Find proteins of unknown function (PUF) using Plantannot - Protocol C

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Embrapa

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Entering application

1. Enter the Plantannot Result's page, with empty filters and text box search:
https://www.machado.cnptia.embrapa.br/plantannot/find/?q=

Or you can enter the https://www.machado.cnptia.embrapa.br/plantannot initial page and click on the magnifying glass with the text box empty as well.

Filtering

2. Visualize the 'Filters' card on the left of the page from step 1:

https://www.machado.cnptia.embrapa.br/plantannot

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In the "Organisms" filter, select any organisms (expand the organism's list using the green arrow) or select all by leaving all boxes empty. We will use Oropetium tomaeum as example. Click 'apply' to execute the filter.
2.2 In the "Feature type" filter, select "polypeptide", and click "apply" to execute the filter:

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOpuntia%20ficus%e2%80%93aelegans&selected_facets=so_term%3Apolypeptide

2.3 In the Orthology filter, select "orthology", and click "apply" to execute the filter:

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOpuntia%20ficus%e2%80%93aelegans&selected_facets=so_term%3Apolypeptide&selected_facets=orthology%3A1

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2.4 In the "Orthologs coexpression" filter, select "co-expression", and click "apply" to execute the filter:

![Orthologs coexpression filter]

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOropetium+thomaeum&selected_facets=so_term%3Apolypeptide&selected_facets=orthology%3A1&selected_facets=orthologs_coexpression%3Atrue

2.5 In the "Analyses" filter, select both "no diamond matches" and "no interproscan matches", and click "apply" to execute the filter:

![Analyses filter]

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOropetium+thomaeum&selected_facets=so_term%3Apolypeptide&selected_facets=orthology%3A1&selected_facets=orthologs_coexpression%3Atrue&selected_facets=analyses%3Ano+diamond+matches&selected_facets=analyses%3Ano+interproscan+matches

2.6 Leave the "Coexpression" filter empty:

![Coexpression filter]

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOropetium+thomaeum&selected_facets=so_term%3Apolypeptide&selected_facets=orthology%3A1&selected_facets=orthologs_coexpression%3Atrue&selected_facets=analyses%3Ano+diamond+matches&selected_facets=analyses%3Ano+interproscan+matches

2.7 Leave the "Biomaterial" and "Treatment" filters empty:

![Biomaterial and Treatment filters]

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOropetium+thomaeum&selected_facets=so_term%3Apolypeptide&selected_facets=orthology%3A1&selected_facets=orthologs_coexpression%3Atrue&selected_facets=analyses%3Ano+diamond+matches&selected_facets=analyses%3Ano+interproscan+matches

3 After execution of all filters we will have the following list of filters:

![Selected filters]

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOropetium+thomaeum&selected_facets=so_term%3Apolypeptide&selected_facets=orthology%3A1&selected_facets=orthologs_coexpression%3Atrue&selected_facets=analyses%3Ano+diamond+matches&selected_facets=analyses%3Ano+interproscan+matches

Viewing results

4 Visualize the "Results" card on the center-right of the screen, we will have the resulting list of Oropetium's PUFs supposedly related to abiotic stress by using orthology and co-expression networks:

![Results card]

https://www.machado.cnptia.embrapa.br/plantannot/find/?q=&selected_facets=organism%3AOropetium+thomaeum&selected_facets=so_term%3Apolypeptide&selected_facets=orthology%3A1&selected_facets=orthologs_coexpression%3Atrue&selected_facets=analyses%3Ano+diamond+matches&selected_facets=analyses%3Ano+interproscan+matches

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<table>
<thead>
<tr>
<th>Organism</th>
<th>Potential</th>
<th>Feature ID</th>
<th>Relationship Display</th>
<th>Orthologs Group</th>
<th>Comments Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oropetium thomaeum</td>
<td>0.3476x4.3</td>
<td>orthology</td>
<td>orthology</td>
<td>orthology compressed</td>
<td>orthology</td>
</tr>
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