MUT-4743 rbcS1-ABEFGP mt-

Cat. No. *ALS-03879*

Lot. No. (See product label)

Subategory
Mutants

Description
Using standard methods of genetic engineering and nuclear-gene transformation of rbcSΔ-T60-3 mt- (MUT-4690), the betaA-betaB loop of the Rubisco small subunit was replaced with the small-subunit betaA-betaB loop from Galdieria partita, and residues 128 through 140 were replaced with the small-subunit betaE-betaF loop (residues 105 through 138). These changes cause a decrease in Rubisco CO_2/O_2 specificity and holoenzyme stability. The mutant can grow on minimal medium at 25 °C, but dies on minimal medium at 35 °C. This strain has been maintained with acetate medium in darkness to prevent selection for secondary mutations that may improve Rubisco function or stability.

Species
Chlamydomonas

Locus
RBCS1

Chromosome
2

Phenotype
Requires acetate at 35 °C; temperature-conditional

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