Data Sheet (Cat.No.TMPY-04540)

TargetMol

S6K1/RPS6KB1 Protein, Human, Recombinant (GST)

General Information

Synonyms:	p70(S6K)-alpha;PS6K;p70-alpha;p70(S6K)-α;p70-α;p70 S6KA;S6K-β-1;STK14A;RPS6KB1; S6K-beta-1;ribosomal protein S6 kinase, polypeptide 1;S6K;S6K1;p70-S6K
Protein Construction:	A DNA sequence encoding the human RPS6KB1 (P23443-Alpha I) (Met1-Leu525) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P23443
Molecular Weight:	85.4 kDa (predicted); 96 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	No Kinase Activity
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 7.4, 10% gly, 1 mM GSH. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

PS6K, also known as RPS6KB1, is a serine/threonine-protein kinase. It belongs to the RSK (ribosomal s6 kinase) family. Members of this family function in signal transduction. PS6K is an isoform of p70 ribosomal S6 kinase (S6K). S6K can be activated by mitogenic stimuli such as growth factors, insulin and cytokines. It phosphorylates the ribosomal protein S6. PS6K also phosphorylates other proteins such as elF4B, eEF2K and SKAR. It is a crucial effector of mTOR(rapamycin) signaling. PS6K is dissociated from the EIF3 complex and activated upon mitogenic

stimulation, phosphorylation by the mammalian target of mTOR complex 1 (mTORC1). Its active form then phosphorylates and activates several substrates in the preinitiation complex, including the EIF2B complex and the cap-binding complex component EIF4B. PS6K also functions in cell proliferation, cell growth and cell cycle progression.

Reference

Panasyuk,et al.(2006) Nuclear export of PS6K II is regulated by protein kinase CK2 phosphorylation at Ser-17. J Biol Chem. 281(42):31188-201.

Carnevalli L,et al.(2010) PS6K Plays a Critical Role in Early Adipocyte Differentiation. Dev Cell. 18 (5):763-74.

Grove JR,et al.(1991) Cloning and expression of two human p70 S6 kinase polypeptides differing only at their amino termini. Mol Cell Biol. 11(11):5541-50.