## COMMENTS