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ProductInformation

p70 S6 Kinase (T412E), Active
human, recombinant
expressed in *Sf* 9 insect cells

Product Number **P 6865**
Storage Temperature –70 °C

Product Description

p70 S6 Kinase (T412E), active, is a histidine-tagged fusion protein that is produced from a cDNA sequence encoding human p70 S6 Kinase (amino acids 1-421) that contains the T412E substitution. The protein is expressed in *Sf* 9 insect cells and purified by affinity chromatography on Ni-NTA agarose. The enzyme is activated with PDK1 (3-phosphoinositide-dependent protein kinase 1).[1-3] The molecular weight of the fusion protein is approximately 55 kDa. p70 S6 Kinase is an active enzyme that is suitable for use in kinase assays.

p70 S6 Kinase is a mitogen-activated Ser/Thr protein kinase that is necessary for cell growth. It phosphorylates the S6 protein of the 40S ribosomal subunit.[3]

Recombinant human p70 S6 Kinase (T412E) is supplied as a solution in 50 mM Tris HCl buffer, pH 7.5, containing 0.1 mM EGTA, 0.1% 2-mercaptoethanol, 0.15 M NaCl, 0.03% BRIJ® 35, 1 mM benzamidine, 0.2 mM PMSF, and 270 mM sucrose.

Purity: minimum 95% (SDS-PAGE)

Specific Activity: minimum 300 units/mg protein

One unit of p70 S6 Kinase (T412E) activity is defined as 1 nmole of phosphate incorporated into the substrate peptide KKRNRTLTV in one minute at pH 7.2 and 30 °C. 10 mU of recombinant active p70 S6 Kinase (T412E) was used to phosphorylate 12.5 nmole of the substrate peptide in a final volume of 50 µl.

Precautions and Disclaimer

The product is for laboratory research only. Please consult the Material Safety Data Sheet (MSDS) for information regarding hazards and safe handling practices.

Storage/Stability

Recombinant human p70 S6 Kinase (T412E) is shipped on dry ice and is stable for at least six months if stored at –70 °C. Do not subject the enzyme to more than one freeze-thaw cycle.

Rapidly thaw the enzyme solution, avoiding an extended thawing time to prevent loss of activity. Store any remaining solution in single-use aliquots at –70 °C. Do not store in a frost-free freezer.

References

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3. Pullen, N., and Thomas, G., The modular phosphorylation and activation of $p70^{s6k}$. FEBS Lett., **410**, 78-82, 1997.
4. Reinhard, C., et al., A single gene encodes two isoforms of the p70 S6 kinase: Activation upon mitogenic stimulation. Proc. Natl. Acad. Sci. USA, **89**, 4052-4056 (1992).

5. Price, D.J., et al., Purification of a Hepatic S6 Kinase from cycloheximide-treated rats. J. Biol. Chem. **264**, 13825-13833 (1989).

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