Supplementary Figures

Fig. S1

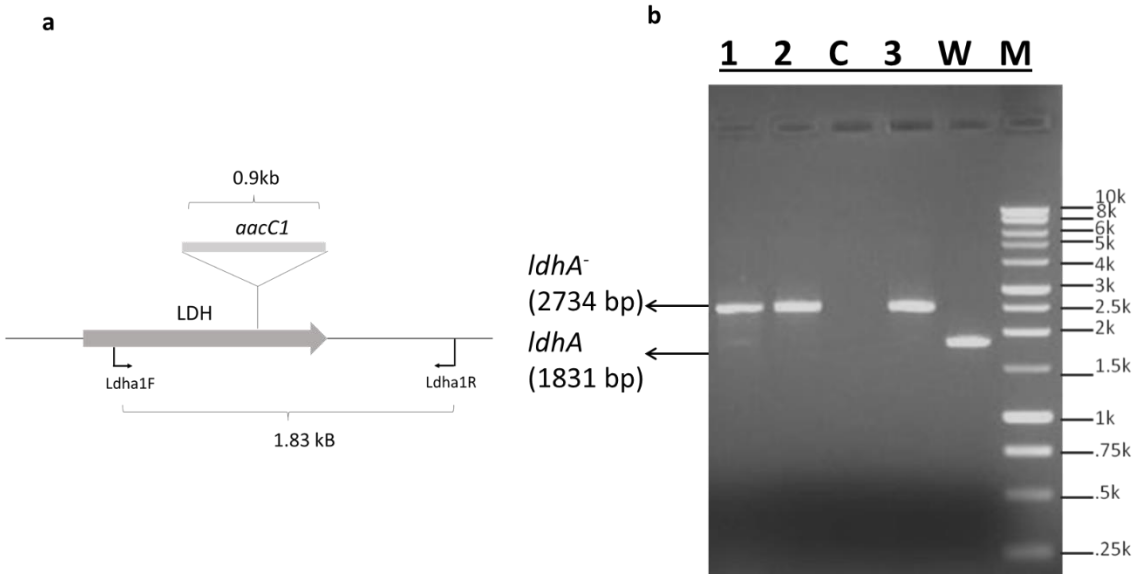

Figure S1: A) Schematic representation of the insertion of the gentamicin resistance cassette into the *ldhA* gene locus in Δ*gap1 and gap1*^{OEx} strains. Using primers LdhA1F and LdhA1R the gentamicin marker and the associated *ldhA* gene segments were PCR amplified from the *ldhA::aacC1* strain described previously [13]. The PCR fragment was used to transform Δ*gap1* and *gap1*^{OEx} strains via homologous recombination to create Δ*gap1*Δ*ldhA* and *gap1*^{OEx}Δ*ldhA*. B) Electrophoretic analysis of PCR products to evaluate putative mutants. Using genomic DNA from *gap1*^{OEx}Δ*ldhA (1),* Δ*gap1*Δ*ldhA (2),* Δ*ldhA (3)* and WT *Synechococcus* 7002 (W), *ldhA* locus was amplified with LdhA1F and LdhA1R. C represents no template control PCR reaction. The amplicon from the transformants are larger than the corresponding amplicon from WT. Presence of a single 2.7 kb band in the transformants demonstrates complete segregation of Δ*ldhA:aacC1* and *ldhA* alleles. DNA size markers are in M lane.

Fig. S2

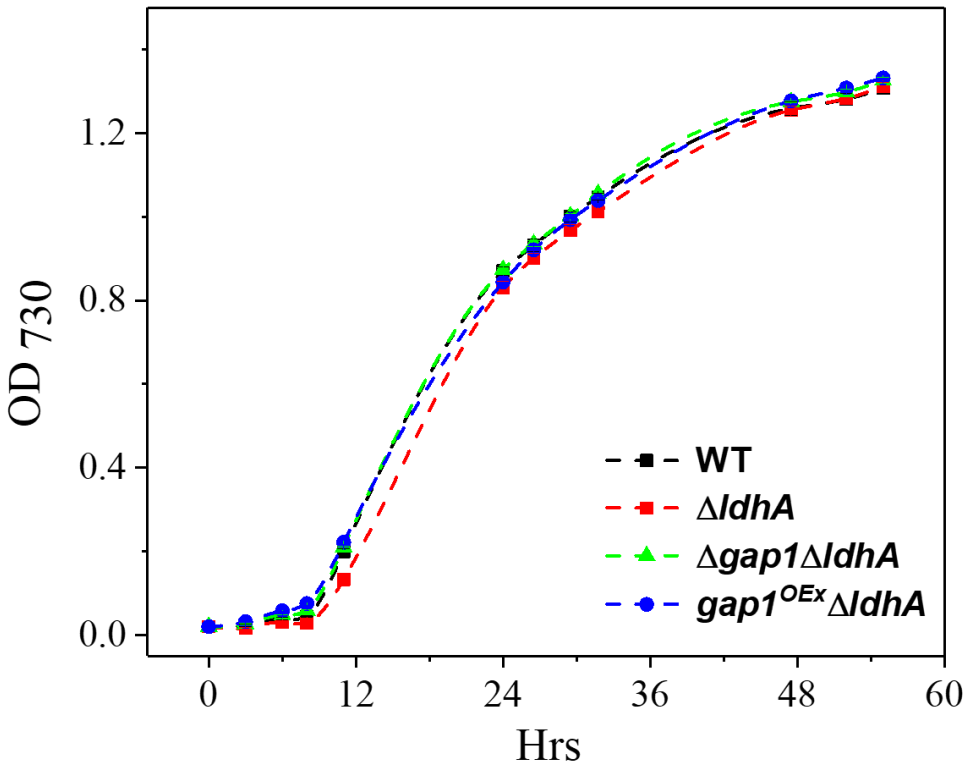

Figure S2 Growth curve for WT, Δ*ldhA*, Δ*gap1*Δ*ldhA*, and *gap1*^{OEx}Δ*ldhA* strains of *Synechococcus* 7002 cultured under continuous illumination of 200 µmol photons m^{-2} s^{-1} with 2% (v/v) CO_2 sparging in batch cultures. Data represents average and standard error for three biological replicates.