

Product datasheet for **MC216774**

Stk4 (NM_021420) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Stk4 (NM_021420) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Stk4
Synonyms:	AI447339; AU020804; Kas-2; Mst1; Ysk3
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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Fully Sequenced ORF: >MC216774 representing NM_021420
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGAGACCGTGCAGCTGAGGAACCCACCGCGCAGGCAGCTGAAAAAGTTGGATGAAGATAGTTAACCA
AGCAGCCCGAGGAAGTGTGGATGCTTAGAGAAGCTTGGAGAGGGTCTTATGGCAGCGTGTACAAGGC
TATTCATAAAGAGACTGGCCAGATTGTTGCAATCAAGCAAGTGCCCGTGGAAATCGGACCTGCAGGAGATA
ATCAAGGAAATCTCCATCATGCAGCAGTGTGACAGCCCTCACGTAGTCAAGTATTATGGCAGCTACTTTA
AGAACACAGACCTGTGGATTGTTATGGAGTACTGTGGGCTGGTCTGTATCTGATATCATTGCGCTACG
GAACAAGACGTTAACAGAAGATGAAATAGCTACAATATTACAATCAACTCTTAAGGGACTAGAATACCTT
CATTTTATGAGAAAAATACACCGAGATATCAAGGCGGAAATATTTTGTAAACACAGAAGGCCATGCAA
AGCTTGCAGACTTTGGAGTCGCAGGTCACTTACAGATACCATGGCAAAGAGGAATACAGTAATAGGGAC
CCCGTTTTGGATGGCTCCTGAAGTTATTCAGGAAATGGGTACAACCTGTGTGGCAGACATCTGGTCTCTG
GGAATAACTGCCATAGAAATGGCTGAAGGAAAGCCCCATATGCTGATATCCATCCAATGAGGGCAATAT
TCATGATTCCTACAAACCTCCTCCACATTCCGTAAGCCAGAGCTGTGGTCAGACAACCTCATGGATT
TGTGAAGCAGTGTCTGGTAAAAAGCCCGGAGCAGAGGCCACAGCCACTCAGCTCCTACAGCACCCGTTT
GTTAAGAGTGCCAAAGGAGTGTCAATATTGCGAGACTTAATTAACGAAGCCATGGATGTGAAACTGAAGC
GCCAGGAAGCCCAGCAGCGGGAAGTGGACCAGGACGACGAGGAGAAGCTCAGAGGAGGATGAAATGGATTC
CGGCACGATGGTTCGAGCTGCCGGTGTAGATGGGCACTGTCCGAGTAGCCAGCAGCATGAGCGGAGGA
GCCAATACTATGATTGAGCACGGTGACACGTTGCCGTCCCAGCTGGGCACCATGGTGATCAACACGGAGG
ACGAGGAAGAGGAAGGAACCATGAAAAGAAGAGATGAGACCATGCAGCCTGCAAAAACCGTCTTTCCTTGA
ATACTTTGAACAAAAAGAAAAGGAAAATCAGATCAACAGCTTTGGCAAGAATGTATCTGGCTCTCTGAAG
AATTTCTCCGATTGAAAAATCCCTCAGGATGGAGACTATGAGTTTCTCAAGAGCTGGACTGTGGAGGACC
TTCAGAAGAGGCTCTTGGCCCTCGACCCCATGATGGAACAGGAAATGGAAGAGATCCGGCAGAAGTACCG
GTCCAAGCGGCAGCCAATCCTGGATGCCATTGAAGCCAAGAAGAGGAGGCAACAGAATTCTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI

ACCN: NM_021420

Insert Size: 1464 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_021420.3](#), [NP_067395.1](#)

RefSeq Size: 5189 bp

RefSeq ORF: 1464 bp

Locus ID: 58231

UniProt ID: [Q9J111](#)

Cytogenetics: 2 H3

Gene Summary: 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 TNNI3 (cardiac Tn-I) and alters its binding affinity to 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 (By similarity).[UniProtKB/Swiss-Prot Function]