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Product datasheet for SC323537

TAOK1 (NM_020791) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TAOK1 (NM_020791) Human Untagged Clone
Tag:	Tag Free
Symbol:	TAOK1
Synonyms:	hKFC-B; hTAOK1; KFC-B; MAP3K16; MARKK; PSK-2; PSK2; TAO1
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>OriGene ORF within SC323537 sequence for NM_020791 edited (data generated by NextGen Sequencing)

ATGCCATCAACTAACAGAGCAGGCAGCCTGAAGGACCCTGAAATTGCAGAGCTCTTCTTC
AAAGAAGATCCAGAGAAGCTCTTCACAGATCTCAGAGAAATTGGCCATGGAAGCTTTGGA
GCAGTGTATTTTGCACGAGATGTGCGTACCAATGAAGTGGTGGCCATCATGAAAATGTCT
TATAGTGGAAAGCAGTCTACTGAGAAATGGCAGGATATTATTAAGGAAGTCAAGTTTCTA
CAAAGAATAAAACATCCCAACAGTATAGAATACAAAGGCTGTTATTTACGTGAACACACA
GCATGGCTTGTAATGGAATATTGTTTAGGATCTGCTTCGGATTTACTAGAAGTTCACAAA
AAGCCATTACAAGAAGTGGAAATAGCAGCAATTACACATGGTGCTCTTCAGGGATTAGCC
TACTTACATTCTCATACTATGATTCATAGAGATATCAAAGCAGGAAATATCCTTCTGACA
GAACCAGGCCAGGTGAAACTTGCTGACTTTGGCTCTGCTTCCATGGCATCACCTGCCAAT
TCCTTTGTGGGAACGCCGTATTGGATGGCCCCAGAAGTAATTTTAGCCATGGATGAAGGA
CAATATGATGGCAAAGTAGATGTGTGGTCTCTTGGAATAACATGTATTGAACTAGCGGAA
AGGAAGCCTCCTTTATTTAATATGAATGCAATGAGTGCATTATATCACATAGCCCAAAAT
GAATCCCCTACACTACAGTCTAATGAATGGTCTGATTATTTTCGCAACTTTGTAGATTCT
TGCCTCCAGAAAATCCCTCAAGATCGACCTACATCAGAGGAACTTTTAAAGCACATATTT
GTTCTTCGGGAGCGCCCTGAAACCGTGTTAATAGATCTCATTCAGAGGACAAAGGATGCA
GTAAGAGAGCTGGACAATCTGCAGTATCGAAAGATGAAGAAACTCCTTTTCCAGGAGGCA
CATAATGGACCAGCAGTAGAAGCACAGGAAGAAGAAGAGGAACAAGATCATGGTGTTGGC
CGGACAGGAACAGTTAATAGTGTTGGAAGTAATCAATCCATTCCCAGCATGTCCATCAGT
GCCAGCAGCCAAAGCAGTAGTGTTAACAGTCTTCCAGATGTCTCAGATGACAAGAGTGAG
CTAGACATGATGGAGGGAGACCACACAGTGATGTCTAACAGTTCTGTTATCCATTTAAAA
CCAGAGGAAGAAAATTACAGAGAAGAGGGAGATCCTAGAACAAGAGCATCAGATCCACAA
TCTCCACCCCAAGTATCTAGTCACAAATCACACTATCGTAATCGAGAACACTTTGCTACT
ATACGGACAGCATCACTGGTTACGAGGCAAATGCAAGAACATGAGCAGGACTCTGAGCTT
AGAGAACAAATGTCTGGCTATAAGCGAATGAGGCGACAACATCAAAAGCAACTGATGACT
CTGGAAAACAAGCTAAAGGCTGAGATGGATGAACATCGCCTCAGATTAGACAAAGATCTT

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GAAACTCAGCGTAACAATTTTGCTGCAGAAATGGAGAAACTTATCAAGAAACACCAGGCT
GCCATGGAGAAAGAGGCTAAAGTGATGTCCAATGAAGAGAAAAAATTTCAGCAACATATT
CAGGCCCAACAGAAGAAAGAACTGAATAGTTTTCTCGAGTCCCAGAAAAGAGAGTATAAA
CTTCGAAAAGAGCAGCTTAAAGAGGAGCTAAATGAAAACCAGAGTACCCCCAAAAAAGAA
AAACAGGAGTGGCTTTCAAAGCAGAAGGAGAATATACAGCATTTCCAAGCAGAAGAAGAA
GCTAACCTTCTTCGACGTCAAAGACAATACCTAGAGCTGGAATGCCGTCGCTTCAAGAGA
AGAATGTTACTTGGGCGTCATAACTTAGAGCAGGACCTTGTCAGGGAGGAGTTAAACAAA
AGACAGACTCAGAAGGACTTAGAGCATGCCATGCTACTCCGACAGCATGAATCTATGCAA
GAACTGGAGTTCCGCCACCTCAACACAATTCAGAAGATGCGCTGTGAGTTGATCAGATTA
CAGCATCAAACTGAGCTCACTAACCAGCTGGAATATAATAAGCGAAGAGAACGAGAACTA
AGACGAAAGCATGTCATGGAAGTTCGACAACAGCCTAAGAGTTTGAAGTCTAAAGAACTC
CAAATAAAAAAGCAGTTTCAGGATACCTGCAAAATCCAAACCAGACAGTACAAAGCATTA
AGAAATCACCTGCTGGAGACTACACCAAAGAGTGAGCACAAAGCTGTTCTGAAACGGCTC
AAGGAGGAACAGACCCGGAAATTAGCTATCTTGGCTGAGCAGTATGATCACAGCATTAAT
GAAATGCTCTCCACACAAGCCCTGCGTTTGGATGAAGCACAGGAAGCAGAGTGCCAGGTT
TTGAAGATGCAGCTGCAGCAGGAACTGGAGCTGTTGAATGCGTATCAGAGCAAAATCAAG
ATGCAAGCTGAGGCACAACATGATCGAGAGCTTCGCGAGCTTGAACAGAGGGTCTCCCTC
CGGAGGGCACTCTTAGAACAAAAGATTGAAGAAGAGATGTTGGCTTTGCAGAATGAGCGC
ACAGAACGAATACGAAGCCTGTTGGAACGTCAAGCCAGAGAGATTGAAGCTTTTGACTCT
GAAAGCATGAGACTAGGTTTTAGTAATATGGTCCTTTCTAATCTCTCCCCTGAGGCATTC
AGCCACAGCTACCCGGGAGCTTCTGGTTGGTCACACAACCCTACTGGGGGTCCAGGACCT
CACTGGGGTCATCCCATGGGTGGCCCACCACAAGCTTGGGGCCATCCAATGCAAGGTGGA
CCCCAGCCATGGGGTCACCCTTCAGGGCCAATGCAAGGGGTACCTCGAGGTAGCAGTATG
GGAGTCCGCAATAGCCCCCAGGCTCTGAGGCGGACAGCTTCTGGGGGACGGACGGAGCAG
GGCATGAGCAGAAGCACGAGTGTCACTTCACAAATATCCAATGGGTCACACATGTCTTAT
ACATAA

Clone variation with respect to NM_020791.2
170 a=>t;699 c=>a;1279 c=>a

5' Read Nucleotide Sequence:

>OriGene 5' read for mutant NM_020791 unedited
CCGCCGTTGAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAAC
CGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGGCCAACGTGACTTCA
TTCATACAGATGAACCAAGGAACGGGATAGCAGTATAAAATTAGAATCAAGACAGCTGACTGCTCAGCAG
GATGCCATCAACTAACAGAGCAGGCAGCCTGAAGGACCCTGAAATTGCAGAGCTCTTCTTCAAAGAAGAT
CCAGAGAAGCTCTTCACAGATCTCAGAGAAAATTGGCCATGGAAGCTTTTGGAGCAGTGTATTTTTGCAC
GAGATGTGCGTACCAATGAAGTGGTTGGCCATCATGAAAAAGGTCTTATAGTGGAAAGCAGTCTACTGGA
GAAAATGCCAGGAAATTATTTAAGGAGGTCCAAGTTTTCTACAAGAATTAAAACCATCCCAAACGGTATA
GAAAAAACAAAGGCTGGTTTATTTACTTGACCACAGGAATGCCTGGTATTGAAAATGGTTAAGAATCGGC
TTCGAATTTCCAGAATTTACAAAAAGCCCTTTACAGGAGTGGGAATAGCGACATTTACCTGGGGGCTTCT
CGGGTAATACCAACTCACTCTCTACCTGAGATTCAGAGATATTCAGCCGGAATTCCTCTGAGAAACCGCG
CGTGTGACTGTGCGCTTGGCTCGTCTCGGGACACTGCGCATTCTTGGGAACCCTATGATAGGCCCGAGTA
TTTTGCCTGTGTAGAGCAATATGTCGATAAGTGTGCCTTGGAAACCGATGACACCGAGAGACTCCTATTA
TAATGCTGAGTCATATGCATGCGATAGTCTCACGCTTAAGGTCGGATTGCACCTGGTATCTGCC

Kinase Domain Sequence:

>SC323537 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI refernce protein database, you can confirm the presence of the kinase-deficient mutation
TGAGWCAGAGAGCTCTTCACAGATCTCAGAGAAATTGGCCATGGAAGCTTTGGAGCAGTGTATTTTGCAC
GAGATGTGCGTACCAATGAAGTGGTGGCCATCATGAAAATGTCTTATAGTGGAAAGCAGTCTACTGAGAA
ATGGCAGGATATTATTAAGGAAGTCAAGTTTCTACAAAGAATAAAACATCCCAACAGTATAGAATACAAA
GGCTGTTATTTACGTGAACACACAGCATGGCTTGTAATGGAATAT

Restriction Sites: Please inquire

ACCN:	NM_020791
OTI Disclaimer:	Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery. 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 kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell. 2008 May p536-548.
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_020791.1, NP_065842.1
RefSeq Size:	4662 bp
RefSeq ORF:	3006 bp
Locus ID:	57551
UniProt ID:	Q7L7X3
Cytogenetics:	17q11.2
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	MAPK signaling pathway

Gene Summary: Serine/threonine-protein kinase involved in various processes such as p38/MAPK14 stress-activated MAPK cascade, DNA damage response and regulation of cytoskeleton stability. Phosphorylates MAP2K3, MAP2K6 and MARK2. Acts as an activator of the p38/MAPK14 stress-activated MAPK cascade by mediating phosphorylation and subsequent activation of the upstream MAP2K3 and MAP2K6 kinases. Involved in G-protein coupled receptor signaling to p38/MAPK14. In response to DNA damage, involved in the G2/M transition DNA damage checkpoint by activating the p38/MAPK14 stress-activated MAPK cascade, probably by mediating phosphorylation of MAP2K3 and MAP2K6. Acts as a regulator of cytoskeleton stability by phosphorylating 'Thr-208' of MARK2, leading to activate MARK2 kinase activity and subsequent phosphorylation and detachment of MAPT/TAU from microtubules. Also acts as a regulator of apoptosis: regulates apoptotic morphological changes, including cell contraction, membrane blebbing and apoptotic bodies formation via activation of the MAPK8/JNK cascade.[UniProtKB/Swiss-Prot Function]
Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.