**Supplementary Material**

### A

| Transcript ID | Transcript Length | Protein Length | Genomic Length | Isoelectric Point | Molecular Weight | SignalP | TMHMM |
|---------------|-------------------|----------------|----------------|--------------------|------------------|----------|--------|
| TGGT1_217555  | 327               | 108            | 1346           | 8.26               | 11.564 kDa       | No       | No     |

### B

**Supplementary Figure 2.** Bioinformatics analysis of hypothetical protein HP1; A: Properties and features of HP1; B: Analysis of signal peptide; C: Analysis of transmembrane region; D: Homologous analysis of HP1; E: Alignment of amino acid sequence of TgHP1 with OPCA of *Synechococcus elongatus*