

funRiceGenes

**Comprehensive understanding and application of
rice functional genes**

Part I

**Display of information in this database as
static web pages**

Welcome to funRiceGenes!

HOME

GENE

FAMS

KEYS

NEWS

DOCS

CITE

A comprehensive database of functionally characterized rice genes

- 2800+ cloned rice genes [Download↓]
- 400+ gene families [Download↓]
- 400+ keywords [Download↓]
- 5000+ literatures [Download↓]
- 200+ interaction networks [Download↓]
- Contact: ywhzau at gmail.com
- Help manual [Download↓]

At the [homepage](#) of our database, we provide the download of the whole dataset in tidy format.

[In site search](#) using Google or Bing

To search this site, please use **Google** or **Bing** with the following search pattern!

```
yourSearchKeyword site:https://funricegenes.github.io/
```

For example, to search this site with the keyword "domestication", open **Google** or **Bing** and type the following words:

```
domestication site:https://funricegenes.github.io/
```

<https://funricegenes.github.io/>

Gene

HOME

GENE

FAMS

KEYS

NEWS

DOCS

CITE

* ZOS8-11
* ZN
* ZIP4,SPO22
* ZFP252,RZF71
* ZFP245
* ZFP185
* ZFP182,ZOS3-21
* ZFP179
* ZFP177
* ZFP15

ZFP179

2015-01-20 | Categories [genes](#) | Tags [salt stress](#) [ABA](#) [seedling](#) [salt tolerance](#) [salt](#) [oxidative](#)

• Information

- Symbol: ZFP179
- MSU: [LOC_Os01g62190](#)
- RAPdb: [Os01g0839100](#)

[Link to MSU](#)

[Link to RAPdb](#)

• Publication

- Functional analysis of a novel Cys2/His2-type zinc finger protein involved in salt tolerance in rice, 2010, J Exp Bot.
- Salt-responsive ERF1 regulates reactive oxygen species-dependent signaling during the initial response to salt stress in rice, 2013, Plant Cell.

[Link to PubMed](#)

• Genbank accession number

- [AK108227](#)

[Link to GenBank](#)

• Key message

- The ZFP179 transgenic rice exhibited significantly increased tolerance to oxidative stress, the reactive oxygen species (ROS)-scavenging ability, and expression levels of a number of stress-related genes, including OsDREB2A, OsP5CS OsProT, and OsLea3 under salt stress
- Our studies suggest that ZFP179 plays a crucial role in the plant response to salt stress, and is useful in developing transgenic crops with enhanced tolerance to salt stress
- The real-time RT-PCR analysis showed that ZFP179 was highly expressed in immature spikes, and markedly induced in the seedlings by NaCl, PEG 6000, and ABA treatments
- Through microarray analysis, a salt-responsive zinc finger protein gene ZFP179 was identified and subsequently cloned from rice seedlings
- Overexpression of ZFP179 in rice increased salt tolerance and the transgenic seedlings showed hypersensitivity to exogenous ABA

[Link to PubMed](#)

• Connection

- [OsProT~ProT, ZFP179, Functional analysis of a novel Cys2/His2-type zinc finger protein involved in salt tolerance in rice](#), The ZFP179 transgenic rice exhibited significantly increased tolerance to oxidative stress, the

The [GENE](#) menu lists 2800+ cloned rice genes.

The detailed information of a gene is shown as a single page.

<https://funricegenes.github.io/>

Gene Family

HOME

GENE

FAMS

KEYS

NEWS

DOCS

CITE

- * ZTL
- * ZRT_and_IRT_like_proteins
- * ZIFL
- * YUCCA
- * YSL
- * XYLP
- * XTH
- * XHS
- * XBOS
- * WRKY

The FAMS menu lists 400+ rice gene families.

The detailed information of a gene family is shown as a single page.

<https://funricegenes.github.io/>

XYLP

2015-01-20 | Categories [gene family](#)

[Link to MSU](#)

[Link to RAPdb](#)

Information

- OsLTPL1, LOC_Os03g26820, Os03g0385400.
- OsXYLP2, LOC_Os03g26800, Os03g0385100.
- OsXYLP3, LOC_Os07g30590, Os07g0489000.
- OsXYLP4, LOC_Os07g43290, Os07g0625800.
- OsXYLP5, LOC_Os03g09230, Os03g0192600.
- OsXYLP6, LOC_Os03g20760, Os03g0323900.
- OsXYLP7, LOC_Os05g41030, Os05g0489200.
- OsXYLP8, LOC_Os01g59870, Os01g0814100.
- OsXYLP9, LOC_Os07g07790, Os07g0174400.
- OsXYLP10, LOC_Os07g07860, Os07g0174900.
- OsXYLP11, LOC_Os03g57990, Os03g0794000.
- OsXYLP12, LOC_Os07g07870, Os07g0175000.
- OsXYLP13, LOC_Os03g57970, Os03g0793800.
- OsXYLP14, LOC_Os07g07930, Os07g0175600.
- OsXYLP15, LOC_Os04g38840, Os04g0462200.
- OsXYLP16, LOC_Os07g09970, Os07g0198300.
- OsXYLP17, LOC_Os03g58940, Os03g0804200.
- OsXYLP18, LOC_Os03g07100, Os03g0167000.
- OsXYLP19, LOC_Os06g47200, Os06g0686400.
- OsXYLP20, LOC_Os03g46150, Os03g0664400.
- OsXYLP21, LOC_Os08g42040, Os08g0532800.

Publication

- Identification, characterization, and transcription analysis of xylogen-like arabinogalactan proteins in rice *Oryza sativa* L., 2014, BMC Plant Biol.

[Link to PubMed](#)

Keywords

HOME

GENE

FAMS

KEYS

NEWS

DOCS

CITE

nitrogen leaf leaf senescence transcription factor early leaf senescence
xylem vascular bundle seedlings acetylcholinesterase shoot gravitropism
gravitropic response stem root leaf development shoot resistance flower
pollen panicle spikelet grain tiller anther sterility seedling chloroplast
seedling death domestication development awn grains per panicle grain
number grain length mitochondria sheath submergence starch temperature
ATPase alkaline tolerance defense oxidative stress
alkaline stress seed drought salinity salt seed germ
tolerance potassium cold tolerance oxidative growth
stress ABA ethylene yield insect jasmonate grain yield
defense response vegetative drought tolerance crown root
root development auxin cytokinin crown root elongation

grain length

* TGW6

* RDD1

* PGL2,OsBUL1

* PGL1

* OsSGL

* OsPPKL3

* OsPPKL2

* GW7,GL7,SLG7

* GS3

* GL3.1,qGL3-1,qGL3,OsPPKL1

* DEP1,DN1,qPE9-1,OsDEP1

* APG,OsPIL16

* AL8,RAE2,GAD1

The **KEYS** menu lists all keywords regarding phenotype description or biological process.

Each keyword links to a list of genes related to this keyword.

<https://funricegenes.github.io/>

News

HOME

- 2017/Mar/1 fix info

GENE

- 2017/Mar/1 add new accessions for OsGPCR
- 2017/Mar/1 add new pub.

FAMS

- 2017/Mar/1 fix info

KEYS

- 2017/Feb/27 fix info

NEWS

- 2017/Feb/27 fix info
- 2017/Feb/27 fix info

DOCS

- 2017/Feb/27 fix info

CITE

- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 fix info
- 2017/Feb/27 add new info for gene: OsLBD3-7
- 2017/Feb/27 add new pub.
- 2017/Feb/27 PLA3 == OsLBD3-7

The **NEWS** menu shows the updating information of this database.

Literatures

HOME

GENE

FAMS

KEYS

NEWS

DOCS

CITE

1. Cloning of a cDNA encoding an importin-alpha and down-regulation of the gene by light in rice leaves, 1998, Gene.
2. Molecular cloning of a novel importin alpha homologue from rice, by which constitutive photomorphogenic 1 COP1 nuclear localization signal NLS-protein is preferentially nuclear imported, 2001, J Biol Chem.
3. Mutations of genes in synthesis of the carotenoid precursors of ABA lead to pre-harvest sprouting and photo-oxidation in rice, 2008, Plant J.
4. A pair of orthologs of a leucine-rich repeat receptor kinase-like disease resistance gene family regulates rice response to raised temperature, 2011, BMC Plant Biol.
5. The ATP-binding cassette transporter OsABCG15 is required for anther development and pollen fertility in rice, 2013, J Integr Plant Biol.
6. ABCG15 encodes an ABC transporter protein, and is essential for post-meiotic anther and pollen exine development in rice, 2013, Plant Cell Physiol.

The **DOCS** menu lists all the literatures archived in this database.



[Link to PubMed](#)

HOME

GENE

FAMS

KEYS

NEWS

DOCS

CITE

At the [homepage](#) of our database, we provide a link to a website allowing interactive query of this database.

To interactively query this database, go to the following site!

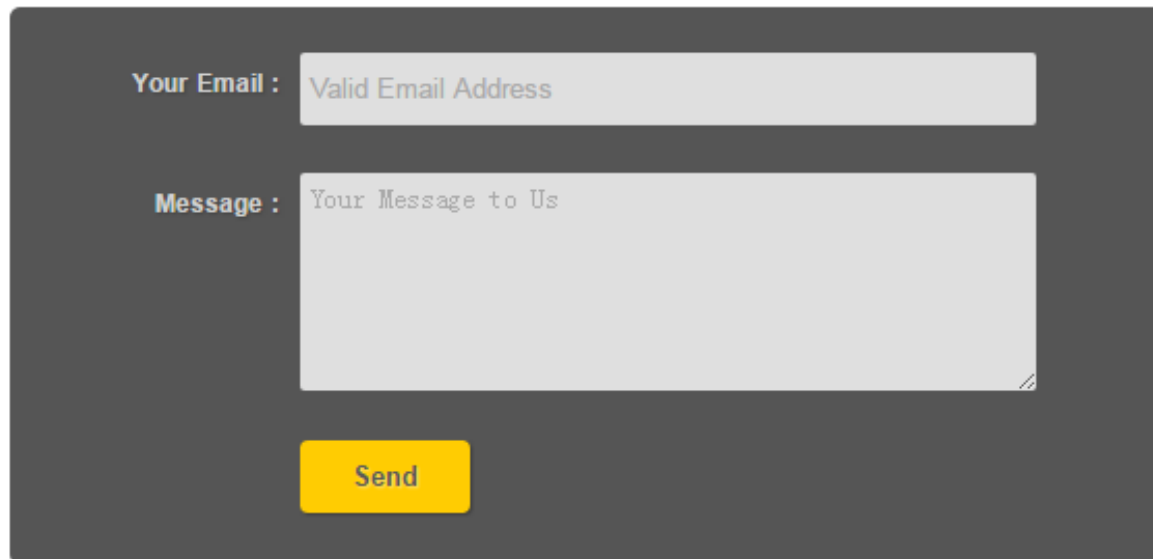


funRiceGenes A comprehensive database of functionally characterized rice genes

Gene GeneFamily Keyword Publication IDConversion Submit

<http://funricegenes.ncpgr.cn/>

If you find any error information in our database or any functionally characterized rice genes missing from our database, please leave us a message.



Your Email : Valid Email Address

Message : Your Message to Us

Send

<https://funricegenes.github.io/>

Part II

Interactive query of this database

funRiceGenes **Gene** GeneFamily Keyword Publication IDConversion Download Submit

* Query with a gene symbol or a genomic locus ?

☒ MSU Locus ☐ RAPdb Locus ☐ Gene Symbol

LOC_Os07g15770

Information Reference Accession Expression Keyword Connection

Show 1 entries

Symbol	RAPdb	MSU
Ghd7	Os07g0261200	LOC_Os07g15770

Showing 1 to 1 of 1 entries

Previous 1 Next

Detail information of a gene are shown in different tables

Link to RAPdb

Link to MSU

The **Gene** menu allows query of 2900+ genes using a MSU/RAPdb genomic locus or a gene symbol.

funRiceGenes Gene **GeneFamily** Keyword Publication IDConversion Download Submit

* Query with a gene symbol or a genomic locus ?

☒ MSU Locus ☐ RAPdb Locus ☐ Gene Symbol

LOC_Os10g41510

Information Reference

Show 1 entries

Symbol	RAPdb	MSU
CBL1	Os10g0564800	LOC_Os10g41510

Showing 1 to 1 of 1 entries

Previous 1 Next

Detail information of a gene are shown in different tables

Link to RAPdb

Link to MSU

The **GeneFamily** menu allows query of 5000+ gene family members using a MSU/RAPdb genomic locus or a gene symbol.

* Query with keywords characterizing agronomic trait of rice listed on [this page](#)

[Information](#)

Show entries

Symbol	RAPdb	MSU	Title
brd2 DIM DWF1 LHDD10	Os10g0397400	LOC_Os10g25780	Brassinosteroid (BR) biosynthetic gene lhdd10 controls late heading and plant height in rice (Oryza sativa L.).
CKI EL1 Hd16	Os03g0793500	LOC_Os03g57940	Genetic interactions involved in the inhibition of heading by heading date QTL, Hd2 in rice under long-day conditions

Link to RAPdb

Link to MSU

Link to PubMed

The [Keyword](#) menu allows query of the database with keywords regarding phenotype description or biological process.

* Query with any word concerning rice functional genomic studies

Result

Show 1 entries

Title	Year	Journal	Affiliation	Abstract	Gene
Association of functional nucleotide polymorphisms at DTH2 with the northward expansion of rice cultivation in Asia	2013	Proc Natl Acad Sci U S A	National Key Laboratory for Crop Genetics and Germplasm Enhancement, Jiangsu Plant Gene Engineering Research	Flowering time (i.e., heading date in crops) is an important ecological trait that determines growing seasons and regional adaptability of plants to specific natural environments. Rice (<i>Oryza sativa</i> L.) is a short-day plant that originated in the tropics. Increasing evidence suggests that the northward expansion of cultivated rice was accompanied by human selection of the heading date under noninductive long-day (LD) conditions. We report here the molecular cloning and characterization of DTH2 (for Days to heading on chromosome 2), a minor-effect quantitative trait locus that promotes heading under LD conditions. We show that DTH2 encodes a CONSTANS-like protein that promotes heading by inducing the florigen genes Heading date 3a and	DTH2,Hd3a,RFT1

The **Publication** menu allows query of the titles and abstracts of all publications archived in this database with any word.

[funRiceGenes](#)[Gene](#)[GeneFamily](#)[Keyword](#)[Publication](#)[IDConversion](#)[Download](#)[Submit](#)

* Convert between MSU genomic locus and RAPdb genomic locus?

☒ RAPdb to MSU

☐ MSU to RAPdb

Os02g0677300

Result

Show 4 entries

RAPdb	MSU
Os02g0677300	LOC_Os02g45450

Showing 1 to 1 of 1 entries

Previous

1

Next


The [IDConversion](#) menu provides a tool to convert between a MSU genomic locus and a RAPdb genomic locus.

[Batch query](#) is supported.


<http://funricegenes.ncpgr.cn/>

* Extract data using MSU genomic locus

One locus in one row


 Download locus information


 Download Keywords data


 Download literatures

* Extract data using RAP genomic locus

One locus in one row

 Download locus information

 Download Keywords data

 Download literatures

The **Download** menu provides extracting of gene information using MSU genomic locus or RAPdb genomic locus.

* Submit a new Genbank accession

Our database provides tools allowing **submission** of new information.

Gene symbol

Accession

Password

Submit

Clear

Currently, only our team members have permissions to submit new information.

* Submit a new connection between genes

Gene symbol 1

Gene symbol 2

Title

Evidence

Password

Submit

Clear

* Submit new phenotype and expression figures

Gene symbol

Password

Phenotype Figure

Browse...

No file selected

Expression Figure

Browse...

No file selected

Submit

Clear

<http://funricegenes.ncpgr.cn/>



Link to <https://funricegenes.github.io/>

Have a nice experience in **funRiceGenes** database !