

# How to Search miRNA Targets in CSB Lab's PMMLID Database

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## STEP 1

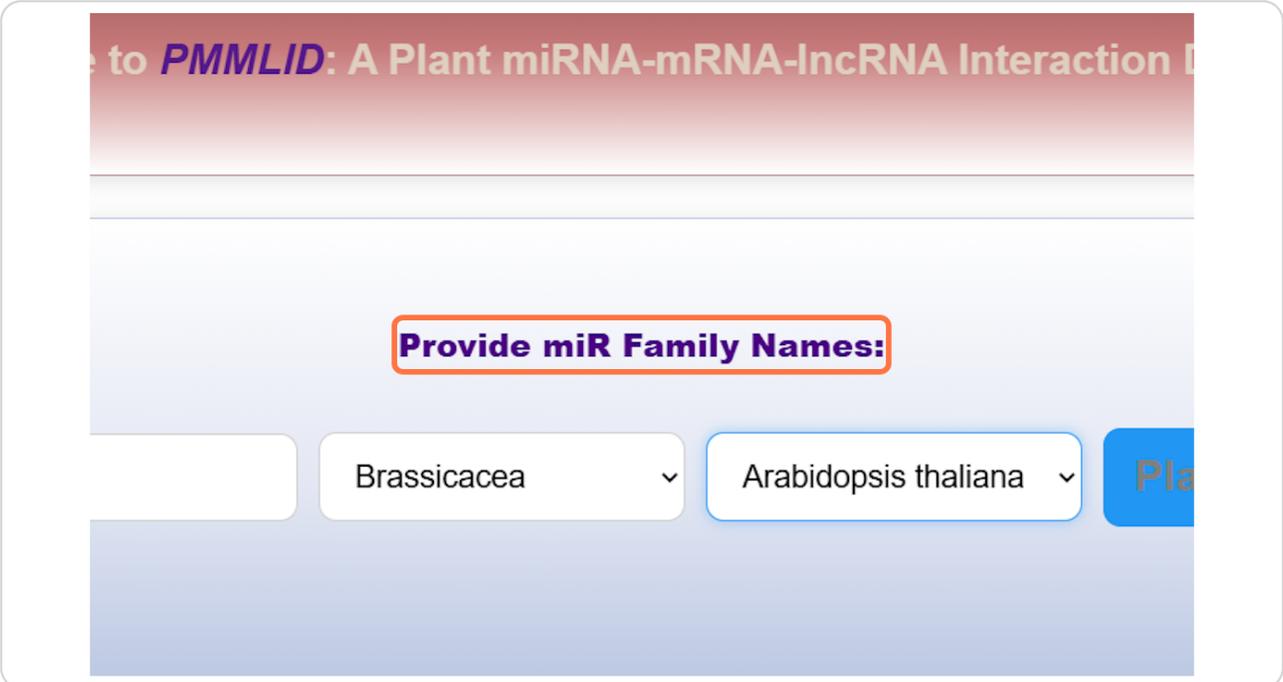
This shows the main title page. If you click on the PMMLID, it shows the tutorial and project details



Welcome to *PMMLID*: A Plant miRNA-mRNA-lncRNA Interaction Database

## STEP 2

Provide miR Family Names - It is the main search frame.

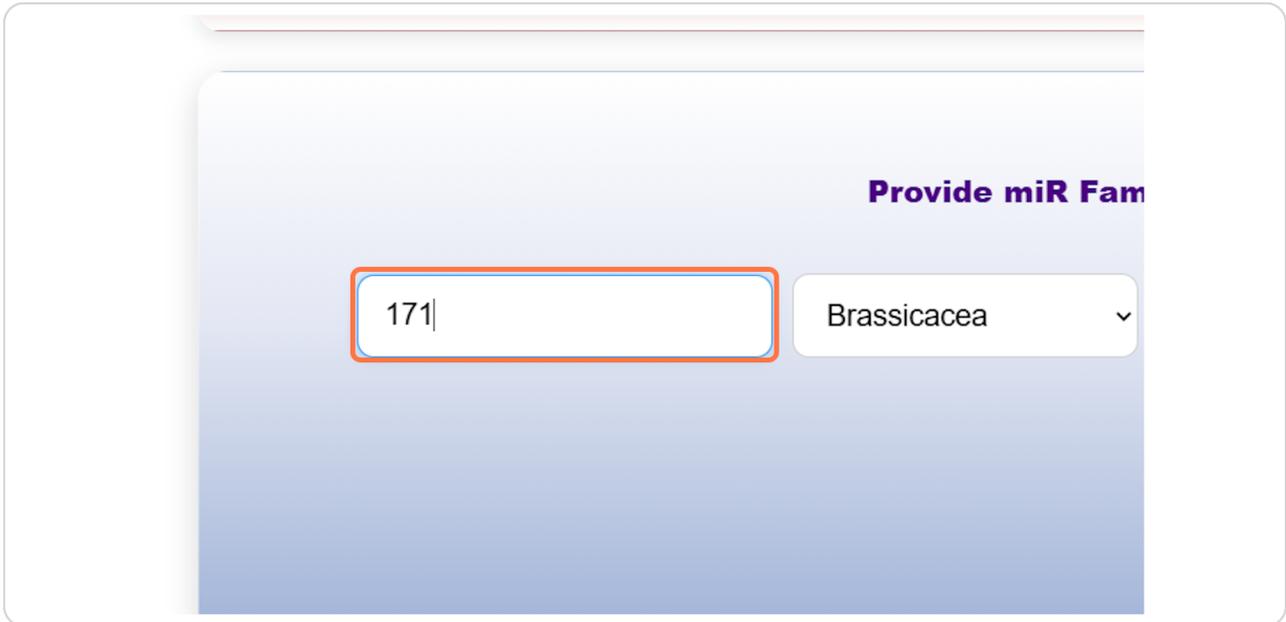


Provide miR Family Names:

Brassicacea ▾ Arabidopsis thaliana ▾ Pla

### STEP 3

This is the main search query. Provide only numbers. E.g. - the search query for getting ath-miR171a-3p should be 171.



A screenshot of a web interface with a light blue gradient background. At the top right, the text "Provide miR Fam" is visible in purple. Below this, there is a search input field containing the number "171|". To the right of the input field is a dropdown menu showing "Brassicacea" with a downward arrow. The input field and the dropdown menu are both highlighted with a red border.

### STEP 4

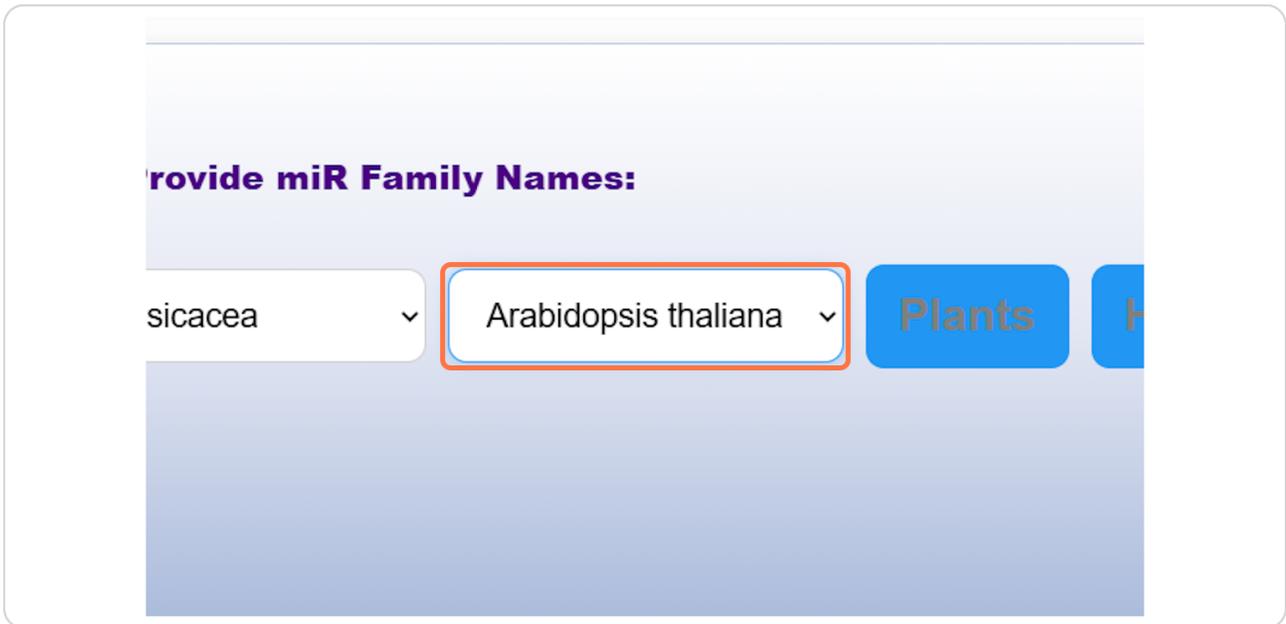
Select any Viridiplatae Family from the drop down. Here Brassicacea is chosen. If you don't select all the familys are considered.



A screenshot of a web interface with a light blue gradient background. At the top center, the text "Provide miR Family Names:" is visible in purple. Below this, there is a dropdown menu showing "Brassicacea" with a downward arrow. To the right of the dropdown menu is a text input field containing the word "Plants". The dropdown menu is highlighted with a red border.

**STEP 5**

Select a Plant of a selected family. Here Arabidopsis thaliana of Brassicacea is chosen. (If you dont select a plant an error will be generated.)



**STEP 6**

Click on Plants for outcome. If you click on Human, it provides cross-kingdom outcome.



STEP 7

A paginated result will be generated. Here for the above query one miRNA results can be observed. Here the red box shows the miRNA name.

Search by Family Name 171, of Brassicaceae

miRNA	miRNA Sequence	Target Protein
ath-miR171a-3p	UGAUUGAGCCGCGCCAAUAUC	1. AT4G00150.1 2. AT3G60630.1 3. AT2G45160.1

1

STEP 8

Resultant miRNA Sequence can be seen. Three target proteins can also be observed.

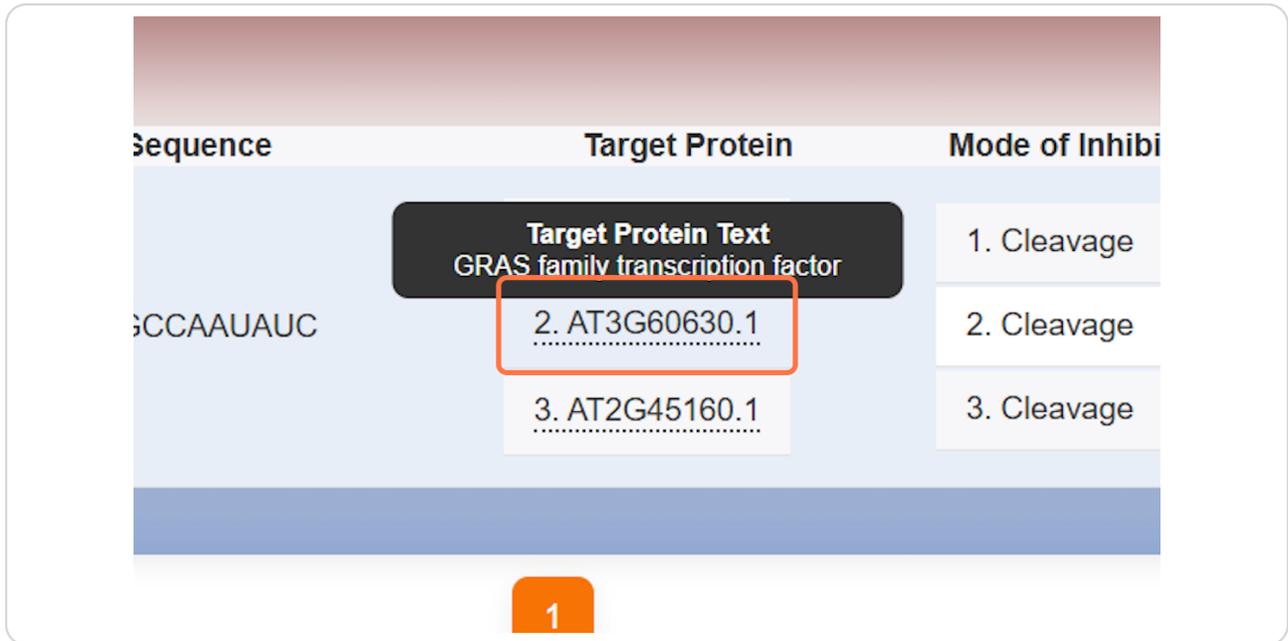
Search by Family Name 171, of Brassicaceae family

miRNA	miRNA Sequence	Target Protein
ath-miR171a-3p	UGAUUGAGCCGCGCCAAUAUC	1. AT4G00150.1 2. AT3G60630.1 3. AT2G45160.1

1

### STEP 9

The corresponding Target Protein will be shown here. If you click on the name of the Target Protein, its details will be provided as Target Protein Text.

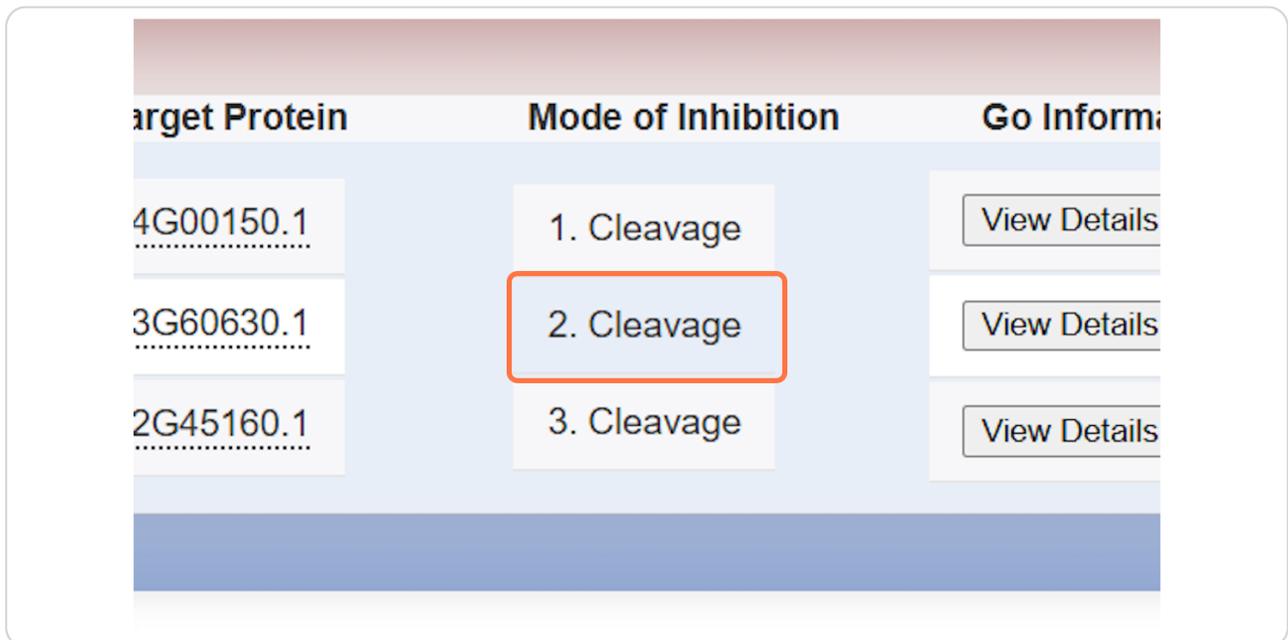


Sequence	Target Protein	Mode of Inhibition
3CCAAUAUC	<b>Target Protein Text</b> GRAS family transcription factor 2. AT3G60630.1 3. AT2G45160.1	1. Cleavage 2. Cleavage 3. Cleavage

1

### STEP 10

The Mode of Inhibition results are shown in the next column.



Target Protein	Mode of Inhibition	Go Information
4G00150.1	1. Cleavage	<a href="#">View Details</a>
3G60630.1	2. Cleavage	<a href="#">View Details</a>
2G45160.1	3. Cleavage	<a href="#">View Details</a>

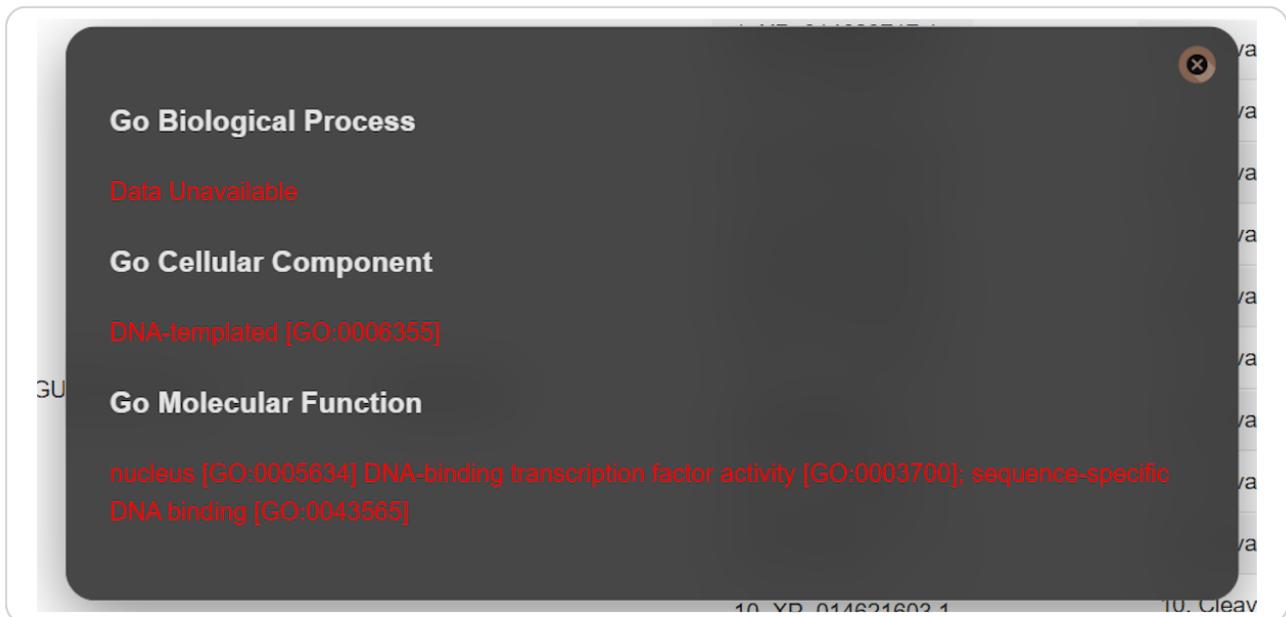
## STEP 11

The Next column has the GO (Gene Ontology) Information. Clicking on the view details will show the GO information in a pop-up overlay.



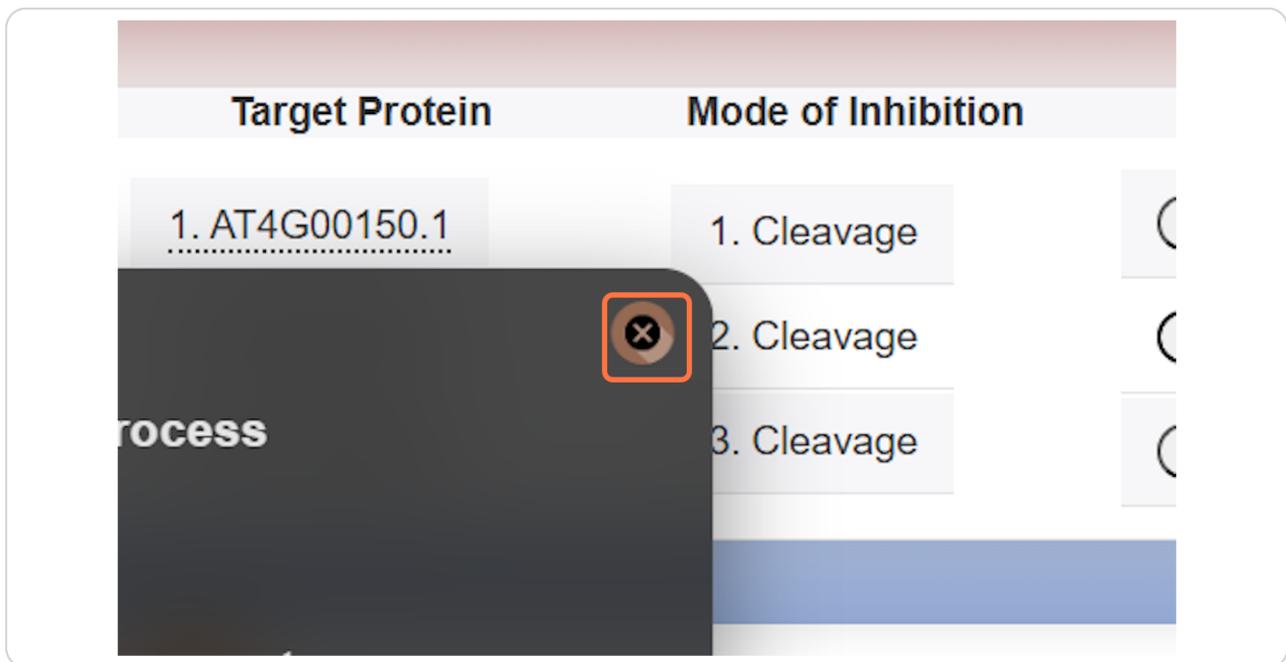
## STEP 12

A sample GO information



STEP 13

Click on the cross to get back to the results for pop-up GO information.



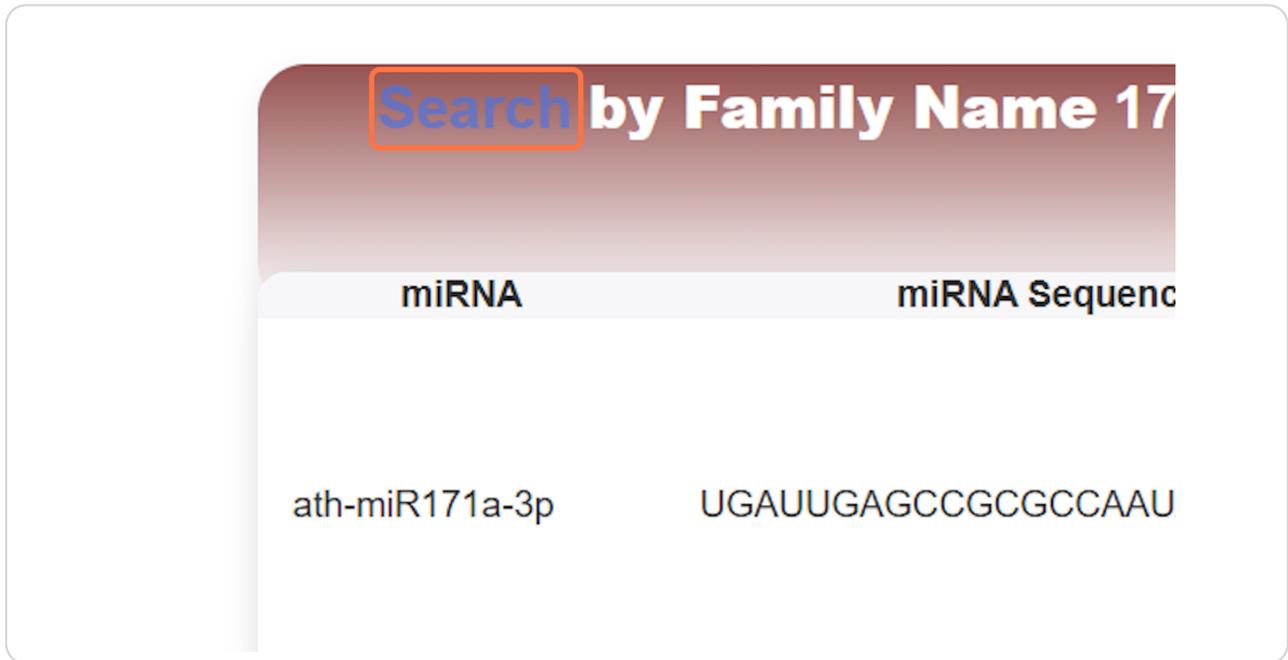
STEP 14

Only one outcome is here. Hence, pagination shows only one page.



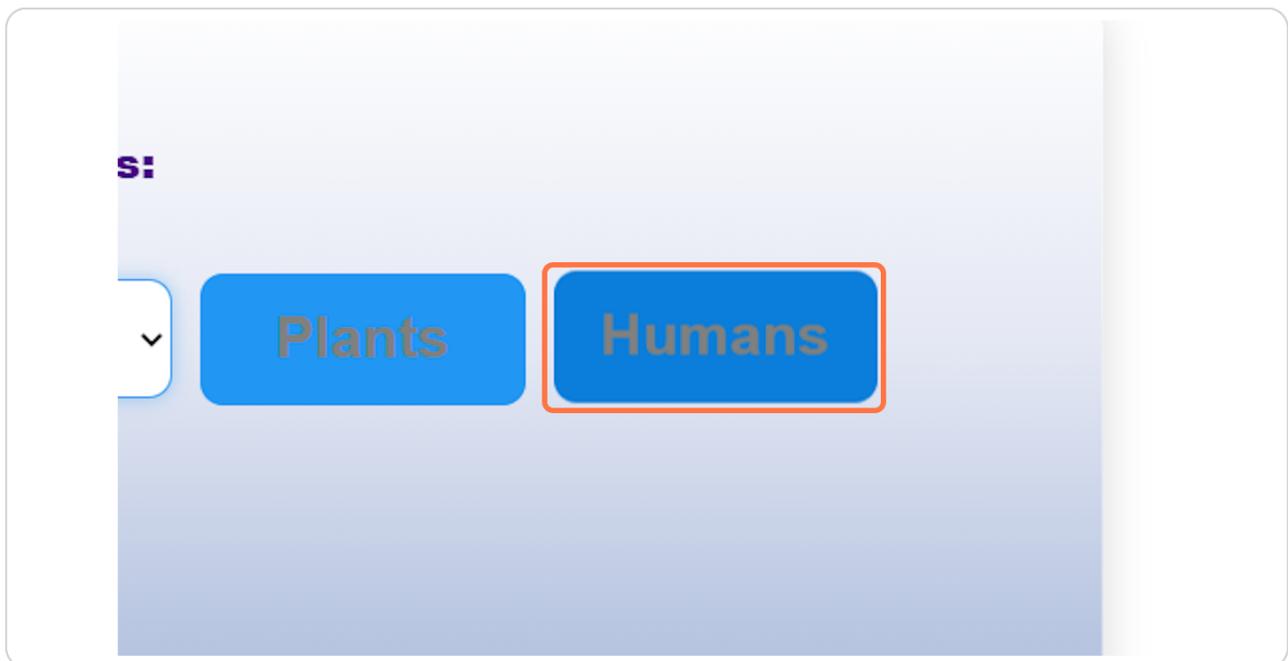
STEP 15

Click on Search to get back to the search



STEP 16

Click on Humans for Cross-kingdom results.



STEP 17

This shows pagination. The first page is shown first. Clicking on the other buttons shows results in other pages. In one page, three results grouped by miRNA name is shown. Next and Previous Buttons shows the corresponding next and previous pages.

**Search by Family Name 171 family .**

A Sequence	Plant	Target Protein	Mode
UCAAUAUCAC	Viridiplantae Family Brassicacea	No Results	No Re
UCAAUAUCACU	Brassica oleracea	No Results	No Re
UCAAUAUCACG	Brassica napus	No Results	No Re

1 2 3 4 5 6 7 ... 21 22 N

*Tango*

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