

MUT-5163 H5-M1 mt+ (high lipid producing)

Cat. No. ALS-04208

Lot. No. (See product label)

Subcategory

Mutants

Description

UV mutagenesis of MUT-503 yielding high lipid producing isolate. UV mutagenesis of MUT-503 yielding high lipid producing isolate. MUT-503 was grown using TAP liquid media. 3.25×10^8 cells/mL were transferred to TAP agar plates exposed to ultraviolet (UV) light at a distance of 30 cm (253.7 nm, 100 μ W/cm², 60 Hz, NuAire) for 2 minutes under sterile conditions. The plates were subsequently kept in dark for one day to prevent photo reactivation of the DNA repair mechanism. The plates were then allowed to grow under light for approximately a week. The resulting colonies were suspended in TAP liquid media and stained by BODIPY 505/515 for visualizing cells containing neutral lipids, which were then sorted using BD FACS Aria III instrument. Using this protocol in an iterative fashion, an increase in lipid accumulation after four rounds of mutagenesis was observed. The cells selected after the fourth round, were sorted again without mutagenesis to further enrich the lipid accumulating cells. The sorted cells from the forth round of mutagenesis were grown using a TAP liquid media. The resulting single colonies were picked and suspended in TAP liquid media and stained by BODIPY 505/515 to illuminate cells containing neutral lipids, which were then analyzed using a FACS instrument. H5-M1 produced the highest labeled signal.

Species

Chlamydomonas

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY