

## Product datasheet for **MG206809**

### Stk3 (BC037440) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Stk3 (BC037440) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Stk3
Synonyms:	Mess1, Mst3, MST
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG206809 representing BC037440 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGAGCAGCCGCGCGTCCAAGAGTCCATATGTTGTGAAGTACTATGGCAGTTACTTTAAGAACACAG  
ACCTCTGGATTGTTATGGAGTACTGTGGAGCGGGTCCGTTTCAGACATAATTAGATTGCGAAACAAGAC  
ATTAACAGAAGATGAAATTGCAACTATTCTAAAATCCACATTGAAAGGATTAGAATATTTGCATTTATG  
AGGAAAAACACAGAGATATAAAAGCCGGGAATTTCTCCTCAATACAGAAGGACATGCAAAGCTTGCAG  
ATTTTGGAGTGGCTGGCCAGTTAACAGATACAATGGCAAAACGCAACACTGTAATAGGAACCCATTTTG  
GATGGCTCCTGAGGTAATCAAGAAATAGGTTACAACACTGTGTGGCTGACATCTGGTCCCTTGGCATTACT  
TCTATAGAAATGGCAGAAGGAAAACCTCCTTATGCTGATATACATCCGATGAGGGCTATTTTTATGATCC  
CTACAAACCCACCACCAACATTCAGGAAACCTGAACTTTGGTCTGATGACTTCACCGATTTTGTGAAGAA  
GTGCTTGGTGAAGAGTCTTGAGCAGAGGCCACTGCGACACAGCTGTTACAGCATCCTTTTATCAAGAA  
GCAAAACCCGTGTCGATATTAAGAGACCTGATCGCAGAAGCCATGGAAATCAAAGCCAAACGGCATGAAG  
AGCAGCAGCGGGAGCTAGAGGAGGAGGAAGAAAACCTCGGATGAAGATGAGCTGGATTACACACTATGGT  
GAAGACGAGTTCAGAAAGCGTGGCACAATGCGGGCCACCAGCAGCATGAGTGAAGGAGCCAGACGATG  
ATTGAACATAACAGCACCATGTTAGAGTCGGACCTGGGACCATGTTTATAAACAGTGAAGAAGAGGAGG  
AAGAGGAAGAGGAGGAGGAGGAGGACGGAATGAAAAGAAATGCAACGTCACCTCAAGTACAAAGACC  
TTCTTTCATGGACTACTTTGATAAGCAGGACTTCAAGAACAAGAGTCATGAAAATTTGTGATCAGAGCATG  
CGTGAGCCAGGCCCTATGTCCAACAGTGTTTTCTGACAACCTGGAGAGTTCTCAAGATGGAGACTTTG  
ATTTCTTAAAAAATCTAAGTTTGAAGAATAACAGATGCGGCTAAAAGCACTAGACCCCATGATGGAACG  
AGAAATAGAAGAACTGCATCAAAGATACAGTGCAAAAAGACAACCTATCCTGGATGCCATGGATGCGAAG  
AAGAGGAGGCAGCAGAATTC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >MG206809 representing BC037440  
 Red=Cloning site Green=Tags(s)

MEQPPASKSPYVVKYGSYFKNTDLWIVMEYCGAGSVSDIIRLRNKLTLEDEIATILKSTLKGLEYLHFM  
 RKIHRDIKAGNILLNTEGHAKLADFGVAGQLTDTMAKRNTVIGTPFWMAPEVIQEI GYNCVADIWSLGIT  
 SIEMAE GKPPYADIHPMRAIFMIPTNPPPTFRKPELWSDDFDFVKKCLKVSPEQRATATQLLQHPFIKN  
 AKPVSILRDLIAEAMEIKAKRHEEQQRELEEEEEENSDDELD SHTMVKTSSES SVGTM RATSTMSEGAQTM  
 IEHNSTMLESDLGTMVINSEEEEEEEEEEDGTMKR NATSPQVQRPSFMDYFDKQDFKNKSHENCQSM  
 REP GPMNSVFPDNWRVPQDGFDFLKNLSLEELQMRLKALDPMEREIEELHQRYSAKRQPILDAMDAK  
 KRRQQNF

TRTRPLE - GFP Tag - V

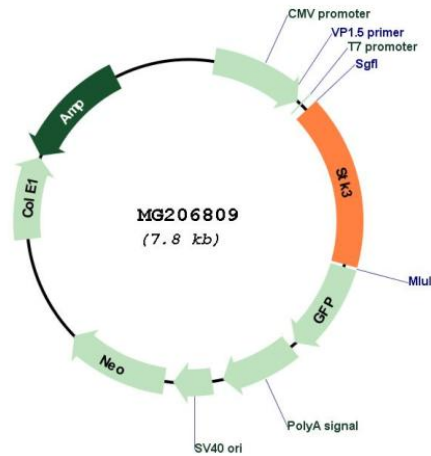
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



**ACCN:**

BC037440

<b>ORF Size:</b>	1281 bp
<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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="#">BC037440.1</a>
<b>RefSeq Size:</b>	2495 bp
<b>RefSeq ORF:</b>	1283 bp
<b>Locus ID:</b>	56274
<b>Cytogenetics:</b>	15 B3.1

**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 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]