**Table S2. Protein phosophatases used to build a PP2A-PP4-PP6 phylogenetic tree.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Protein** | **Accession #a** | **AA usedb** | **Organisms** |
| **At-FyPP1** | NP\_175454 | 24-303 | *Arabidopsis thaliana* |
| **At-FyPP3** | NP\_188632 | 24-303 | *Arabidopsis thaliana* |
| **At-PP2A-1** | NP\_176192 | 28-306 | *Arabidopsis thaliana* |
| **At-PP2A-2** | NP\_172514 | 28-306 | *Arabidopsis thaliana* |
| **At-PP2A-3** | NP\_567066 | 35-313 | *Arabidopsis thaliana* |
| **At-PP2A-4** | NP\_565974 | 35-313 | *Arabidopsis thaliana* |
| **At-PP2A-5** | NP\_177154 | 29-307 | *Arabidopsis thaliana* |
| **At-PPX-1** | NP\_194402 | 25-305 | *Arabidopsis thaliana* |
| **At-PPX-2** | NP\_200337 | 25-305 | *Arabidopsis thaliana* |
| **Ce-BAB63947** | BAB63947 | 14-294 | *Caenorhabditis elegans* |
| **Ce-BAB63948** | BAB63948 | 38-321 | *Caenorhabditis elegans* |
| **Ce-LET-92** | NP\_502247 | 40-318 | *Caenorhabditis elegans* |
| **Ce-PPH-4.1** | NP\_499603 | 53-333 | *Caenorhabditis elegans* |
| **Ce-PPH-4.2** | NP\_001022898 | 38-321 | *Caenorhabditis elegans* |
| **Ce-PPH6** | NP\_497714 | 53-331 | *Caenorhabditis elegans* |
| **Cr-PP2A-1c** | XP\_001699424 | 32-314 | *Chlamydomonas reinhardtii* |
| **Cr-PP2A3a** | g9684a | 35-315 | *Chlamydomonas reinhardtii* |
| **Cr-PP2A-c4** | XP\_001700556 | 28-307 | *Chlamydomonas reinhardtii* |
| **Cr-PPA1** | XP\_001691361 | 28-307 | *Chlamydomonas reinhardtii* |
| **Cv-PP2A** | EFN59957 | 33-311 | *Chlorella variabilis* |
| **Cv-PPX** | EFN51614 | 24-304 | *Chlorella variabilis* |
| **Dm-Microtubule star** | NP\_476805 | 31-309 | *Drosophila melanogaster* |
| **Dm-PP19C** | NP\_524803 | 28-307 | *Drosophila melanogaster* |
| **Dm-PPV** | NP\_511061 | 25-303 | *Drosophila melanogaster* |
| **Hs-PP2A-alpha** | NP\_002706 | 31-309 | *Homo sapiens* |
| **Hs-PP2A-beta** | AAV38333 | 31-309 | *Homo sapiens* |
| **Hs-PP4** | NP\_002711 | 28-307 | *Homo sapiens* |
| **Hs-PP6-a** | NP\_001116827 | 64-342 | *Homo sapiens* |
| **Hs-PP6-b** | NP\_002712 | 27-305 | *Homo sapiens* |
| **Hs-PP6-c** | NP\_001116841 | 27-283 | *Homo sapiens* |
| **M-XP\_002500713** | XP\_002500713 | 25-304 | *Micromonas sp. RCC299* |
| **M-XP\_002503579** | XP\_002503579 | 33-312 | *Micromonas sp. RCC299* |
| **M-XP\_002503744** | XP\_002503744 | 31-310 | *Micromonas sp. RCC299* |
| **M-XP\_002504545** | XP\_002504545 | 33-314 | *Micromonas sp. RCC299* |
| **Mm-PP2A-alpha** | AAD12587 | 31-309 | *Mus musculus* |
| **Mm-PP2A-beta** | EDL35413 | 1-244 | *Mus musculus* |
| **Mm-PP6** | NP\_077171 | 27-305 | *Mus musculus* |
| **Ol-XP\_001417307** | XP\_001417307 | 26-305 | *Ostreococcus lucimarinus* |
| **Ol-XP\_001418898** | XP\_001418898 | 33-312 | *Ostreococcus lucimarinus* |
| **Ol-XP\_001422129** | XP\_001422129 | 27-307 | *Ostreococcus lucimarinus* |
| **Ot-PP2A** | XP\_003080276 | 44-323 | *Ostreococcus tauri* |
| **Ot-PP2A-2** | XP\_003078905 | 26-305 | *Ostreococcus tauri* |
| **Ot-PP2A-3** | XP\_003084155 | 27-307 | *Ostreococcus tauri* |
| **Sc-PPH21** | EGA79648 | 83-361 | *Saccharomyces cerevisiae* |
| **Sc-PPH22** | EGA87691 | 56-334 | *Saccharomyces cerevisiae* |
| **Sc-PPH3** | NP\_010360 | 25-308 | *Saccharomyces cerevisiae* |
| **Sc-SIT4** | EGA75745 | 4-288 | *Saccharomyces cerevisiae* |
| **Vc-XP\_002948431** | XP\_002948431 | 35-315 | *Volvox carteri* |
| **Vc-XP\_002951596** | XP\_002951596 | 29-308 | *Volvox carteri* |
| **Vc-XP\_002956912** | XP\_002956912 | 28-297 | *Volvox carteri* |
| **Vc-XP\_002958867** | XP\_002958867 | 34-165 | *Volvox carteri* |
| **Zm-PP2Ac-1** | ACG37926 | 28-306 | *Zea mays* |
| **Zm-PP2Ac-2** | ACG38746 | 29-307 | *Zea mays* |
| **Zm-PP2Ac-4** | NP\_001150190 | 37-315 | *Zea mays* |
| **Zm-PP2Ac-5** | ACG34764 | 35-313 | *Zea mays* |

a. Accession numbers and protein sequences were obtained from NCBI with the exception of Cr-PP2A3. The protein sequence of Cr-PP2A3 (Accession number XP\_001694950) is incomplete and thus we used the protein sequence from *Chlamydomonas* v5.3 genome assembly and the locus name of *Cr-PP2A3* is given instead.

b. Positions of amino acids used to build the phylogenetic tree shown in Figure 3A.