

Figure S2

Illustration of searching known genes or gene products name and finding the genotype (gene) to phenotype (QTL) associations. (a) Search for “Hd1” in POC database by selecting “Annotations” and “Exact Match” give five results from rice, of which four are QTL and one gene. (b) Visit the detail annotation of any one QTL (e.g. CQAK3) for DTHD (days to heading). (c) Visit the original QTL entry in the source database (e.g. Gramene). In the Gramene QTL detail page, users can find more detail information about the associated gene often identified by fine mapping, map location of the QTL on the genetic map on which it was identified and the inferred position on the genome. The black arrow points to the sequential views a user will see while navigating from search to the annotation details. In order to find the gene to phenotype associations and detail information, the POC database encourages users to visit the source database.

(a) Annotation Search Results

5 results for Hd1 [exact match] in field(s) name(s), symbol, synonyms

Filter search results

Filter Annotation Objects

Species: All, A. thaliana, O. sativa, S. bicolor

Data source: All, Gramene Genes, Gramene QTL, MaizeGDB

Filter Annotation Objects by Associations

Evidence Code: All Curator Approved, IC, IDA, IEP

Ontology: All, Plant Growth Stage, Plant Structure

| Name | Details |
|--|------------------------------|
| <input type="checkbox"/> DTHD days to heading Query matches synonym Hd1 | QTL from <i>Oryza sativa</i> |
| <input type="checkbox"/> DTHD days to heading Query matches synonym Hd1 | QTL from <i>Oryza sativa</i> |
| <input type="checkbox"/> DTHD days to heading Query matches synonym Hd1 | QTL from <i>Oryza sativa</i> |
| <input type="checkbox"/> DTHD days to heading Query matches synonym Hd1 | QTL from <i>Oryza sativa</i> |
| <input type="checkbox"/> PH1 Flowering date-1 Query matches synonym Hd1 | |

(b) Information

Name(s) days to heading

Type QTL

Species *Oryza sativa*

Synonyms Hd1

Database Gramene QTL, GR_QTL:CQAK3

Associated No associations to GO

Sequence No peptide sequence available

Term Annotations

Filter annotations displayed

Evidence Code: All Curator Approved, IC, IDA, IEP

Ontology: All, Plant Growth Stage, Plant Structure

| Qualifier | Term | Ontology | Evidence | Reference | Assigned by |
|-----------|--|------------------------------------|----------|--------------|---------------------------|
| | inflorescence emergence from flag leaf sheath [view annotations] | plant growth and development stage | IC | GR ref:11453 | Gramene (via Gramene QTL) |
| | inflorescence [view annotations] | plant structure | IC | GR ref:11453 | Gramene (via Gramene QTL) |

QTL Home | Simple Search | Power Search | Help | Tutorial | FAQ

Browse by Trait Category: Abiotic stress | Anatomy | Biochemical | Biotic stress | Development | Quality | Sterility or fertility | Vigor | Yield

Find: CQAK3 In: QTL Accession ID Species: --All Species--
 E.g., development, vegetative*, VQTM, QTL*, AGE2001, Or view help

Oryza sativa QTL "CQAK3" (days to heading)

QTL Accession ID CQAK3

Species *Oryza sativa* (Rice) [GR_tax:013681]

Trait Symbol DTHD

Trait Name days to heading

Published Symbol Hd1

Trait Synonym(s) DH, HDD, heading date

Trait Category Development

Chromosome 6

Comments Detected in a cross between NIL(Hd1)/NIL(Hd3) by the method of interval mapping and one-way ANOVA.

Map Positions (2)

QTL (1)

| Species | Map Set | Name | Map | Start | Stop | Ext. Links |
|----------------------------|--------------------------|------|-----|---------|---------|--------------------------------------|
| <i>Oryza sativa</i> (Rice) | JRGP Nip/Kas F2 QTL 2000 | DTHD | 6 | 54.1 cM | 54.1 cM | View Comparative Map |

Sequence (1)

| Species | Map Set | Name | Map | Start | Stop | Ext. Links |
|----------------------------|--|------------|--------|--------------|--------------|--|
| <i>Oryza sativa</i> (Rice) | Gramene Annotated Nipponbare Sequence 2006 | CQAK3-DTHD | Chr. 6 | 9,282,505 bp | 9,327,178 bp | View in Genome Browser View Comparative Map |

Associated Markers (6)

| Direction | Name | Type | Species | Analysis | Assoc. Type |
|-----------|--------|------|---------------------|------------------------|-------------|
| To | Y4836L | RFLP | <i>Oryza sativa</i> | colocalized_qtl_marker | qtl_marker |
| To | C235 | RFLP | <i>Oryza sativa</i> | colocalized_qtl_marker | qtl_marker |
| To | S2539 | RFLP | <i>Oryza sativa</i> | colocalized_qtl_marker | qtl_marker |
| To | Y2668L | RFLP | <i>Oryza sativa</i> | neighboring_qtl_marker | qtl_marker |
| To | NH84 | RFLP | <i>Oryza sativa</i> | neighboring_qtl_marker | qtl_marker |
| To | Y2145L | RFLP | <i>Oryza sativa</i> | neighboring_qtl_marker | qtl_marker |

Associated Genes (1)

| Species | Accession | Name | Evidence Code | Reference |
|---------------------|------------|------------------|---------------|-----------------------|
| <i>Oryza sativa</i> | GR:0060860 | Flowering date-1 | IAGP | Lin-H-X, et al., 2000 |

Associated Ontologies (6)

| Trait Ontology | Plant Structure | Plant Growth and Development Stage | Growth Stage | Environment | Species Ontology |
|----------------------------------|----------------------------------|------------------------------------|----------------------------------|-----------------------------------|-------------------------------------|
| days to heading (TO:0000137) | inflorescence (PO:0009049) | B reproductive growth (PO:0007130) | 06-heading stage (GRO:0007044) | unknown environment (EO:0007403) | <i>Oryza sativa</i> (GR_tax:013681) |
| Evidence: IAGP | Evidence: SM | Evidence: SM | Evidence: SM | Evidence: IC | Evidence: SM |
| Reference: Lin-H-X, et al., 2000 | Reference: Lin-H-X, et al., 2000 | Reference: Lin-H-X, et al., 2000 | Reference: Lin-H-X, et al., 2000 | Reference: Gramene curators, 2007 | Reference: Lin-H-X, et al., 2000 |

Database Cross-References (1)

Gramene Literature: Lin-H-X, Yamamoto-T, Sasaki-T, Yano-M, "Characterization and detection of epistatic interactions of 3 QTLs, Hd1, Hd2, and Hd3, controlling heading date in rice using nearly isogenic lines", *Theoretical and applied genetics*. 2000, vol. 101, pp. 1021-1028

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