

GEPHE SUMMARY

		Gephebase Gene		GepheID
NAM-B1 (=Gpc-B1) (<a +nam-b1(='Gpc-B1)+"#gephebase-summary-title"' href="https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=">https://www.gephebase.org/search-criteria?/and+Gene+Gephebase="+NAM-B1(=Gpc-B1)+"#gephebase-summary-title)			GP00000717	
Published		Entry Status	Martin	Main curator

PHENOTYPIC CHANGE

Trait #1		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)		
Grain content (<a +grain+content+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Grain+content+"#gephebase-summary-title)		Trait
Triticum turgidum ssp. Durum		Trait State in Taxon A
Triticum turgidum ssp. Durum		Trait State in Taxon B

Trait #2		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)		
Senescence (grain) (<a +senescence+(grain)+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Trait=">https://www.gephebase.org/search-criteria?/and+Trait="+Senescence+(grain)+"#gephebase-summary-title)		Trait
-		Trait State in Taxon A
-		Trait State in Taxon B

		Ancestral State
Taxon A		Taxonomic Status
Domesticated (<a +domesticated+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=">https://www.gephebase.org/search-criteria?/and+Taxonomic+Status="+Domesticated+"#gephebase-summary-title)		

Taxon A	Latin Name	Taxon B	Latin Name
Triticum turgidum (<a +triticum+turgidum+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Triticum+turgidum+"#gephebase-summary-title)		Triticum turgidum (<a +triticum+turgidum+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Triticum+turgidum+"#gephebase-summary-title)	
-	Common Name	-	Common Name
Synonyms		Synonyms	
Triticum aethiopicum; English wheat; cone wheat; poulard wheat; rivet wheat; Triticum aethiopicum Jakubz.; Triticum turgidum L.; Triticum turgidum8		Triticum aethiopicum; English wheat; cone wheat; poulard wheat; rivet wheat; Triticum aethiopicum Jakubz.; Triticum turgidum L.; Triticum turgidum8	
Rank		Rank	
species		species	
Lineage		Lineage	
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticodae; Triticeae; Triticinae; Triticum		cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticodae; Triticeae; Triticinae; Triticum	
Parent		Parent	
Triticum () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4564)		Triticum () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4564)	
NCBI Taxonomy ID		NCBI Taxonomy ID	
4571 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4571)		4571 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4571)	
is Taxon A an Intraspecies?		is Taxon B an Intraspecies?	
Yes		Yes	
Taxon A Description		Taxon B Description	
Triticum turgidum ssp. Durum		Triticum turgidum ssp. Durum	

Taxon B	Latin Name
Triticum turgidum (<a +triticum+turgidum+"#gephebase-summary-title"="" href="https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=">https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms="+Triticum+turgidum+"#gephebase-summary-title)	
-	Common Name
Synonyms	
Triticum aethiopicum; English wheat; cone wheat; poulard wheat; rivet wheat; Triticum aethiopicum Jakubz.; Triticum turgidum L.; Triticum turgidum8	
Rank	
species	
Lineage	
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticodae; Triticeae; Triticinae; Triticum	
Parent	
Triticum () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4564)	
NCBI Taxonomy ID	
4571 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4571)	
is Taxon B an Intraspecies?	
Yes	
Taxon B Description	
Triticum turgidum ssp. Durum	

GENOTYPIC CHANGE

NAM-B1	Generic Gene Name	A0SPJ4 (http://www.uniprot.org/uniprot/A0SPJ4)	UniProtKB Triticum dicoccoides
GPC-B1	Synonyms	0	GenebankID or UniProtKB
-	String		
-	Sequence Similarities		
GO:0003677 : DNA binding (https://www.ebi.ac.uk/QuickGO/term/GO:0003677)	GO - Molecular Function		
GO:0006355 : regulation of transcription, DNA-templated (https://www.ebi.ac.uk/QuickGO/term/GO:0006355)	GO - Biological Process		
GO:0005634 : nucleus (https://www.ebi.ac.uk/QuickGO/term/GO:0005634)	GO - Cellular Component		
Yes (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)			Molecular Type
Insertion (https://www.gephebase.org/search-criteria?/and+Aberration+Type=^Insertion^#gephebase-summary-title)			Aberration Type
1-9 bp			Insertion Size
1bp insertion resulting in frameshift			Molecular Details of the Mutation
Linkage Mapping (https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=^Linkage+Mapping^#gephebase-summary-title)			Experimental Evidence
A NAC Gene regulating senescence improves grain protein, zinc, and iron content in wheat. (2006) (https://pubmed.ncbi.nlm.nih.gov/17124321)			Main Reference
Uauy C; Distelfeld A; Fahima T; Blechl A; Dubcovsky J			Authors
Enhancing the nutritional value of food crops is a means of improving human nutrition and health. We report here the positional cloning of Gpc-B1, a wheat quantitative trait locus associated with increased grain protein, zinc, and iron content. The ancestral wild wheat allele encodes a NAC transcription factor (NAM-B1) that accelerates senescence and increases nutrient remobilization from leaves to developing grains, whereas modern wheat varieties carry a nonfunctional NAM-B1 allele. Reduction in RNA levels of the multiple NAM homologs by RNA interference delayed senescence by more than 3 weeks and reduced wheat grain protein, zinc, and iron content by more than 30%.			Abstract
			Additional References

RELATED GEPHE

No matches found.

Related Genes

No matches found.

Related Haplotypes

EXTERNAL LINKS

COMMENTS