

Product datasheet for **RR213270**

Tsc1 (NM_021854) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Tsc1 (NM_021854) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Tsc1
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR213270 representing NM_021854
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCCGATCGCC

ATGGCCAGCTAGCCAACATTGGGGAGCTACTCTCCATGCTGGACTCTTCCACACTGGGTGTGCGTGATG
 ACGTGACAACCATCTTCAAGGAGTCCCTCAATTCTGAACGTGGGCTATGCTTGTAAACACGTTGGTGGA
 TTATTACCTGGAACCAATTCTCAGCCGGTCTTGACATCCTGACCACCTGCAAGAGCCACATGATAAG
 CACCTCTTGGACAAAATGAATGAGTATGTAGGCAAAGCTGCCACCGCTTATCCATCCTCTCGCTGCTGG
 GGCATGTTGTGAGGCTGCAGCCATCTTGAAGCATAAGCTCTCTCAAGCACCTCTTCTGCCTTCTTACT
 GAAATGTCTCAAGATGGACACTGATGTTGTGGTCTCACAACTGGTGTCTTGGTGTGATCACCATGCTA
 CCGATGATCCCGCAGTCAGGGAAGCAGCACCTTCTCGACTTCTTGGACATCTTGGCCGCTTTTCATCAT
 GGTGCCTGAAGAAACCAGGCCATGTGACAGAAGTCTACCTGGTCCACCTCCATGCCAGTGTATGCCCT
 CTTCCATCGCCTTATGGAATGTACCCTTGTAACTTCGTCCTTCTGCGCTCTCACTACAGCATGAAG
 GAAAACGTGGAGACTTTTGAAGAAGTGGTCAAGCCAATGATGGAGCATGTGCGAATTCACCCGGAATTAG
 TGACTGGATCCAAGGACCATGAACTGGACCCTCGAAGGTGGAAGACATTAGAACTCATGATGTTGTAAT
 AGAGTGTGCCAAATCTCTGACCCTACCGAAGCCTCATATGAAGATGGCGATGCTGTGTCTCACCAG
 CTCTCTGCCTGCTTCCCTCACCGTTCAGCTGATGTCACCACCAGCTTTACGTGGACACACAGAATAGCT
 ATGGGGCGCTACTTCCACCCCTTCTCCACCTCTCGGCTGATGTTGTTTCACTACCCCGGGCAGCTACC
 TCAGAGTTTGTGTTCACTATCAACACGGCCGTTACCTGAGCCGCTGCAAGCTAGTCTTGGAGCCCATCT
 GCAGTCTGTGGTATGACCACTCCTCCTACGTCCTGAAATGTCCCGGCTGATTTGTACATCCATACA
 GTAAAGCCTTTGGTACTACCCTGGTGGAAAAGGAACCTTTCAGGAACCCAGCGACCTCTCTCCCC
 AGCCCCGCTTGTCCCCAAGACGACTGTGCGCACGGTCCAGCCTCCAGGCCCTCAGCCACACCCCCCAGG
 AAGGAAGAAAGACAGATTCTTCAAGGCCTTACCTACCCAGACAGCAGGATGTTCCGAGTGACCCGGAT
 TAGAGGATCTACCTGGAAGCAAAGTTCGGTCACTCTGAGGAATCTACCAGATTTCTAGGTGACCTGGC
 TTCAGAGGAAGACAGTATAGAGAAAGATAAGGAAGAAGCTGCGATATCTAAAGAGCTTCTGAGATCACC
 ACTGCAGAGGCGGATCCTGTAGCTCCTCGAGGGGCTTTGACTCTCCCTTCTACCAGACAGTCTCTCTG
 GTTCTCAGCGGAAGACTCACTCAGCAGCCTCTGGGACTCAGGGCTTACGCGTGAACCCTGAGCCTTTGCA
 CTCCTCCTGGACAAACATGGGCTGACACACCAAAGCAAGCCTTACTCCCATAGACCACCTCTGGC



[View online »](#)

AGTGCTGATGCCAGTCCCGCTGGGGACAGGGATCGCCAGACTTCTCTGGAGACCAGTATCCTCACTCCCA
 GCCCTTGCAAATTCACCTCAGAGGGGAGTGAGCTTTGGAAGTGGGAGCTTCCCCATATGATCATCT
 CTTTGAGGTGGCCTTGCCAAAGACTGCCTGTCACTTTGTGAGCAAAAAGACTGAAGAGCTGTTGAAGAAA
 GCGAAAGGAAACCTGAGGAAGACTGTGTGCCCTCTACCTCCCCAATGGAAGTACTGGACAGACTGCTAG
 AGCAGGGAGCAGGGGCACACAGCAAGGAAGTGTGAGCAGGTTGTCTTGGCCAGCAAGTCTGTTGACTGGAC
 CCACTTTGGAGGCTCTCCCCCTCAGATGAGATCCGGACCCTCCGAGACCAGTTGCTCTTACTGCACAAT
 CAGCTGTGTACGAACGCTTTAAGCGGCAGCAGCATGCCTGAGGAACAGAAGGCTGCTCGGCAAGTGA
 TCCGAGCTGCGGCCCTGGAGGAGCACAAACGCAGCGATGAAAGATCAGTTGAAGTTACAAGAGAAGGACAT
 CCAGATGTGGAAGGTGAGTCTGCAGAAAGAACAAGCCCGATACAGTCAGCTTTCAGCAACAACGTGACACC
 ATGGTGACCCAGCTGCATAGCCAAATCAGACAGCTGCAGCATGACCGAGAAGAATTCTACAACCAGAGTC
 AGGAGTTACAGACGAAGCTGGAGGACTGCAGAAGCATGATCGCGGAGCTTCGAGTGGAGCTGAAGAAGGC
 CAACAGCAAGGTGTCCACACCGAGCTGCTGCTCAGCCAGGTCTCTCAGAAGCTCTCCAATAGTGAGTCA
 GTGCAGCAGCAGATGGAGTCTTGAATAGGCAGCTCCTGGTGTCTCGGGGAGGTCAATGAGCTGTACCTGG
 AGCAGCTGCAGAGCAAGCATCCTGACACCACCAAGGAAGTAGAAATGATGAAAAGTCTTATCGGAAAGA
 ACTAGAGAAAAACAGAAGCCACCTTCTCCAGCAGAACCAGAGGCTGGATGCCTCACAGAGCGGAGTTTTA
 GAACTGGAATCTCTTCTGGCCAAGAAAGACCACCTTCTCCTAGAGCAGAAGAAGTACCTTGGAGGTGCA
 AGAGCCAGGCGAGTGGACAGCTGCTGGCTGCAGAGAGCAGGTATGAGGCTCAGAGAAAGTACCCCGGGT
 GTTGAACTGGAGATCCTAGACTTGATGGTAGATTGGAGAAAGATGGCCGCCTACAGAAACTAGAAGAG
 GACAGAGCAGAGGCAGCAGAGGCAGCTGAAGAGAGGCTTGACTGTTGACTGATGGATGCTCAGATTCTT
 TGTTAGGACATAATGAAGAGGCTGCTGGTCAATGGTGAGACCAGGACCTCCAGACCTGGTGGCACCCG
 GGCCAGCTGTGGAGGTAGAGTCACTGGAGGCAGCAGCAGCAGCAGCAGTGTGAGCTTCCACTCCAGAGAAA
 CCCCCGAACCAGAGGTTTACAGCAGCCGGTGGGAGCCACCATGGGTGAGCCCTCCAGCAGCATCCCCACCA
 CTGTTGGTCACTTCCCAGTTCAAAAGCTTCTTGGGCATGAAGACCCGGGAGCTGTTCCGTAATAAGAG
 TGAGAGCCAGTGTGATGAGGATGGCATGACCATGAGTAGCTTTTCTGAGACCCTGAAGACAGAAGTGGGC
 AAAGACTCGGCGGCATGAAAAACAAGACTCCCCAAGTCTAGACGCCCCACCCATCTTCCCCAAGCT
 CAGACAGTATGGGGCAGCTCCATATCATGGACTACAATGAGACTCATCAGAACACAGC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RR213270 representing NM_021854
 Red=Cloning site Green=Tags(s)

MAQLANIGELLSMLDSSTLGVRRDVTTFKESLNSERGPMLVNTLVDYYLETNSQPVLHILTTLQEPHDK
 HLLDKMNEYVVGKAATRLSILSLLGHVVRQLQPSWKHKLQAPLLPSSLKCLKMDTDVVVLTTGVLVLIITML
 PMIPQSGKQHLDFDFIFGRLSSWCLKKPGHVTEVYL VHLHASVYALFHRLYGMYPNCFVFLRSHYSMK
 ENVETFEVVKPMMEHVRIPHPELVGTGSKDHELDPRRWKLTETHDVVIECAKISLDPTEASYEDGDAVSHQ
 LSACFPHRSAADVTTSSYVDTQNSYGGATSTPSSTSRMLMFTSTPGQLPQSLSSLSTRPLPEPLQASLWSPS
 AVCGMTTPPTSPGNVPADLSHPYSKAFGTTTGGKGTSPGTPATSPPPAPPQDDCAHGPAASQASATPPR
 KEERADSSRPYLPQQDVPDRGLEDLPGSKGSVTLRNLPDFLGDLAASEEDSIEKDKEEAAISKELSEIT
 TAEADPVAPRGGFDSPFYRDSLSGSQRKTHSAASGTQGFVNPEPLHSSLDKHGPDTPKQAFPIIDPPSG
 SADASPAGDRDRQTSLETSILTPSPCKIPPQRGVSFSGGQLPPYDHLFEVALPKTACHFVSKKTEELKK
 AKGNPEEDCVPSTSPMEVLDRLLEQGAGAHSKELSRLLSPSKSVDWTHFGGSPPSDEIRTLRDQLLLHN
 QLLYERFKRQHALRNRLLRKVIRAAALEEHNAAMKDQLKQEKDIQMWKVSQKEQARYSQLQQQRDT
 MVTQLHSQIRQLQHDREEFYNQSQELQTKLEDCRSMAELRVELKKANSKVCHTELLLQVVSQKLSNES
 VQQQMEFLNRQLLVLEVNELYLEQLQSKHPDITKEVEMMKTAYRKELEKNRSHLLQQNQRLDASQRRVL
 ELESLLAKKDHLLEQKYLEDVKSQASGQLLAESRYEAQRKITRVLELEILDLYGRLEKDGRLQKLEE
 DRAEAAEAAEERLDCCTDGCSDSLLGHNEEAAGHNGETRTSRPGGTRASCGRVVTGGSSSSSELSTPEK
 PPNQRFSRWEPTMGEPSSSIPTTVGSLPSSKSFLLGMKTRELFRNKSESQCDEDGMTMSSFSETLKTTEL
 KDSAGMENKTPPSLDAPHPSSPSSDSMQLHIMDYNETHHEHS

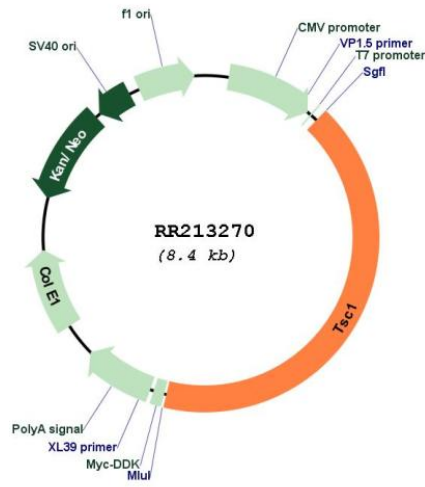
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_021854

ORF Size: 3489 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:	<u>NM_021854.1, NP_068626.1</u>
RefSeq Size:	3492 bp
RefSeq ORF:	3492 bp
Locus ID:	60445
UniProt ID:	<u>Q9Z136</u>
Cytogenetics:	3p12
MW:	129 kDa
Gene Summary:	In complex with TSC2, inhibits the nutrient-mediated or growth factor-stimulated phosphorylation of S6K1 and EIF4EBP1 by negatively regulating mTORC1 signaling (By similarity). Implicated as a tumor suppressor. Involved in microtubule-mediated protein transport, but this seems to be due to unregulated mTOR signaling (PubMed:16707451). Acts as a co-chaperone for HSP90AA1 facilitating HSP90AA1 chaperoning of protein clients such as kinases, TSC2 and glucocorticoid receptor NR3C1 (By similarity). Increases ATP binding to HSP90AA1 and inhibits HSP90AA1 ATPase activity (By similarity). Competes with the activating co-chaperone AHSA1 for binding to HSP90AA1, thereby providing a reciprocal regulatory mechanism for chaperoning of client proteins (By similarity). Recruits TSC2 to HSP90AA1 and stabilizes TSC2 by preventing the interaction between TSC2 and ubiquitin ligase HERC1 (By similarity).[UniProtKB/Swiss-Prot Function]