

GEPHE SUMMARY

qSH1 (https://www.gephebase.org/search-criteria?/and+Gene+Gephebase=qSH1^#gephebase-summary-title)	Gephebase Gene	GP00000942	GepheID
Published	Entry Status	Martin	Main curator

PHENOTYPIC CHANGE

Physiology (https://www.gephebase.org/search-criteria?/and+Trait+Category=Physiology^#gephebase-summary-title)	Trait Category		
Seed shattering (https://www.gephebase.org/search-criteria?/and+Trait=Seed+shattering^#gephebase-summary-title)	Trait		
Oryza sativa	Trait State in Taxon A		
Oryza sativa	Trait State in Taxon B		
Data not curated	Ancestral State		
Domesticated (https://www.gephebase.org/search-criteria?/and+Taxonomic+Status=Domesticated^#gephebase-summary-title)	Taxonomic Status		

Taxon A	Latin Name	Taxon B	Latin Name
Oryza sativa (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Oryza+sativa^#gephebase-summary-title)	Oryza sativa (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Oryza+sativa^#gephebase-summary-title)	Oryza sativa (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Oryza+sativa^#gephebase-summary-title)	Oryza sativa (https://www.gephebase.org/search-criteria?/and+Taxon+and+Synonyms=Oryza+sativa^#gephebase-summary-title)
rice	Common Name	rice	Common Name
rice; red rice; Oryza sativa L.	Synonyms	rice; red rice; Oryza sativa L.	Synonyms
species	Rank	species	Rank
cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Oryzoideae; Oryzaceae; Oryzinae; Oryza	Lineage	cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Oryzoideae; Oryzaceae; Oryzinae; Oryza	Lineage
Oryza () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527)	Parent	Oryza () - (Rank: genus) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4527)	Parent
4530 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4530)	NCBI Taxonomy ID	4530 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4530)	NCBI Taxonomy ID
No	is Taxon A an Intraspecies?	No	is Taxon B an Intraspecies?

GENOTYPIC CHANGE

qSH1	Generic Gene Name	UniProtKB Oryza sativa subsp. japonica
qSH1; qSH-1; Os01g0848400; OsJ_04077; OSNPB_010848400; P0005H10.27	Synonyms	Q941S9 (http://www.uniprot.org/uniprot/Q941S9)
39947.LOC_Os01g62920.1 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=39947.LOC_Os01g62920.1)	String	GenebankID or UniProtKB
-	Sequence Similarities	BAI78203 (https://www.ncbi.nlm.nih.gov/nucleotide/BAI78203)
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	

Presumptive Null

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

Molecular Type

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

Aberration Type

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

Molecular Details of the Mutation

1bp change

Experimental Evidence

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))

Main Reference

An SNP caused loss of seed shattering during rice domestication. (2006) (<https://pubmed.ncbi.nlm.nih.gov/16614172>)

Authors

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Abstract

Loss of seed shattering was a key event in the domestication of major cereals. We revealed that the qSH1 gene, a major quantitative trait locus of seed shattering in rice, encodes a BEL1-type homeobox gene and demonstrated that a single-nucleotide polymorphism (SNP) in the 5' regulatory region of the qSH1 gene caused loss of seed shattering owing to the absence of abscission layer formation. Haplotype analysis and association analysis in various rice collections revealed that the SNP was highly associated with shattering among japonica subspecies of rice, implying that it was a target of artificial selection during rice domestication.

Additional References

RELATED GEPHE

Related Genes

3 (OsLG1, shattering4 - sh4, Shattering1 - OsSh1) ([https://www.gephebase.org/search-criteria?/or+Taxon ID=~4530^/and+Trait=Seed shattering/and+groupHaplotypes=true#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Taxon+ID=~4530^/and+Trait=Seed+shattering/and+groupHaplotypes=true#gephebase-summary-title))

Related Haplotypes

No matches found.

EXTERNAL LINKS

COMMENTS