Data Sheet (Cat.No.TMPY-04468)

TargetMol

STK16 Protein, Human, Recombinant (His & NusA)

General Information

Synonyms: MPSK;serine/threonine kinase 16;TSF1;KRCT;PKL12

Protein Construction: A DNA sequence encoding the native human STK16 (AAH02618.1) (Met 1-Ile 305) was fused with the polyhistidine-tagged NusA tag at the N-terminus. Predicted N terminal: Met

Species: Human

Expression Host: E. coli

Accession: AAH02618.1

Molecular Weight: 92 kDa (predicted); 105 kDa (reducing conditions)

QC Testing

Biological Activity: Kinase activity untested

Purity: > 85 % as determined by SDS-PAGE

Endotoxin: Please contact us for more information.

Formulation: Supplied as sterile PBS, pH 7.4.

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 the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Serine/threonine-protein kinase 16, also known as myristoylated and palmitoylated serine/threonine-protein kinase, Protein kinase PKL12, TGF-beta-stimulated factor 1, TSF-1, MPSK1 and STK16, is a membrane protein that is ubiquitously expressed at very low levels. STK16 / MPSK1 belongs to the protein kinase superfamily and Ser/Thr protein kinase family. It contains one protein kinase domain. Transforming growth factor-beta (TGF-beta) shows a variety of biological activities in various organs or cells. Some factors such as Smads (Sma and Mad proteins) and TGF-beta activating kinase 1 have been characterized as signalling molecules downstream of TGF-beta. Several TGF-beta response elements have been identified such as cAMP response element, Smad binding element, and recognition sites for activating protein-1 and stimulating protein-1 in various gene promoters. STK16 / MPSK1 is a unique factor with two biological functions, transcriptional regulation and protein phosphorylation, that may be

involved in TGF-beta signals. STK16 / MPSK1 is a protein kinase that acts on both serine and threonine residues. STK16 / MPSK1 possessed DNA-binding ability and activated the TGF-beta responsive CNP promoter or vascular endothelial growth factor gene promoter which possesses a sequence element analogous to the TGF-beta responsive GC-rich element of the CNP promoter. STK16 / MPSK1 did not directly activate a Smads-dependent promoter from plasminogen activator inhibitor 1 gene, but it showed enhancement in co-operation with Smad3 and Smad4. STK16 / MPSK1 mRNA as well as its protein level were stimulated by TGF-beta treatment.

Reference

Ligos J.M., et al., 1998, Biochem. Biophys. Res.Commun. 249:380-4.
Berson A.E., et al.,1999, Biochem. Biophys. Res. Commun. 259:533-8.
Ohta S., et al., 2000, Biochem. J. 350:395-404.
Guinea,B. et al., 2006, Exp Cell Res. 312 (2):135-44.

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