

Product datasheet for **MG207806**

Stk4 (NM_021420) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Stk4 (NM_021420) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Stk4
Synonyms:	AI447339; AU020804; Kas-2; Mst1; Ysk3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG207806 representing NM_021420
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGGAGACCGTGCAGCTGAGGAACCCACCGCGCAGGCAGCTGAAAAAGTTGGATGAAGATAGTTAACCA
 AGCAGCCCGAGGAAGTGTGGTCTTAGAGAAGCTTGAGAGGGGTCTTATGGCAGCGTGACAAGGC
 TATTCATAAAGAGACTGGCCAGATTGTTGCAATCAAGCAAGTGCCCGTGGAAATCGGACCTGCAGGAGATA
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 AGAACACAGACCTGTGGATTGTTATGGAGTACTGTGGGCTGTTCTGTATCTGATATCATTGCGCTACG
 GAACAAGACGTTAACAGAAGATGAAATAGCTACAATATTACAATCAACTCTTAAGGGACTAGAATACCTT
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 AGCTTGCAGACTTTGGAGTCGCAGGTCACTTACAGATACCATGGCAAAGAGGAATACAGTAATAGGGAC
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 GGAATAACTGCCATAGAAATGGCTGAAGGAAAGCCCCATATGCTGATATCCATCCAATGAGGGCAATAT
 TCATGATTCCTACAAACCTCCTCCACATTCCGTAAGCCAGAGCTGTGGTCAGACAACCTCATGGATT
 TGTGAAGCAGTGTCTGGTAAAAAGCCCGGAGCAGAGGCCACAGCCACTCAGCTCCTACAGCACCCGTTT
 GTTAAGAGTGCCAAAGGAGTGTCAATATTGCGAGACTTAATTAACGAAGCCATGGATGTGAAACTGAAGC
 GCCAGGAAGCCCAGCAGCGGGAAGTGGACCAGGACGACGAGGAGAACTCAGAGGAGGATGAAATGGATTC
 CGGCACGATGGTTCGAGCTGCCGGTGTAGATGGGACTGTCCGAGTAGCCAGCAGCATGAGCGGAGGA
 GCCAATACTATGATTGAGCACGGTGACACGTTGCCGTCCCAGCTGGGCACCATGGTGATCAACACGAGG
 ACGAGGAAGAGGAAGGAACCATGAAAAGAAGAGATGAGACCATGCAGCCTGCAAAAACCGCTTTCCCTTGA
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 AATTTCTCGATTGAAAATCCCTCAGGATGGAGACTATGAGTTTCTCAAGAGCTGGACTGTGGAGGACC
 TTCAGAAGAGGCTCTTGGCCCTCGACCCATGATGGAACAGGAAATGGAAGAGATCCGGCAGAAGTACCG
 GTCCAAGCGGCAGCCAATCCTGGATGCCATTGAAGCCAAGAAGAGGAGGCAACAGAACCTTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG207806 representing NM_021420
 Red=Cloning site Green=Tags(s)

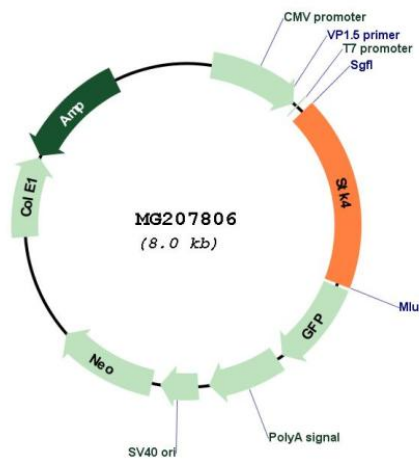
METVQLRNPPRRQLKKLDEDSLTKQPEEVFDVLEKLGEGSYGSVYKAIHKETGQIVAIKQVPVESDLQEI
 IKEISIMQQCDSPHVVKYYGSYFNKNDLWIVMEYCGAGSVSDIIRLRNKTLEDEIATILQSTLKGLEYL
 HFMRKIHRDIKAGNILLNTEGHAKLADFGVAGQLTDTMAKRNTVIGTPFWMAPEVIQEIYNCVADIWSL
 GITAIEMAEGKPPYADIHPMRAIFMIPTNPPPTFRKPELWSDNFMDFVKQCLVKSPEQRATATQLLQHPF
 VKSAGKVSILRDLINEAMDVCLKRQEAQQREVDQDDEENSEEDEMDSGTMVRAAGDEMGTVRVASTMSGG
 ANTMIEHGDTLPSQLGTMVINTEDEEEEGTMKRRDETMQPAKPSFLEYFEQKEKENQINSFGKNVSGSLK
 NSSDWKIPQDGDYEFKLSWTVEDLQKRLALDPMMEQEMEEIRQKYSKRQPIIDAIEAKRRRQNF

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:

Plasmid Map:


ACCN: NM_021420

ORF Size: 1461 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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:	<ol style="list-style-type: none">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_021420.2 , NP_067395.1
RefSeq Size:	5192 bp
RefSeq ORF:	1464 bp
Locus ID:	58231
UniProt ID:	Q9J111
Cytogenetics:	2 H3
Gene Summary:	<p>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]</p>