

# *E. coli* K12 CAG597



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E4123S 005151020101

## E4123S

Lot: 0051510 Exp: 10/20

Store at -20°C

**Description:** A suspension of *E. coli* strain K12 CAG597 which has been grown in rich LB medium and brought to 50% glycerol. *E. coli* K12 CAG597 has *rpoH*<sup>am</sup> allele (sometimes referred to as *htpRam*) which encodes an amber mutant form of the sigma factor for the heat shock response. Grow by streaking out on an LB plate and incubating at 30°C.

**Genotype:** F- *lacZ(am) pho(am) tyrT[supC(ts)] trp(am) rpsL(Str<sup>R</sup>) rpoH(am)165 zhg::Tn10 mal(am)*

The strain has a temperature-sensitive amber suppressor *TyrT [supC(ts)]*, so upon incubation at 37°C or 42°C the strain does not suppress the heat shock sigma factor RpoH. Thus it becomes deficient in expression of the heat shock proteins. Since a number of heat shock proteins affect proteolysis, this can increase the stability of foreign proteins expressed in *E. coli*. CAG597 is *EcoK* r<sup>+</sup>m<sup>+</sup>, so plasmids have to be modified (i.e., come from an m<sup>+</sup> strain such as TB1, JM83, JM107, etc.) in order to get transformants; the transformation frequency is 10-100X down from other common strains used for recombinant DNA work.

**Notes:** Storage at -70°C is recommended for periods longer than 30 days. Avoid repeated freeze/thaw cycles.

### Reference:

1. Baker, T. A., Grossman, A. D. and Gross, C. A. (1984) *Proc. Natl. Acad. Sci. USA* 81, 6779-6783.



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