

GEPHE SUMMARY

| | | | |
|--|----------------|------------|--------------|
| | Gephebase Gene | | GepheID |
| teosinte branched 1 (tb1) = IntC (https://www.gephebase.org/search-criteria?/and+Gene) | | GP00001117 | |
| Gephebase="teosinte branched 1 (tb1) = IntC" #gephebase-summary-title) | | | Main curator |
| | Entry Status | Martin | |
| Published | | | |

PHENOTYPIC CHANGE

| | |
|--|------------------------|
| Trait #1 | |
| | Trait Category |
| Morphology (https://www.gephebase.org/search-criteria?/and+Trait) | |
| Category="Morphology" #gephebase-summary-title) | |
| | Trait |
| Plant architecture (https://www.gephebase.org/search-criteria?/and+Trait="Plant) | |
| architecture" #gephebase-summary-title) | |
| | Trait State in Taxon A |
| Hordeum vulgare | |
| | Trait State in Taxon B |
| Hordeum vulgare | |

| | |
|--|------------------------|
| Trait #2 | |
| | Trait Category |
| Morphology (https://www.gephebase.org/search-criteria?/and+Trait) | |
| Category="Morphology" #gephebase-summary-title) | |
| | Trait |
| Inflorescence architecture (https://www.gephebase.org/search-criteria?/and+Trait="Inflorescence) | |
| architecture" #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 | |
| Hordeum vulgare | | Hordeum vulgare |
| (https://www.gephebase.org/search-criteria?/and+Taxon) | | (https://www.gephebase.org/search-criteria?/and+Taxon) |
| vulgare" #gephebase-summary-title) | | vulgare" #gephebase-summary-title) |
| | Common Name | |
| - | | - |
| | Synonyms | |
| barley; Hordeum vulgare L.; Horedum vulgare | | barley; Hordeum vulgare L.; Horedum vulgare |
| | Rank | |
| species | | species |
| | Lineage | |
| cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; | | cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; |
| Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; | | Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; |
| Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticeae; | | Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticeae; |
| Triticeae; Hordeinae; Hordeum | | Triticeae; Hordeinae; Hordeum |
| | Parent | |
| Hordeum () - (Rank: genus) | | Hordeum () - (Rank: genus) |
| (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4512) | | (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4512) |
| | NCBI Taxonomy ID | |
| 4513 | | 4513 |
| (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4513) | | (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4513) |
| | is Taxon A an Intraspecies? | |
| No | | No |

| | | |
|---|-----------------------------|---|
| Taxon B | | Taxon B |
| | Latin Name | |
| Hordeum vulgare | | Hordeum vulgare |
| (https://www.gephebase.org/search-criteria?/and+Taxon) | | (https://www.gephebase.org/search-criteria?/and+Taxon) |
| vulgare" #gephebase-summary-title) | | vulgare" #gephebase-summary-title) |
| | Common Name | |
| - | | - |
| | Synonyms | |
| barley; Hordeum vulgare L.; Horedum vulgare | | barley; Hordeum vulgare L.; Horedum vulgare |
| | Rank | |
| species | | species |
| | Lineage | |
| cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; | | cellular organisms; Eukaryota; Viridiplantae; Streptophyta; Streptophytina; Embryophyta; |
| Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; | | Tracheophyta; Euphyllophyta; Spermatophyta; Magnoliophyta; Mesangiospermae; |
| Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticeae; | | Liliopsida; Petrosaviidae; commelinids; Poales; Poaceae; BOP clade; Pooideae; Triticeae; |
| Triticeae; Hordeinae; Hordeum | | Triticeae; Hordeinae; Hordeum |
| | Parent | |
| Hordeum () - (Rank: genus) | | Hordeum () - (Rank: genus) |
| (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4512) | | (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4512) |
| | NCBI Taxonomy ID | |
| 4513 | | 4513 |
| (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4513) | | (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=4513) |
| | is Taxon B an Intraspecies? | |
| No | | No |

GENOTYPIC CHANGE

| | | | |
|---|-------------------------|--|-----------------------------------|
| Tb1 | Generic Gene Name | Q93Wl2 (http://www.uniprot.org/uniprot/Q93Wl2) | UniProtKB Zea mays |
| tb1; Z178A11.18 | Synonyms | AAN17838 (https://www.ncbi.nlm.nih.gov/nuccore/AAN17838) | GenebankID or UniProtKB |
| 4577.AC233950.1_FGP002 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=4577.AC233950.1_FGP002) | String | | |
| - | Sequence Similarities | | |
| GO:0003700 : DNA-binding transcription factor activity (https://www.ebi.ac.uk/QuickGO/term/GO:0003700) | GO - Molecular Function | | |
| GO:0043565 : sequence-specific DNA binding (https://www.ebi.ac.uk/QuickGO/term/GO:0043565) | | | |
| GO:0007275 : multicellular organism development (https://www.ebi.ac.uk/QuickGO/term/GO:0007275) | GO - Biological Process | | |
| GO:2000032 : regulation of secondary shoot formation (https://www.ebi.ac.uk/QuickGO/term/GO:2000032) | | | |
| GO:0048831 : regulation of shoot system development (https://www.ebi.ac.uk/QuickGO/term/GO:0048831) | | | |
| GO:0005634 : nucleus (https://www.ebi.ac.uk/QuickGO/term/GO:0005634) | GO - Cellular Component | | |
| Unknown (https://www.gephebase.org/search-criteria?/and+Presumptive Null=^Unknown^#gephebase-summary-title) | | | Presumptive Null |
| Coding (https://www.gephebase.org/search-criteria?/and+Molecular Type=^Coding^#gephebase-summary-title) | | | Molecular Type |
| Unknown (https://www.gephebase.org/search-criteria?/and+Aberration Type=^Unknown^#gephebase-summary-title) | | | Aberration Type |
| Large haplotypes; unknown | | | Molecular Details of the Mutation |
| Association Mapping (https://www.gephebase.org/search-criteria?/and+Experimental Evidence=^Association Mapping^#gephebase-summary-title) | | | Experimental Evidence |
| INTERMEDIUM-C, a modifier of lateral spikelet fertility in barley, is an ortholog of the maize domestication gene TEOSINTE BRANCHED 1. (2011) (https://pubmed.ncbi.nlm.nih.gov/21217754) | | | Main Reference |
| Ramsay L; Comadran J; Druka A; Marshall DF; Thomas WT; Macaulay M; MacKenzie K; Simpson C; Fuller J; Bonar N; Hayes PM; Lundqvist U; Franckowiak JD; Close TJ; Muehlbauer GJ; Waugh R | | | Authors |
| The domestication of cereals has involved common changes in morphological features, such as seed size, seed retention and modification of vegetative and inflorescence architecture that ultimately contributed to an increase in harvested yield. In barley, this process has resulted in two different cultivated types, two-rowed and six-rowed forms, both derived from the wild two-rowed ancestor, with archaeo-botanical evidence indicating the origin of six-rowed barley early in the domestication of the species, some 8,600-8,000 years ago. Variation at SIX-ROWED SPIKE 1 (VRS1) is sufficient to control this phenotype. However, phenotypes imposed by VRS1 alleles are modified by alleles at the INTERMEDIUM-C (INT-C) locus. Here we show that INT-C is an ortholog of the maize domestication gene TEOSINTE BRANCHED 1 (TB1) and identify 17 coding mutations in barley TB1 correlated with lateral spikelet fertility phenotypes. | | | Abstract |
| | | | Additional References |

RELATED GEPHE

| | |
|--|--------------------|
| 1 (VRS1 = SIX-ROWED SPIKE 1) (https://www.gephebase.org/search-criteria?/or+Taxon ID=^4513^/and+Trait=Plant architecture/or+Taxon ID=^4513^/and+Trait=Inflorescence architecture/and+groupHaplotypes=true#gephebase-summary-title) | Related Genes |
| No matches found. | Related Haplotypes |

EXTERNAL LINKS

COMMENTS

