**Supplemental Table S4.** Oligonucleotides for cloning of *PAPhy* cDNAs from wheat, barley, maize and rice, wheat acid phosphatase (*Ta_ACP*), barley purple acid phosphatase "c" (*HvPAP_c*), barley and wheat α2-tubulin and maize *ZmPAP_c*.

| Isogenes | Forward primer | Reverse primer | PCR product (bp) |
|---|---|---|---|
| **Wheat** | | | |
| *TaPAPhy_a1* | Ta_PAPhy_a1_fw 5´-TGGAACGCCCGCACCAAAGGACATG-3´ | Ta_PAPhy_a1_rv 5´-CGTGTCACACCCACACGTGGGACA-3´ | 1790 |
| *TaPAPhy_a2* | Ta_PAPhy_a2_fw 5´-ATGTGGATGTGGAGGGGGTC-3´ | Ta_PAPhy_a2_rv 5´-CGACGGACAGTTGCTACTGTA-3´ | 1740 |
| *TaPAPhy_b1* | Ta_PAPhy_b1_fw 5´-ATGTGGATGTGGAGGGGGT-3´ | Ta_PAPhy_b1_rv 5´-CACAGTGTATAGACTGATACTAGATCACAAG-3´ | 1822 |
| *TaPAPhy_b2* | Ta_PAPhy_b2_fw 5´-CGCCCGCACCAAAGGACATGTGGAT-3´ | Ta_PAPhy_b2_rv 5´-CATATGAAAAAGATACGTACCA-3´ | 1851 |
| *Ta_ACP* | Ta_ACP_fw 5´-AGATGAGGGGGCTGGGCT-3´ | Ta_ACP_rv 5´-ATCTGGCTGACTGGAATTTTACA-3´ | 1434 |
| *Ta_α2-tubulin* | Ta_α2-tub_fw 5´-CCGCCGCCATGAGGGAGTGC-3´ | Ta_α2-tub_rv 5´-CCGAGGTAAACAATACAAATTAGTA-3´ | 1622 |
| **Barley** | | | |
| *HvPAPhy_a* | Hv_PAPhy_a_fw 5´-AGCATCCCAATCCTCTCAATGCCAAGC-3´ | Hv_PAPhy_a_rv 5´-TTTTTATTTCCACGCATGGG-3´ | 1773 |
| *HvPAPhy_b1* | Hv_PAPhy_b1_fw 5´-ATGTGGATGTGGAGGGG-3´ | Hv_PAPhy_b1_rv 5´-GCCGTACAAGCCTTTCATGCTACCT-3´ | 1784 |
| *HvPAPhy_b2* | Hv_PAPhy_b2_fw CATATGTCGATTTGGAGGG-3´ | Hv_PAPhy_b2_rv 5´-GCCGTACAAGCCTTTCATGCTACCT-3´ | 1789 |
| *HvPAP_c* | Hv_PAP_c_fw 5´-GCGCCATGACCACCAGCACCATCGC-3´ | Hv_PAP_c_rv 5´-CTACTTCATGGAGAAGAAGGGCGTTAC-3´ | 1865 |
| *Hv_α2-tubulin* | Hv_α2-tub_fw 5´-GAGTCGTACAAAACTCTCTCCGC-3´ | Hv_α2-tub_rv 5´-AGGAGGCTAAGGCATAGATAACCAG-3´ | 1697 |
| **Maize** | | | |
| *ZmPAPhy_b* | Zm_PAPhy_fw 5´-AGTGGGAGGGAACACCGCAGC-3´ | Zm_PAPhy_rv 5´-TAGGAGTGATGGATCAATCAATAGGC-3´ | 1677 |
| *ZmPAP_c* | Zm_PAP_c_fw 5´-TGGCTACGGCCATGGCGA-3´ | Zm_PAP_c_rv 5´-TTAATACATAATAGCAGAAATTTTGTCATCAA-3´ | 1876 |
| **Rice** | | | |
| *OsPAPhy_b* | Os_PAPhy_b_fw 5´- ATGCGGATGAGGGTCTCACTG -3´ | Os_PAPhy_b_rv 5´- GCAAGGCTTTCTTCCATCTTGTA -3´ | 1845 |