

Product Information

Anti-GroEL

produced in rabbit, IgG fraction of antiserum

Catalog Number **G6532**

Product Description

Anti-GroEL is produced in rabbit using as immunogen repeated injections of recombinant GroEL (chaperonin 60). Whole antiserum is purified to provide an IgG fraction of antiserum

Anti-GroEL is specific for GroEL by immunoblotting using *E. coli* extract and Ouchterlony double diffusion.

GroEL is a highly characterized member of a class of ubiquitous and conserved *E. coli* proteins known collectively as chaperonins. The chaperonins are required in post-translational folding of nascent, organelle-imported or stress destabilized polypeptides. GroEL is homologous to a mitochondrial matrix heat shock protein HSP-60 that is required for folding and maturation of mitochondrial matrix proteins.¹ The cellular level of GroEL increases rapidly in response to a temperature shift to constitute ~10% of total protein synthesis.² GroEL is a 14-subunit protein of 60 kDa subunits with ATPase activity. The active protein consists of two stacked rings of seven subunits each. Its activity requires Mg^{+2} -ATP, K^{+} , and a second protein, GroES (chaperonin 10), which forms an oligomer composed of 608 ten kDa subunits. In the presence of ATP, the GroEL and GroES rings bind to each other and this binding inhibits the ATPase activity of GroEL.³

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, with 15 mM sodium azide as a preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at 2-8 °C for up to one month. For extended storage, solution may be frozen in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

Product Profile

Dot Blot Immunoassay: a dilution of 1:80,000 detected recombinant GroEL immobilized on nitrocellulose membranes (100 ng/dot). No reactivity is observed using recombinant GroES

Immunoblotting: a dilution of 1:80,000 detected a strong band at 60 kDa using whole cell extract of *E. coli*.

Indirect ELISA: a dilution of 1:40,000-1:80,000 is determined using GroEL fusion protein as antigen.

Note: In order to obtain optimal results, it is recommended that each individual user determine their working dilutions by titration assay.

References

1. Osterman, J., et al., *Nature*, **341**, 125 (1989).
2. Neidhardt, F., et al., *J. Bact.*, **145**, 513 (1981).
3. Chandrasekhar, G., et al., *J. Biol. Chem.*, **251**, 12414 (1986).

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