

Recombinant Human STK4 Protein (E2-E311), His tagged

Cat. No. STK4-1234H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human 6His-TEV-MST-1(E2-E311) Protein was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	E2-E311
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 'Ser-14' of histone H2B (H2BS14ph) during apoptosis. Phosphorylates FOXO3 upon oxidative stress, which results in its nuclear translocation and cell death initiation. Phosphorylates MOBKL1A, MOBKL1B and RASSF2. Phosphorylates TNNT3 (cardiac Tn-I) and alters its binding affinity to

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TNNC1 (cardiac Tn-C) and TNNT2 (cardiac Tn-T). Phosphorylates FOXO1 on 'Ser-212' and regulates its activation and stimulates transcription of PMAIP1 in a FOXO1-dependent manner. Phosphorylates SIRT1 and inhibits SIRT1-mediated p53/TP53 deacetylation, thereby promoting p53/TP53 dependent transcription and apoptosis upon DNA damage. Acts as an inhibitor of PKB/AKT1. Phosphorylates AR on 'Ser-650' and suppresses its activity by intersecting with PKB/AKT1 signaling and antagonizing formation of AR-chromatin complexes.

Form	Liquid
Endotoxin	< 0.01 EU per µg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50mM Tris-HCl (pH 7.5), 200mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	STK4 serine/threonine kinase 4 [Homo sapiens (human)]
Official Symbol	STK4
Synonyms	STK4; serine/threonine kinase 4; serine/threonine-protein kinase 4; kinase responsive

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to stress 2; KRS2; mammalian sterile 20 like 1; MST1; yeast Ste20 like; YSK3; MST-1; STE20-like kinase MST1; mammalian sterile 20-like 1; mammalian STE20-like protein kinase 1; serine/threonine-protein kinase Krs-2; dJ211D12.2 (serine/threonine kinase 4 (MST1, KRS2)); DKFZp686A2068;

Gene ID	6789
mRNA Refseq	NM_006282
Protein Refseq	NP_006273
MIM	604965
UniProt ID	Q13043