

**Additional File 13: Table S4.** Nucleotide sequence of codon optimized sugar alcohol phosphatase.

Name	Sequence (5'-3')
<i>PYP</i>	gaatcattcaaagcgccATGGTCAAGGCTGTGATCTTCACGGATTCGATG GCACTGTCACTCTGGAGGACAGCAACGATTACCTTACAGATACTTG GTTTTGGAAAAGAGAAACGGCTCAAGGTTTTCGAAGGCGTTCTGGATG ACACCAAATCGTTCGGTCAAGGTTTCATGGAAATGCTTGAGTCGATTC ATACACCTTTCCCTGAATGCATTAATAATTCTGGAGAAAAAGATTAGACT TGATCCCGGCTTCAAAGATACATTTGAGTGGGCACAGGAAAATGATGT CCCTGTTATTGTCGTTAGCTCTGGAATGAAACCCATTATCAAGGTCCTT CTGACCCGACTTGTCGGTCAGGAATCCATCCATAAAATCGACATTGTT TCGAACGAAGTGGAGATCGATGCACACGACCAGTGGAAAGATCATTTAC AAAGACGAAAGCCCTTTTGGACACGATAAAAGCCGATCCATTGATGCT TACAAAAAAAAGTTCGAATCGACGCTGAAGGCAGGCGAGCAGAGACC TGTTTATTTTTACTGTGGAGATGGAGTCTCCGATCTCTCTGCAGCAAAA GAATGTGATCTCCTGTTTCGCAAAGCGGGGCAAAGATCTGGTTACCTAT TGCAAGAAGCAGAATGTCCCCTTCCATGAGTTTGACACGTTCAAGGAC ATCCTGGCCTCGATGAAACAAGTGCTGGCTGGAGAAAAAACCGTTGCT GAGCTTATGGAGAAGTAggctagcctcatgtaattag