

Recombinant Mouse Stk3 Protein, Myc/DDK-tagged

Cat. No. Stk3-6188M Lot. No. (See product label)

SPECIFICATION

Product Overview

Purified recombinant protein of mouse full-length serine/threonine kinase 3 (Stk3), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species

Mouse

Source

HEK293

Description

Stress-activated, pro-apoptotic kinase which, following caspase-cleavage, enters the nucleus and induces chromatin condensation followed by internucleosomal DNA fragmentation. Key component of the Hippo signaling pathway which plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. The core of this pathway is composed of a kinase cascade wherein STK3/MST2 and STK4/MST1, in complex with its regulatory protein SAV1, phosphorylates and activates LATS1/2 in complex with its regulatory protein MOB1, which in turn phosphorylates and inactivates YAP1 oncoprotein and WWTR1/TAZ. Phosphorylation of YAP1 by LATS2 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration. STK3/MST2 and STK4/MST1 are required to repress proliferation of mature hepatocytes, to prevent activation of facultative adult liver stem cells (oval cells), and to inhibit tumor formation. Phosphorylates NKX2-1. Phosphorylates NEK2 and plays a role in centrosome disjunction by regulating the localization of NEK2 to centrosomes, and its ability to phosphorylate CROCC and CEP250. In conjunction with SAV1, activates the transcriptional activity of ESR1 through the modulation of its phosphorylation. Positively regulates RAF1 activation via suppression of the inhibitory

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phosphorylation of RAF1 on 'Ser-259'. Phosphorylates MOBKL1A and RASSF2. Phosphorylates MOBKL1B on 'Thr-74'. Acts cooperatively with MOBKL1B to activate STK38.

Molecular Mass 56.9 kDa

Purity > 80% as determined by SDS-PAGE and Coomassie blue staining

Stability Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.

Storage Store at -80 centigrade after receiving vials.

Concentration >50 µg/mL as determined by microplate BCA method

Storage Buffer 25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name [Stk3 serine/threonine kinase 3 \[Mus musculus \(house mouse\) \]](#)

Official Symbol [Stk3](#)

Synonyms STK3; serine/threonine kinase 3 (Ste20, yeast homolog); serine/threonine-protein kinase 3; MST-2; STE20-like kinase MST2; protein kinase homolog; mammalian STE20-like protein kinase 2; MST; Mst2; Mst3; mess1; 0610042I06Rik

Gene ID [56274](#)

mRNA Refseq [NM_019635](#)

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Protein Refseq NP_062609

UniProt ID Q9JI10

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