Data Sheet (Cat.No.TMPY-04466)

TargetMol

STK40 Protein, Human, Recombinant (His & GST)

General Information

Synonyms: SHIK;SgK495;serine/threonine kinase 40

Protein Construction: A DNA sequence encoding the human STK40 (NP_114406) (Met1-Lys435) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met

Species: Human

Expression Host: Baculovirus Insect Cells

Accession: Q8N2I9-1

Molecular Weight: 76.8 kDa (predicted); 85 kDa (reducing conditions)

QC Testing

Biological Activity: Kinase activity untested

Purity: > 97 % as determined by SDS-PAGE

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Supplied as sterile 20 mM Tris, 500 mM NaCl, 10% glycerol, 3 mM DTT, 0.5M Urea, 0.5 mM GSH, pH 8.0.

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

STK40 is localized to both the cytoplasm and the nucleus. It is ubiquitously expressed. Mechanistically, Stk40 interacts with Rcn2, which also activates Erk1/2 to induce ExEn specification in mouse ESCs. Stk40 is able to activate the Erk/MAPK pathway and induce extraembryonic-endoderm (ExEn) differentiation in mouse ESCs. Interestingly, cells overexpressing Stk40 exclusively contribute to the ExEn layer of chimeric embryos when injected into host blastocysts. In contrast, deletion of Stk40 in ESCs markedly reduces ExEn differentiation in vitro. STK40 has a central serine/threonine protein kinase domain and is homologous to TRB-3, a protein that regulates activation of MAP kinases and inhibits NFκB-mediated gene transcription. Similarly, overexpression of STK40 inhibits NFκB activation triggered by TNF and also inhibits p53-mediated transcription. There are four named

isoforms of STK40 that are produced as a result of alternative splicing.

Reference

Strausberg RL,et al.(2003) Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. Proc Natl Acad Sci. 99(26):16899-903.
Wiemann S,et al.(2001) Toward a catalog of human genes and proteins: sequencing and analysis of 500 novel complete protein coding human cDNAs. Genome Res. 11(3):422-35.
HArtley JL,et al.(2001) DNA cloning using in vitro site-specific recombination. Genome Res. 10(11): 1788-95.

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