

Title: *Synechocystis* sp. PCC 6803 overexpressing genes involved in CBB cycle and free fatty acid cycling enhances the significant levels of intracellular lipids and secreted free fatty acids

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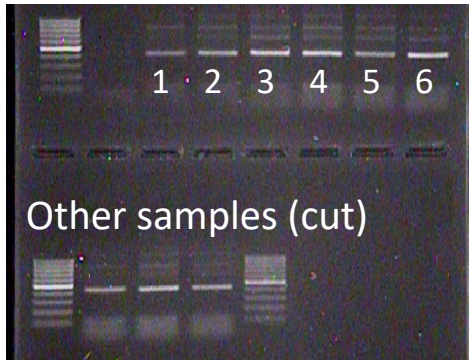
Supplementary information Table S1 Primers used in this study

Name	Sequence (5' to 3')	Purpose of primer	Target gene/ Expected size	PCR Cycles /T _m	Reference
Km_FBamHI	TAGAGAGGATCCACGGTTGATGAG AGCTTTGTTGTA	PCR for <i>km'</i>	1122		This study
Km_FAcII	TAGAGAAACGTTACGGTTGATGAG AGCTTTGTTGTA	PCR for <i>km'</i>			This study
Km_RBamHI	TAGAGAGGATCCTGTGTCTCAAAA TCTCTGATGTTAC	PCR for <i>km'</i>			This study
aas_F3	TAGAGATCTAGAGTGGACAGTGGC CATGGCGC	PCR for <i>aas</i>	2091		³
aas_R3	TACAGAAGTACTAGTTTAAAACATTTT GTCAATTA	PCR for <i>aas</i>			³
GlpD_F	TAGAGATCTAGAATGCGTAATTTT CCAGAAATCC	PCR for <i>glpD</i>	1668		This study
GlpD_R	TAGAGAAGTACTAGTTTCAAGTGGAGACA ATAGTCGGGA	PCR for <i>glpD</i>			This study
RBC_F	TAGAGAAGTACTAGTATTGCCATAAG TAAAGGCATCC	PCR for <i>RubisCo</i>	2815		This study
RBC_R	TAGAGACTGCAGTAATTGACAATT GACAATCCCCAC	PCR for <i>RubisCo</i>			This study
cm_F	TAGAGACCTAGTCGAGTTGATCGG GCACGTAA	PCR for <i>cm'</i>	905		This study
cm_R	TAGAGACCTAGTCAGCTCGAGGCT TGGATTCT	PCR for <i>cm'</i>			This study
bb-cSR	GATATATCAACGGTGGTATATCCA	Sequencing			This study
RBC_SR2	GGTTTGTGGACAATAAAGCTT	Sequencing			This study
GlpD_SR	GCGGTGGTCCGTGGTGCCAAT	Sequencing			This study
GlpD_SF	ATATGTGGAAGCGTTTGTGGATAA A	Sequencing			This study
Km_SF	CGTCATCAAAATCACTCGCA	Sequencing			This study
Km_SR	TGATGCATGGTTACTCACCCTGCG G	Sequencing			This study
UUSpsbA2	CACTCAGATAGGAGCCATCTTGC	Colony PCR			This study
USpsbA2	CTTTAGCGTTCCAGTGGATA	Colony PCR			This study
DSpsbA2	GCGATCGCCTTGGCAAAACAATA	Colony PCR			This study
DDSpsbA2	CCCGTAGTTGTTCAATGATGATGA T	Colony PCR			This study
USrubisco	GCAACCCCTGATTAGCTTTGCG	Colony PCR			This study
DSrubisco	CCGGAATACTCCCCTGGGAA	Colony PCR			This study
USGlpD	CCTACTGCGGGAAGCCTACGCCG	Colony PCR			This study
DSGlpD	CTTAACCGTTGGCTATGGCGACAG	Colony PCR			This study
bb fl	AGTTAGCCGTAGTTAGCCC	Colony PCR			This study
RTglpD_F420	GAATATGCGGAACGGTTAGAT	RT-PCR for <i>glpD</i>	420	26 cycles	This study
RTglpD_R420	GCGGTGGTCCGTGGTGCCAAT	RT-PCR for <i>glpD</i>		/53.5 °C	This study
RT <i>rbcL</i> _F420	GGTTTTAAGGCTCTGCGGGC	RT-PCR for <i>rbcL</i>	420	23 cycles	This study
RT <i>rbcL</i> _R420	GATGATGGGGGTGCCAATTTCT	RT-PCR for <i>rbcL</i>		/58 °C	This study
RT <i>rbcS</i> _F300	CAAGCCGTTCTCAGGATCCAG	RT-PCR for <i>rbcS</i>	300	22 cycles	This study
RT <i>rbcS</i> _R300	AGGGAAATTATCGACTTCGGCTA	RT-PCR for <i>rbcS</i>		/56 °C	This study
RTlipA_F379	TTGGCGGAGCAAGTGAAGCAAT	RT-PCR for <i>lipA</i>	379	25 cycles	³
RTLipA_R379	CATGGACCAGCACAGGCAAAAT	RT-PCR for <i>lipA</i>		/55.1 °C	
RTaccA_F428	ATGCACGGCGATCGAGGAGGT	RT-PCR for <i>accA</i>	428	27 cycles	³
RTaccA_R428	TGGAGTAGCCACGGTGTACAC	RT-PCR for <i>accA</i>		/58.2 °C	
RT16sRNA_F521	AGTTCTGACGGTACCTGATGA	RT-PCR for <i>16s</i>	521	13 cycles	³
RT16sRNA_R521	GTCAAGCCTTGGTAAGGTTAT	RT-PCR for <i>16s</i>		/56 °C	
RTaas_F307	GTGGTTTATCGCCGATCAAG	RT-PCR for <i>aas</i>	307	28 cycles	³
RTaas_R307	TTCCTGGCGGGGAACGGGAG	RT-PCR for <i>aas</i>		/54.5 °C	
RTPlsX_F	AAGGGGTGGTGGAAATGGAA	RT-PCR for <i>PlsX</i>	488	27 cycles	¹³
RTPlsX_R	AAGTAGGTCCCTTCCTTCGG	RT-PCR for <i>PlsX</i>		/52.7 °C	

Supplementary information Figure S1

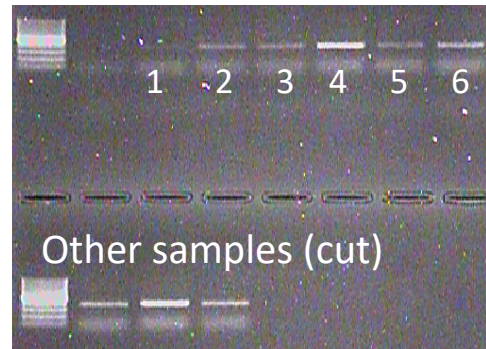
The full-length of gel from RT-PCR products of each gel was shown as followings. In each gel picture, we cropped gel by cutting out the non-related bands, Lane 2, of other samples (WTd).

accA, 58.2C, 27 cycles

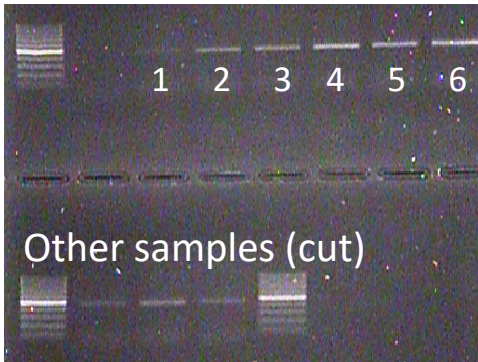


Lane
1: WT
2: WTd (cropped)
3: OA
4: OG
5: OAG
6: OAGR

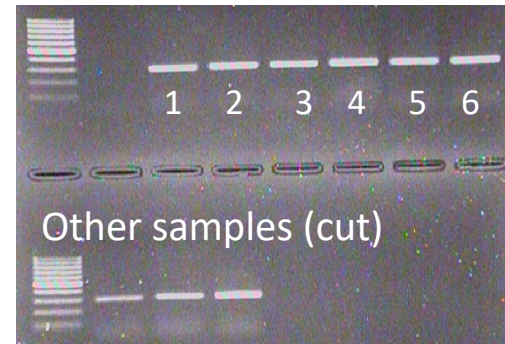
lipA 55.1 C, 25 cycles



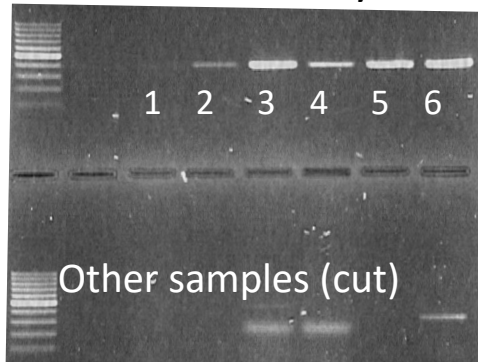
plsX, 52.7C, 27 cycles



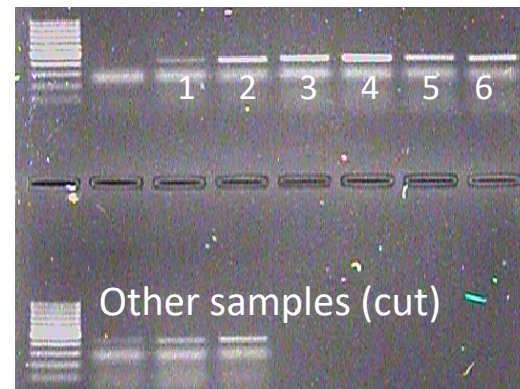
rbcS 56 C, 22 cycles



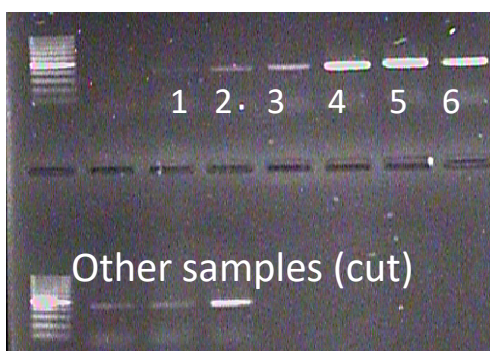
aas, 54.5 C, 28 cycles



rbcL 58 C, 23 cycles



glpD, 53.5 C, 26 cycles



16S, 56 C, 13 cycles

