

MUT-1590 act2 mt-

Cat. No. ALS-01902

Lot. No. (See product label)

Subcategory

Mutants

Description

From a cross of gln1 mt+ x MUT-1144 msr1 pyr1 sr1 nr1 act2 pf2 mt-. This strain has the wild type alleles at the GLN1, MSR1, PYR1, NR1, and SR1 loci. The pf2 mutation doesn't seem to have been scored. The act2 mutation confers resistance to 5-20 micrograms/mL cycloheximide. Some preliminary testing may be required to establish a concentration of the antibiotic that kills wild type cells but permits growth of the mutant. At the correct concentration, however, this mutant is easy to score and makes a good genetic marker for the distal right arm of linkage group VI. The ACT2 locus is very far from the centromere on the right arm of linkage group VI and often does not show linkage to markers on the left arm. An act mutant is mapped to linkage group II, near AC12. Another act mutant under investigation is mapped to linkage group VI. Assignment of these two mutations to II and VI respectively was confirmed by crosses, and the loci were designated ACT1 (see MUT-1589) and ACT2 respectively. The act2 allele in MUT-1590 traces back to strain MUT-28. The original act2 mutation is semi-dominant to its wild type allele in diploids, and that cytoplasmic ribosomes isolated from act2 strains are resistant to cycloheximide in vitro. Resistance was localized to the large subunit of the cytoplasmic ribosome. The original act2 is a mutation in the gene encoding protein L41 (yeast nomenclature, = human L44) of the cytoplasmic ribosome. This protein has been annotated as RPL36a in the Chlamydomonas genome sequence. The mutant *cyr1* is probably an allele at the ACT2 locus (see MUT-1124). The latter mutations all affect the Pro 54 residue which is changed to Ser in act2c and act2d, and to Leu in act2, act2a, and act2b.

Species

Chlamydomonas

Locus

ACT2 [RPL36a]

Chromosome

6

Phenotype

Antibiotic resistant (cycloheximide)

FOR RESEARCH OR FURTHER MANUFACTURING USE ONLY