



**Supplemental Fig. S2. Phylogenetic tree showing the divergence between analyzed species (the tree was generated by [timetree.org](http://timetree.org).)** The selected species include those that diverged from *P. patens* 177 (*Ceratodon purpureus*), 320 (*Sphagnum fallax*), 493 (*Marchantia polymorpha*), 532 (*Arabidopsis thaliana*, *Oryza sativa*, *Zea mays*, *Selaginella moellendorffii* and *Spirodela polyrhiza*) and 1160 (*Volvox carteri* and *Chlamydomonas reinhardtii*) Mya.