

Product datasheet for **MG226132**

Ntrk2 (NM_008745) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ntrk2 (NM_008745) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Ntrk2
Synonyms:	GP145-TrkB/GP95-TrkB; Tkrb; trk-B; trkB
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>MG226132 representing NM_008745
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTCGCCTGGCTGAAGTGGCATGGACCCGCATGGCGGGCTCTGGGGCTTATGCCTGCTGGTCTTGG
 GCTTCTGGAGGGCTCTCTCGCCTGCCCGACGTCTGCAATGCAGTTCCGCTAGGATTTGGTGTACTGA
 GCCTTCTCCAGGCATCGTGGCATTCCCGAGGTTGGAACCTAACAGCGTTGACCCGGAGAACATCACGGAA
 ATTCTCATTGCAAACCAGAAAAGGCTAGAAATCATCAATGAAGATGACGTTGAAGCTTACGTGGGGCTGA
 GAAACCTTACAATTGTGGATTCCGGCTTAAAGTTTGTGGCTTACAAAGCGTTTCTGAAAAACAGCAACCT
 GCGGCACATAAATTTACACGAAACAAGCTGACGAGTTTGTCCAGGAGACATTTCCGCCACCTTGACTTG
 TCTGACCTGATCCTGACGGTAATCCGTTACGTGCTCCTGCGACATCATGTGGCTCAAGACTCTCCAGG
 AGACTAAATCCAGCCCCGACACTCAGGATTTGTACTGCCTCAATGAGAGCAGCAAGAATGCCCTGGC
 GAACCTGCAGATACCAATTGTGGTCTGCCATCTGCACGTCTGGTCTCCTAACCTCACGTGGAGGAA
 GAAAGTCTGTGACCCTTCTCGCAGTGTGGGGGTGACCCACTCCACCTTGTACTGGGACGTTGGGA
 ATTTGGTTTCAAGCACATGAATGAAACAAGCCACACACAGGGCTCCTTAAAGATAACGAACATTTTCATC
 TGATGACAGTGGAAAGCAAATCTCTTGTGTGGCAGAAAACCTTGTAGGAGAAGATCAAGATTCTGTGAAC
 CTCACTGTGCATTTTGCGCCAATATCACGTTTCTCGAGTCTCCAACCTCAGATCACCCTGGTGCATTC
 CATTCACTGTGAGAGGCAACCCCAAGCCTGCGCTTCAAGTGGTCTACAATGGGGCCATACTGAATGAGTC
 CAAGTACATCTGTACTAAGATCCACGTCACCAATCACACGGAGTACCATGGCTGCCTCCAGCTGGATAAC
 CCCACTCATATGAATAACGGAGACTACACCCTGATGGCCAAGAACGAGTATGGGAAGGATGAGAGACAGA
 TCTCCGCTCACTTCATGGGCCGGCTGGAGTCGACTACGAGACAAACCCAAATTACCTGAAGTCCCTCTA
 TGAAGACTGGACCACGCCAAGTACATTGGGGTACTACGAACAAAAGTAAATGAAATCCCTCCACGGAT
 GTTGCTGACCAAAGCAATCGGGAGCATCTCTCGGTCTATGCCGTGGTGGTATTGCATCTGTGGTGGAT
 TCTGCCTGCTGGTGTGTGCTCCTGCTCAAGTTGGCAGACATTCGAAGTTGGCATGAAAGGTTTTGT
 TTTGTTTCATAAGATCCCACTGGATGGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG226132 representing NM_008745
 Red=Cloning site Green=Tags(s)

MSPWLKWHGPAMARLWGLCLLVLFWRASLACPTSCCKSSARIWCTEPPGIVAFPRLEPNSVDPENITE
 ILIANQKRLEIINEDDVEAYVGLRNLTI VDSGLKFVAYKAFKNSNLRHINFTRNKLTSL SRRHFRHLDL
 SDLIL TGNPFTCSCDIMWLKTLQETKSSPDTQDLYCLNESSKNMPLANLQIPNCGLPSARLAAPNLVVEE
 GKSVTLSCSVGGDPLPTLYWDVGNLVSKHMNETSHTQGSLRITNISDDSGKQISCV AENLVGEDQDSVN
 LTVHFAPTITFLESPTS DHHWCIPFTVRGNPKPALQWFYNGAILNESKYICTKIHV TNHTEYHGCLQLDN
 PTHMNGDYTLMAKNEYGKDERQISAHFMGRPGVDYETNP NYPEVLYEDWTTPTD IGDTTNKSNEIPSTD
 VADQSNREHLSVYAVVVIASVVGFCLLVMLLLLKLARHSKFGMKGFVLFHKIPLDG

TRTRPLE - GFP Tag - V

Chromatograms:

https://cdn.origene.com/chromatograms/ja3706_g03.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:



ACCN: NM_008745

ORF Size: 1428 bp

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

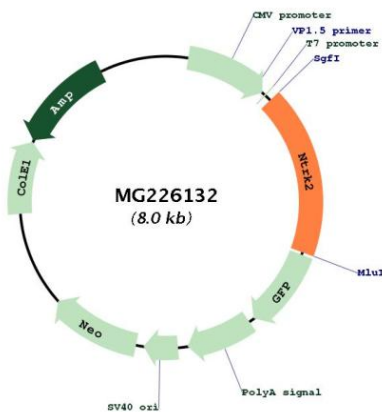
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:
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_008745.3](#)
 RefSeq Size: 7049 bp
 RefSeq ORF: 1431 bp
 Locus ID: 18212
 UniProt ID: [P15209](#)
 Cytogenetics: 13 31.2 cM

Gene Summary: Receptor tyrosine kinase involved in the development and the maturation of the central and the peripheral nervous systems through regulation of neuron survival, proliferation, migration, differentiation, and synapse formation and plasticity. Receptor for BDNF/brain-derived neurotrophic factor and NTF4/neurotrophin-4. Alternatively can also bind NTF3/neurotrophin-3 which is less efficient in activating the receptor but regulates neuron survival through NTRK2. Upon ligand-binding, undergoes homodimerization, autophosphorylation and activation. Recruits, phosphorylates and/or activates several downstream effectors including SHC1, FRS2, SH2B1, SH2B2 and PLCG1 that regulate distinct overlapping signaling cascades. Through SHC1, FRS2, SH2B1, SH2B2 activates the GRB2-Ras-MAPK cascade that regulates for instance neuronal differentiation including neurite outgrowth. Through the same effectors controls the Ras-PI3 kinase-AKT1 signaling cascade that mainly regulates growth and survival. Through PLCG1 and the downstream protein kinase C-regulated pathways controls synaptic plasticity. Thereby, plays a role in learning and memory by regulating both short term synaptic function and long-term potentiation. PLCG1 also leads to NF-Kappa-B activation and the transcription of genes involved in cell survival. Hence, it is able to suppress anoikis, the apoptosis resulting from loss of cell-matrix interactions. Isoform GP95-TRKB may also play a role in neurotrophin-dependent calcium signaling in glial cells and mediate communication between neurons and glia. [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MG226132