**Table S1.** Characteristics of the plasmids used in this study

|  |  |  |
| --- | --- | --- |
| **Plasmids** | **Relevant feature(s)** | **Reference** |
|  |  |  |
| Cloning and construction of various cassette  |
| pGEMT | Ampr AT overhang cloning vector  | Promega |
| pUC4K | Source of the Kmr marker without TT | Pharmacia |
| pFC1 | Replicating plasmid for T°-controlled gene expression in *Synechocystis* |  A |
| pFCIK | pFC1 plasmid where the Smr/Spr marker was replaced by the Kmr gene of pUC4K to serve as a source of the Kmr-TT-*cI857-**pR* cassette for T°-controlled gene expression  | This study Fig S2 |
|   |
| Targeted deletion of *hoxEFUYH* operon in *Synechocystis* |
| phoxEFUYH::Kmr | pGEMT with the Kmr-TT-*cI857-**pR* cassette flanked by the upstream and downstream regions of the *hoxEFUYH* operon.  |  This study Fig S3 |
|  |
| Replacement of the *hoxEFUYH* operon promoter by the Kmr-TT-*cI857-**pR* cassette  for T°-regulated expression  |
| pTR-HoxEFUYH | pFCIK with the Kmr-TT-*cI857-**pR* cassetteflanked bythe *Synechocystis* hoxup region (-943 to -691 bp upstream of the *hoxE* ATG start codon) and *hoxE* CS to serve as platform for homologous recombination mediating promoter replacement | This studyFig. S6 |
|  |
| Replacement of the *hoxEFUYH* operon promoter by the Kmr-TT*-**pR* cassette for constitutive expression  |
| pCE-hoxEFUYH | pTR-HoxEFUYH lacking the 617 bp region encompassing a large part (517 bp) of the cI857 .  | This studyFig S11 |
|  |
| Temperature controlled expression of the *Synechocystis* *hypABCDEF* genes  |
| pTR-hypABCDEF | pFCI with the  *hypABCDEF* genesexpressed as a single operon under the control of the Smr/Spr-TT-*cI857-**pR* cassette  | This study Fig S8 |
|  |
| Constitutive high level expression of the *hypABCDEF* genes in *Synechocystis* |
| pCE-hypABCDEF | pTR-hypABCDEF lacking the 617 bp region encompassing a large part (517 bp) of the cI857 .  | This studyFig S13 |

A, ([Mermet-Bouvier and Chauvat, 1994](#_ENREF_1)); CS, Protein Coding Sequence; ∆, deletion; T°, temperature; TT, transcriptional terminator

Mermet-Bouvier, P., Chauvat, F., 1994. A conditional expression vector for the cyanobacteria *Synechocystis* sp. strains PCC6803 and PCC6714 or *Synechococcus* sp. strains PCC7942 and PCC6301. Curr Microbiol. 28**,** 145-8.