

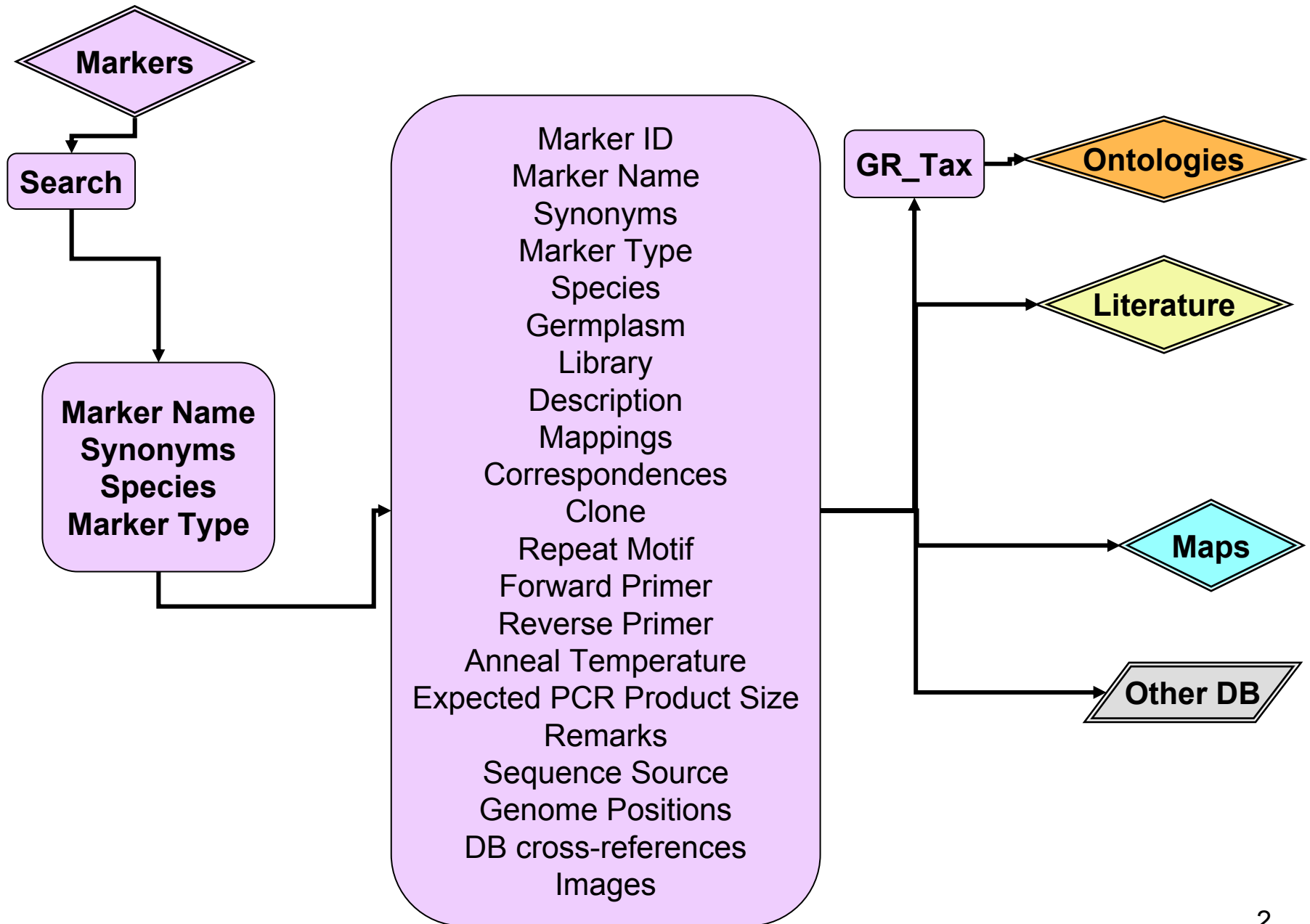
Welcome to the Markers Database Tutorial

The Markers Database will allow you to locate a specific marker based upon marker name, marker type or species.

Once identified, you will be able to view marker information, including ID, germplasm and genome positioning, as well as get marker-type specific information.

Markers also link to the Maps, Literature and Ontologies Databases.





Tutorial Help



The hand icon indicates a link that allows you to go to the same page in your web browser.



If you are viewing this tutorial with Adobe Acrobat Reader, click the "bookmarks" on the left hand side of the Reader for easier navigation.

Action Options are noted in this type of font.

Notes or comments use this style font.



Markers Home Page

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Gramene Marker Database

Markers Quick Search:

Use the "Quick Search" above to search for a marker name. For more advanced search options, click on [document](#).

Marker Release Notes

The marker database now contains a total of 4,547,608 markers from more than 180 species. The database has been updated with 2,530,000 SSRs from rice. We have added 2,530,000 Genbank dbEST sequences from fifty species of Poaceae as [marker type "EST Cluster"](#); and 472,408 TIGR Gene Indices from eight Poaceae species as [marker type "mRNA"](#).

The results table once again shows any number of results. If more than 1,000 markers result from a query, the search results are returned unsorted, however. Users may still sort the results by clicking on column headings. Sorting a large number (> 1,000) of markers will be slow.

Use "Quick Search" to find a marker name or click on "Markers Search" for more advanced search options (see next slide).

Updates contain "Release Notes" describing additions, updates, and changes for the latest release of the database.



Markers Search

1. Type marker name.

2. To refine search, specify a marker type and/or a species.

3. Click "search."

Markers Home | Markers Search | SSR Markers Resc...

Marker Name:

Marker Type:

Species:

Species list: --Any--
 x Tritordeum sp. (x Tritordeum sp)
 Aegilops speltoides
 Aegilops tauschii
 Aegilops tauschii subsp. strangulata (Aegilops tauschii subsp. strangulata)
 Aegilops umbellulata
 Aeluropus lagopoides
 Agropyron cristatum (A
 Agrostis sp. (Agrostis
 Agrostis stolonifera (A
 Agrostis stolonifera va
 Alopecurus myosuroid
 Arabidopsis thaliana (A
 Aristida longiseta (Aris
 Aristida mauritiana (Aristida ma
 Avena agadiriana (Avena
 Avena clauda (Avena
 Avena fatua (Avena
 Avena maritima (Avena maritima)
 Avena sativa (Oat)

1,AG020732", "rm", Oat RFLP markers like "CDO", or view help.

Currently in Marker Database

Marker Type	Count	
AFLP	950	Search
BAC end sequence	6,959	Search
Clone	1,028	Search
EST	2,530,661	Search
EST Cluster	601,935	Search
Gene Primer	19	Search
GSS	1,099,757	Search
mRNA	91,074	Search
Primer	34	Search
RAPD	135	Search
RFLP	7,791	Search
SSR	16,835	Search
STS	65	Search
Tos17	18,023	Search
Undefined	827	Search
6,073,154 total		

Or Click to run sample searches.

Clicking on a marker type lets you view a definition of that marker type.

Clicking on "Search" lets you search for markers of that type.

This list shows a breakdown of markers in the database by marker type.



Marker Search Result

[Markers Home](#) | [Markers Search](#) | [SSR Markers Resource](#) | [Help](#) | [Tutorial](#)

Title identifies parameters of the search.

Search results for all *Oryza sativa* SSR markers matching "RM138*."

Marker Name: Marker Type: Species:

E.g., "AG020731_AG020732", "rm*", Oat RFLP markers like "CDO*", or view help

Click on linked column titles to sort results by that column.

There are 82 markers for this search.

Markers 1 to 25 of 82. Page 1

Marker Name	Marker Synonyms	Species	Marker Type
RM138	D48106, OSR26	Oryza sativa	SSR
RM13802	AUT13802	Oryza sativa	SSR
RM6122	AUT13803, RM13803	Oryza sativa	SSR
RM3220	AUT13805, RM13805	Oryza sativa	SSR
RM13807	AUT13807	Oryza sativa	SSR
RM13808	AUT13808	Oryza sativa	SSR
RM13809	AUT13809	Oryza sativa	SSR
RM1381	AY018056, MRG0381.ARS0381	Oryza sativa	SSR
RM1381	AY018056, MRG0381.RGPD0381	Oryza sativa	SSR
RM1381	AY018056, MRG0381.HAU0381	Oryza sativa	SSR
RM13817	AUT13817	Oryza sativa	SSR
RM13818	AUT13818, RM13818	Oryza sativa	SSR
RM13819	AUT13819	Oryza sativa	SSR
RM13820	AUT13820	Oryza sativa	SSR
RM13821	AUT13821	Oryza sativa	SSR
RM13822	AUT13822	Oryza sativa	SSR
RM13823	AUT13823	Oryza sativa	SSR
RM13824	AUT13824	Oryza sativa	SSR
RM13825	AUT13825	Oryza sativa	SSR
RM13826	AUT13826	Oryza sativa	SSR
RM13830	AUT13830	Oryza sativa	SSR
RM13833	AUT13833	Oryza sativa	SSR
RM13834	AUT13834	Oryza sativa	SSR
RM1168	AUT13835, RM13835	Oryza sativa	SSR
RM13836	AUT13836	Oryza sativa	SSR

[Download Data](#)

Search results include marker synonyms. If you don't know the name of a marker, you may search on its synonym.

Click to view a tab-delimited file of entire result set (see Slide 8).

Click on a marker name, species name or marker type name to view its details (see Slides 9-11).

Results for all *Oryza sativa* SSR markers matching

Name: _____ Marker Type: Species:

g., "AG020731,AG020732", "rm", Oat RFLP markers like "CDO", or view he

Markers 1 to 11 of 11

Marker Name	Marker Synonyms	Species	Marker Type
RM138	OSR26	Oryza sativa	SSR
RM1381	MRG0381.RGP0381	Oryza sativa	SSR
RM1381	MRG0381.HAU0381	Oryza sativa	SSR
RM1381	MRG0381.ARS0381	Oryza sativa	SSR
RM1384	MRG0384.ARS0384	Oryza sativa	SSR
RM1384	MRG0384.RGP0384	Oryza sativa	SSR
RM1385	MRG0385.ARS0385	Oryza sativa	SSR
RM1386	MRG0386.RTO386	Oryza sativa	SSR
RM1387	MRG0387.HAU0387	Oryza sativa	SSR
RM1388	MRG0388.ARS0388	Oryza sativa	SSR
RM1388	MRG0388.HAU0388	Oryza sativa	SSR

[\[Download Data \]](#)

Download data

http://www.gramene.org/db/markers/marker_view?marker_name=RM138%2A;marker_type_id=4;species_id=8;action=marker_

marker_id	marker_type	species	marker_name	marker_synonyms
6060	SSR	Oryza sativa	RM138	D48106, OSR26
5894143	SSR	Oryza sativa	RM13802	AUT13802
5902576	SSR	Oryza sativa	RM6122	AUT13803, RM13803
5902577	SSR	Oryza sativa	RM3220	AUT13805, RM13805
5894144	SSR	Oryza sativa	RM13807	AUT13807
5894145	SSR	Oryza sativa	RM13808	AUT13808
5894146	SSR	Oryza sativa	RM13809	AUT13809
7326	SSR	Oryza sativa	RM1381	AY018056, MRG0381.ARS0381
8608	SSR	Oryza sativa	RM1381	AY018056, MRG0381.RGP0381
8679	SSR	Oryza sativa	RM1381	AY018056, MRG0381.HAU0381
5894147	SSR	Oryza sativa	RM13817	AUT13817
5902578	SSR	Oryza sativa	RM450	AUT13818, RM13818
5894148	SSR	Oryza sativa	RM13819	AUT13819
5894149	SSR	Oryza sativa	RM13820	AUT13820
5894150	SSR	Oryza sativa	RM13821	AUT13821
5894151	SSR	Oryza sativa	RM13822	AUT13822
5894152	SSR	Oryza sativa	RM13823	AUT13823
5894153	SSR	Oryza sativa	RM13824	AUT13824
5894154	SSR	Oryza sativa	RM13825	AUT13825
5894155	SSR	Oryza sativa	RM13826	AUT13826
5894156	SSR	Oryza sativa	RM13830	AUT13830
5894157	SSR	Oryza sativa	RM13833	AUT13833
5894158	SSR	Oryza sativa	RM13834	AUT13834
5902579	SSR	Oryza sativa	RM1168	AUT13835, RM13835
5894159	SSR	Oryza sativa	RM13836	AUT13836
5894160	SSR	Oryza sativa	RM13837	AUT13837
5894161	SSR	Oryza sativa	RM13838	AUT13838
6975	SSR	Oryza sativa	RM1384	AY018059, MRG0384.ARS0384
8225	SSR	Oryza sativa	RM1384	AY018059, MRG0384.RGP0384
5894162	SSR	Oryza sativa	RM13840	AUT13840
5902580	SSR	Oryza sativa	RM3212	AUT13841, RM13841
5902581	SSR	Oryza sativa	RM5833	AUT13842, RM13842, RM8248
5894163	SSR	Oryza sativa	RM13843	AUT13843
5894164	SSR	Oryza sativa	RM13844	AUT13844

For each search you may view a tab-delimited dump of entire result set by clicking the "download data" link.



Marker ID	8060																																																																																	
Marker Name	RM138																																																																																	
Synonyms (2)	D48106 (GENBANK ACCESSION)																																																																																	
Type	SSR																																																																																	
Species	Oryza sativa (Rice)																																																																																	
Germplasm	Nipponbare																																																																																	
Library	UNKNOWN																																																																																	
Description																																																																																		
Mappings (8)	<table border="1"> <thead> <tr><th>Species</th><th>Map Type</th><th>Map Set</th><th>Map</th><th>Name</th><th>Start</th><th>Stop</th><th></th><th></th></tr> </thead> <tbody> <tr><td>Oryza sativa (Rice)</td><td>QTL</td><td>M202/IR50 UCD QTL 2003</td><td>2</td><td>RM138</td><td>135.5</td><td>135.5</td><td>View on Map</td><td>Feature Details</td></tr> <tr><td>Oryza sativa (Rice)</td><td>QTL</td><td>Cornell IR64/Azu DH QTL 2001</td><td>2</td><td>RM138</td><td>196.8</td><td>196.8</td><td>View on Map</td><td>Feature Details</td></tr> <tr><td>Oryza sativa (Rice)</td><td>QTL</td><td>IRRI RD23/Olong F2 QTL 2003</td><td>2</td><td>OSR26</td><td>216.3</td><td>216.3</td><td>View on Map</td><td>Feature Details</td></tr> <tr><td>Oryza sativa (Rice)</td><td>QTL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Oryza sativa (Rice)</td><td>QTL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Oryza sativa (Rice)</td><td>QTL</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Oryza sativa (Rice)</td><td>Genetic</td><td>Cornell SSR 2001</td><td>2</td><td>RM138</td><td>196.8</td><td></td><td>View on Map</td><td>Feature Details</td></tr> <tr><td>Oryza sativa (Rice)</td><td>QTL</td><td>NDSU EM93/SS18 BC QTL 2004</td><td>2</td><td>RM138</td><td>181.9</td><td>181.9</td><td>View on Map</td><td>Feature Details</td></tr> </tbody> </table>	Species	Map Type	Map Set	Map	Name	Start	Stop			Oryza sativa (Rice)	QTL	M202/IR50 UCD QTL 2003	2	RM138	135.5	135.5	View on Map	Feature Details	Oryza sativa (Rice)	QTL	Cornell IR64/Azu DH QTL 2001	2	RM138	196.8	196.8	View on Map	Feature Details	Oryza sativa (Rice)	QTL	IRRI RD23/Olong F2 QTL 2003	2	OSR26	216.3	216.3	View on Map	Feature Details	Oryza sativa (Rice)	QTL								Oryza sativa (Rice)	QTL								Oryza sativa (Rice)	QTL								Oryza sativa (Rice)	Genetic	Cornell SSR 2001	2	RM138	196.8		View on Map	Feature Details	Oryza sativa (Rice)	QTL	NDSU EM93/SS18 BC QTL 2004	2	RM138	181.9	181.9	View on Map	Feature Details
Species	Map Type	Map Set	Map	Name	Start	Stop																																																																												
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Reverse Primer	AAGAAGCTGCCCTTTGACGCTATGG																																																																																	
Anneal Temperature	55																																																																																	
Expected PCR Product Size	233																																																																																	
Remarks																																																																																		
Sequence Source																																																																																		
Genome Positions	No known genome positions.																																																																																	
Database Cross-references	Gramene Literature Akagi-H Yokozeki-Y Inagaki-A Fujimura-T, Microsatellite markers for rice chromosomes, Theoretical and applied genetics, 93, 1996, pp. 1071-1077																																																																																	

Info from search (see slide 7).



Marker Detail

The germplasm from which the marker was derived, if available.

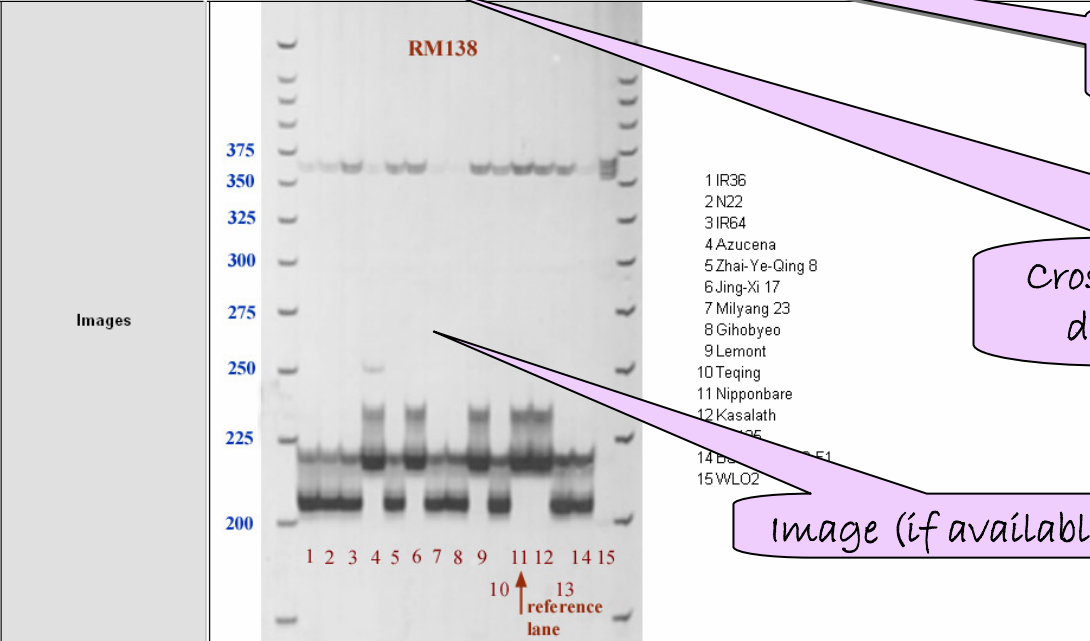
See slide 12 for more detail on mappings.

Note that marker details vary with marker type.

Lists **positions** (if any) for the marker on the genome.

Cross-references in Gramene's literature database. See **Literature tutorial**.

Image (if available)





Marker Type Detail

[Markers Home](#) | [Markers Search](#) | [SSR Markers Resource](#) | [Help](#) | [Tutorial](#)

View Marker Type "SSR"

Marker Name:	Marker Type:	Species:
<input type="text"/>	SSR <input type="button" value="v"/>	-Any-
<input type="button" value="Search"/>		<input type="button" value="Clear"/>

E.g., "AG020731,AG020732", "rm*", Oat RFLP markers like "CDO*", or view [help](#).

Marker Type:	SSR
Description:	Simple Sequence Repeat; also known as microsatellites or simple sequence length polymorphisms (SSLP).
Search for all SSR markers	

Marker type detail shows what is known about a given marker type, such as its name, a description, and possibly some cross-references.

Click to **search** for all the markers of this particular type.



Species Detail

The species details page shows known details for a given species, such as its **name**, a **description**, and possibly some **cross-references**.

View Species "Oryza sativa"

Marker Name: Marker Type: Species:

Links to Ontologies Database. See **Ontologies Tutorial**

G020732", "rm*", Oat RFLP markers like "CDO*", or view [help](#).

Species:	Oryza sativa
Common Name:	Rice
Gramene Taxonomy ID:	GR_tax:013681
Description:	N/A
Search for markers from Oryza sativa	

Click to search for all species markers

Map Sets from Oryza sativa

Map Sets 1 to 25 of 94. Page 1 of 4. | [Next](#)

Map Type	Map Set Name	No. Maps
QTL	Aberdeen Bala/Azu QTL 2002	15
QTL	AGEBC KDM105/CT999 RI QTL 2000	28
Physical	AGI FPC 2002 [OBSOLETE]	318
QTL	Brazil BG90-2/RS16 QTL 2002	9
QTL	CIRAD IR64/Azu DH QTL 2003	12
QTL	CNC AU Orufi/Gui2 BC1 QTL 2001	12
QTL	CNH ZAU 3037/2428 BC1F1 QTL 1997	2
QTL	CNH ZAU 3037/2428 F2 QTL 1997	2
QTL	CNH ZAU 58S/1514 F2 QTL 1999	2
QTL	CNH ZAU Bal/Dul/Naj11 QTL 1998	5
QTL	CNH ZAU Pei/8902 QTL 1999	13
QTL	CNH ZAU Zh97/Ming63 RI QTL 2002	14
QTL	CNH ZAU Zhe97/Wuy2 QTL 2004	12
QTL	CNN JAU Tai65/Bhad QTL 2002	11
QTL	CNR RI Tes/CB QTL 1997	12
QTL	CNR RI Tes/CB QTL 1998	15
QTL	CNR PL Wai/CB QTL 1996	13

Click linked column headings to **sort results** by that column

Any **map sets** linked to the species are listed

Click to view **map details**

Mappings

Click on links to view more details.

Map Type	Map Set	Map	Name	Start	Stop	CMap Links
Genetic	Cornell SSR 2001	2	RM138	196.8		View on Map Feature Details
Oryza sativa	CNYU Bal/Wan/Bal BC1 QTL 2001	2	RM138	176.72	176.72	View on Map Feature Details
Oryza sativa	CNYU Bal/Wan/Bal BC1 QTL 2001	2	OSR26	176.73	176.73	View on Map Feature Details
Oryza sativa	Cornell IR64/Azu DH QTL 2001	2	RM138	196.8	196.8	View on Map Feature Details
Oryza sativa	IRRI Lem/Taq RI QTL 2001	2	OSR26	260.2	260.2	View on Map Feature Details
Oryza sativa	IRRI RD23/Dlong F2 QTL 2003	2	OSR26	216.3	216.3	View on Map Feature Details
Oryza sativa	M202/IR50/JCD QTL 2003	2	RM138	135.5	135.5	View on Map Feature Details
Oryza sativa	NDSU EM93/SS18 BC QTL 2004	2	RM138	181.8	181.8	View on Map Feature Details

Maps where the marker can be found. See Maps Tutorial.

Map Type: Genetic

Description:

The genetic map is a representation of a meiotic-recombination map based on analysis of marker segregation in a population of offspring derived from a biparental cross. Marker polymorphism between the parents is required to monitor recombination among loci along a chromosome.

Map Sets

25 of 34.

Page 1 of 2 | [Next](#)

Species	Map Set Name	No. Maps
Avena sativa	Cornell Diploid 1995	7
Avena sativa	Oat, KxO, 2003	24
Hordeum vulgare	Barley consensus - 1995	7

View Map Set "Oryza sativa-Cornell SSR 2"

Marker Name: Marker Type: Species:
 -Any- -Any-

E.g., "AG020731,AG020732", "rm", "Oat RFLP markers like "CDO", o

Map Set Name:	Cornell SSR 2001
Species:	Oryza sativa
Map Type:	Genetic
CMap Map Set Accession:	cu-dh-2001

Maps

Items 1 to 12 of 12

Name	No. Mappings
1	91
2	73
3	67
4	41
5	49
6	62
7	42
8	49
9	43
10	29
11	32
12	29

Map Name:	2
Species:	Oryza sativa
Map Set Name:	Cornell SSR 2001
Map Type:	Genetic
Start Position:	0
End Position:	203.4
CMap Map Accession:	cu-dh-2001-2

Mappings

Items 1 to 25 of 73.

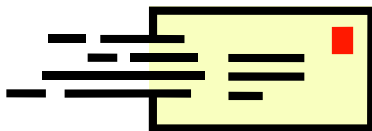
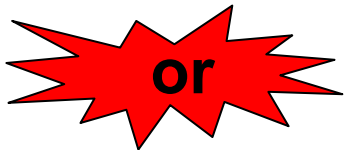
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Marker Name	Marker Type	Species	Start	End
RM485	SSR	Oryza sativa	0	
OSR17	SSR	Oryza sativa	1.1	
RM154	SSR	Oryza sativa	4.8	
RM110	SSR	Oryza sativa	6.9	
OSR14	SSR	Oryza sativa	6.9	

Contact Gramene



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Email Gramene at gramene@gramene.org