

## Product datasheet for **MG207107**

### **Stk3 (NM\_019635) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Stk3 (NM_019635) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Stk3
Synonyms:	0610042I06Rik; mess1; MST; Mst2; Mst3; Ste20
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG207107 representing NM\_019635  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGAGCAGCCGCCGGCTCCAAGAGTAAGCTAAAAAGCTGAGTGAAGACAGTTTGACTAAGCAGCCTG  
 AAGAAGTTTTTGTACTGGAGAAGCTTGGAGAAGGGTCTTATGGAAGTGTAAAAAGCAATACATAA  
 GGAATCTGGTCAAGTGGTTGCAATTAAGCAAGTACCTGTTGAGTCAGATCTTCAGAAAATATCAAAGAA  
 ATTTCCATAATGCAACAATGTGACAGTCCATATGTTGTGAAGTACTATGGCAGTACTTTAAGAACACAG  
 ACCTCTGGATTGTTATGGAGTACTGTGGAGCGGGTCCGTTTCAGACATAATTAGATTGCGAAAACAAGAC  
 ATTAACAGAAGATGAAATTGCAACTATTCTAAAAATCCACATTGAAAGGATTAGAATATTTGCATTTTATG  
 AGGAAAAACACAGAGATATAAAAGCCGGGAATTTCTCCTCAATACAGAAGGACATGCAAAGCTTGCAG  
 ATTTTGGAGTGGCTGGCCAGTTAACAGATACAATGGCAAAACGCAACACTGTAATAGGAACCCCATTTTG  
 GATGGCTCCTGAGGTAATTCAAGAAATAGGTTACAACCTGTGTGGCTGACATCTGGTCCCTTGGCATTACT  
 TCTATAGAAAATGGCAGAAGGAAAACCTCCTTATGCTGATATACATCCGATGAGGGCTATTTTTATGATCC  
 CTACAAAACCCACCACCAACATTCAGGAAACCTGAACTTTGGTCTGATGACTTCACCGATTTTGTGAAGAA  
 GTGCTTGGTGAAGAGTCTGAGCAGAGAGCCACTGCGACACAGCTGTTACAGCATCCTTTTATCAAGAAT  
 GCAAAACCCGTGTCGATATTAAGAGACCTGATCGCAGAAGCCATGGAAATCAAAGCCAAACGGCATGAAG  
 AGCAGCAGCGGGAGCTAGAGGAGGAGGAAGAAAACCTCGGATGAAGATGAGCTGGATTACACACTATGGT  
 GAAGACGAGTTGAGAAAGCGTGGGCACAATGCGGGCCACCAGCACGATGAGTGAAGGAGCCAGACGATG  
 ATTGAACATAACAGCACCATGTTAGAGTCGGACCTGGGGACCATGGTTATAAACAGTGAAGAAGAGGAGG  
 AAGAGGAAGAGG  
 TTCTTTTATGGACTACTTTGATAAGCAGGACTTCAAGAACAAGAGTCATGAAAATTTGTGATCAGAGCATG  
 CGTGAGCCAGGCCCTATGTCCAACAGTGTTCCTGACAACTGGAGAGTTCTCAAGATGGAGACTTTG  
 ATTTCTTAAAAAATAAGTTTGAAGAAGTACAGATGCGGCTAAAAGCACTAGACCCCATGATGGAACG  
 AGAAATAGAAGAAGTGCATCAAAGATACAGTGCAAAAAGACAACCTATCCTGGATGCCATGGATGCGAAG  
 AAGAGGAGGCAGCAGAATTTTC

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>MG207107 representing NM\_019635  
 Red=Cloning site Green=Tags(s)

MEQPPASKSKLKKLSEDSLTKQPEEVFDVLEKLGESYGSVFKAIHKESGQVVAIKQVPVESDLQEIIKE  
 ISIMQQCDSPYVVKYYSYFKNTDLWIVMEYCGAGSVSDIIRLRNKTLEDEIATILKSTLKGLEYLHFM  
 RKIHRDIKAGNILLNTEGHAKLADFGVAGQLTDTMAKRNTVIGTPFWMAPEVIQEIYNCVADIWSLGIT  
 SIEMAEGKPPYADIHMPRAIFMIPTNPPPTFRKPELWSDDFDFVKKCLVKSPEQRATATQLLQHPFIKN  
 AKPVSILRDLIAEAMEIKAKRHEEQRELEEEEEENSDEDELDSHTMVKTSSESVGTMRATSTMSEGAQTM  
 IEHNSTMLESDLGTMVINSEEEEEEEEEEDGTMKRNATSPQVQRPSFMDYFDKQDFKNKSHENCDQSM  
 REPGMNSVFPDNWRVPQDGFDFLKNLSLEELQMRLKALDPMEREIEELHQRYSKRQPILDAMDAK  
 KRRQQNF

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-Mlul

Cloning Scheme:

Cloning sites used for ORF Shutting:



Kozac  
Consensus

EcoR I    BamH I Kpn I    RBS    Sgf I    Asc I

CTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGSAGATCTGCCGCCGATCGCCGGCGGCCAGATCT

Hind III    Nhe I    Rsr II    Mlu I    Not I    Xho I    GFP Tag

CAAGCTTAACTAGCTAGCGGACCG    ACG CGT    ACG CGG    CCG CTC GAG    ATG GAG AGC GAC --- --- ---

T    R    T    R    P    L    E    M    E    S    D    -    -    -

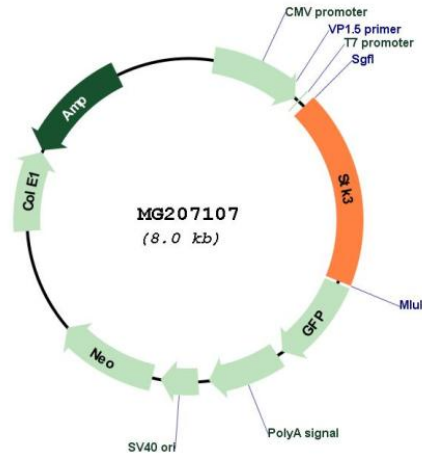
  

Pme I    Fse I

--- --- GAA GAA AGA GTT TAA ACGGCCGGCCGGGAGCT

- - - E E R V Stop

## Plasmid Map:



ACCN: NM\_019635

ORF Size: 1491 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_019635.2</a> , <a href="#">NP_062609.2</a>
<b>RefSeq Size:</b>	2928 bp
<b>RefSeq ORF:</b>	1494 bp
<b>Locus ID:</b>	56274
<b>UniProt ID:</b>	<a href="#">Q9J110</a>
<b>Cytogenetics:</b>	15 B3.1
<b>Gene Summary:</b>	<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 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 phosphorylation of RAF1 on 'Ser-259'. Phosphorylates MOBKL1A and RASSF2. Phosphorylates MOBKL1B on 'Thr-74'. Acts cooperatively with MOBKL1B to activate STK38 (By similarity).[UniProtKB/Swiss-Prot Function]</p>