

GEPHE SUMMARY

	Gephebase Gene	GephelD
CENTRORADIALIS (HvCEN) (https://www.gephebase.org/search-criteria?/and+Gene Gephebase=^CENTRORADIALIS (HvCEN)^#gephebase-summary-title)	GP00000179	
	Entry Status	Main curator
Published	Martin	

PHENOTYPIC CHANGE

Trait #1	Trait Category
Physiology (https://www.gephebase.org/search-criteria?/and+Trait Category=^Physiology^#gephebase-summary-title)	Trait
Flowering time (https://www.gephebase.org/search-criteria?/and+Trait=^Flowering time^#gephebase-summary-title)	Trait State in Taxon A
Hordeum vulgare - Nure (winter)	Trait State in Taxon B
Hordeum vulgare - Tremois (spring)	

Trait #2	Trait Category
Physiology (https://www.gephebase.org/search-criteria?/and+Trait Category=^Physiology^#gephebase-summary-title)	Trait
Seasonal growth (https://www.gephebase.org/search-criteria?/and+Trait=^Seasonal growth^#gephebase-summary-title)	Trait State in Taxon A
-	Trait State in Taxon B
-	

Ancestral State	
Data not curated	Taxonomic Status
Domesticated (https://www.gephebase.org/search-criteria?/and+Taxonomic Status=^Domesticated^#gephebase-summary-title)	
Taxon A	Taxon B
Latin Name	Latin Name
Hordeum vulgare (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Hordeum+vulgare^#gephebase-summary-title)	Hordeum vulgare (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=^Hordeum+vulgare^#gephebase-summary-title)
Common Name	Common Name
-	-
Synonyms	Synonyms
barley; Hordeum vulgare L.; Horedum vulgare	barley; Hordeum vulgare L.; Horedum vulgare
Rank	Rank
species	species
Lineage	Lineage
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllphyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticodae; Triticeae; Hordeinae; Hordeum	cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllphyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticodae; Triticeae; Hordeinae; Hordeum
Parent	Parent
Hordeum () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4512)	Hordeum () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4512)
NCBI Taxonomy ID	NCBI Taxonomy ID
4513 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4513)	4513 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id= 4513)
is Taxon A an Infraspecies?	is Taxon B an Infraspecies?
Yes	Yes
Taxon A Description	Taxon B Description
Hordeum vulgare - Nure (winter)	Hordeum vulgare - Tremois (spring)

GENOTYPIC CHANGE

CEN	Generic Gene Name	UniProtKB Arabidopsis thaliana
centroradialis; F10A12.20; ATC; At2g27550; F10A12.22; F15K20.35	Synonyms	GenebankID or UniProtKB
3702.AT2G27550.1 (http://string-db.org/newstring_cgi/show_network_section.pl?identifier=3702.AT2G27550.1)	String	
	Sequence Similarities	
Belongs to the phosphatidylethanolamine-binding protein family.	GO - Molecular Function	
-	GO - Biological Process	
GO:0010228 : vegetative to reproductive phase transition of meristem (https://www.ebi.ac.uk/QuickGO/term/GO:0010228)		
GO:0009910 : negative regulation of flower development (https://www.ebi.ac.uk/QuickGO/term/GO:0009910)		
	GO - Cellular Component	
GO:0005737 : cytoplasm (https://www.ebi.ac.uk/QuickGO/term/GO:0005737)		Presumptive Null
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)		Molecular Type
Coding (https://www.gephebase.org/search-criteria/?and+Molecular+Type=%Coding%#gephebase-summary-title)		Aberration Type
SNP (https://www.gephebase.org/search-criteria/?and+Aberration+Type=%SNP%#gephebase-summary-title)		SNP Coding Change
Nonsynonymous		Molecular Details of the Mutation
P135A		Experimental Evidence
Linkage Mapping (https://www.gephebase.org/search-criteria/?and+Experimental+Evidence=%Linkage+Mapping%#gephebase-summary-title)		

	Taxon A	Taxon B	Position
Codon	-	-	-
Amino-acid	-	-	-

Natural variation in a homolog of <i>Antirrhinum CENTRORADIALIS</i> contributed to spring growth habit and environmental adaptation in cultivated barley. (2012) (https://pubmed.ncbi.nlm.nih.gov/23160098)	Main Reference
Comadran J; Kilian B; Russell J; Ramsay L; Stein N; Ganal M; Shaw P; Bayer M; Thomas W; Marshall D; Hedley P; Tondelli A; Peccioni N; Francia E; Korzun V; Walther A; Waugh R	Authors
As early farming spread from the Fertile Crescent in the Near East around 10,000 years before the present, domesticated crops encountered considerable ecological and environmental change. Spring-sown crops that flowered without the need for an extended period of cold to promote flowering and day length-insensitive crops able to exploit the longer, cooler days of higher latitudes emerged and became established. To investigate the genetic consequences of adaptation to these new environments, we identified signatures of divergent selection in the highly differentiated modern-day spring and winter barleys. In one genetically divergent region, we identify a natural variant of the barley homolog of <i>Antirrhinum CENTRORADIALIS</i> (HvCEN) as a contributor to successful environmental adaptation. The distribution of HvCEN alleles in a large collection of wild and landrace accessions indicates that this involved selection and enrichment of preexisting genetic variants rather than the acquisition of mutations after domestication.	Abstract

Additional References

RELATED GEPHE

6 (EARLY FLOWERING 3 (here = Mat-a), EARLY FLOWERING 3/ EARLY MATURITY 8, EARLY FLOWERING 3/ EARLYMATURITY8, Flowering locus T (=HvFT=VRN3), PRR37-like Photoperiod-H1 (Ppd-H1), VRN2) (https://www.gephebase.org/search-criteria?or+Taxon+ID=%4513%and+Trait=Flowering+time/or+Taxon+ID=%4513%and+Trait=Seasonal+growth/and+groupHaplotypes=true#gephebase-summary-title)	Related Genes
No matches found.	Related Haplotypes

EXTERNAL LINKS

COMMENTS

