

Product datasheet for **MR226130**

Ntrk2 (NM_001025074) Mouse Tagged ORF Clone

Product data:

| | |
|---------------------------|---|
| Product Type: | Expression Plasmids |
| Product Name: | Ntrk2 (NM_001025074) Mouse Tagged ORF Clone |
| Tag: | Myc-DDK |
| Symbol: | Ntrk2 |
| Synonyms: | GP145-TrkB/GP95-TrkB; Tkrb; trk-B; trkB |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |



[View online »](#)

ORF Nucleotide
Sequence:

>MR226130 representing NM_001025074
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGCCTGGCTGAAGTGGCATGGACCCGCATGGCGGGCTCTGGGGCTTATGCCTGCTGGTCTTGG
 GCTTCTGGAGGGCTCTCTCGCCTGCCCGACGTCTGCAAATGCAGTTCCGCTAGGATTTGGTGTACTGA
 GCCTTCTCCAGGCATCGTGGCATTCCCGAGTTGGAACCTAACAGCGTTGACCCGGAGAACATCACGGAA
 ATTCTCATTGCAAACCAGAAAAGGCTAGAAATCATCAATGAAGATGACGTTGAAGCTTACGTGGGGCTGA
 GAAACCTTACAATTGTGGATTCCGGCTTAAAGTTTGTGGCTTACAAAGCGTTTCTGAAAAACAGCAACCT
 GCGGCACATAAAATTTACACGAAACAAGCTGACGAGTTTGTCCAGGAGACATTTCCGCCACCTTGACTTG
 TCTGACCTGATCCTGACGGTAATCCGTTACGTGCTCCTGCGACATCATGTGGCTCAAGACTCTCCAGG
 AGACTAAATCCAGCCCCGACACTCAGGATTTGTACTGCCTCAATGAGAGCAGCAAGAATGCCCTGGC
 GAACTGCAGATACCAATTGTGGTCTGCCATCTGCACGTCTGGTCTCCTAACCTCACGTGGAGGAA
 GAAAGTCTGTGACCCTTCTCGCAGTGTGGGGGTGACCCACTCCACCTTGTACTGGGACGTTGGGA
 ATTTGGTTTTCAAGCACATGAATGAAACAAGCCACACACAGGGCTCCTTAAAGATAACGAACATTTTCATC
 TGATGACAGTGGAAAGCAAATCTTGTGTGGCAGAAAACCTTGTAGGAGAAGATCAAGATTCTGTGAAC
 CTCACTGTGCATTTTGCGCCAATATCACGTTTCTCGAGTCTCCAACCTCAGATCACCCTGGTGCATTC
 CATTCACTGTGAGAGGCAACCCCAAGCCTGCGCTTCAAGTGGTCTACAATGGGGCCATACTGAATGAGTC
 CAAGTACATCTGTAAGATCCACGTCACCAATCACACGGAGTACCATGGCTGCCTCCAGCTGGATAAC
 CCCCATATGAATAACGGGAGACTACACCCTGATGGCCAAGAACGAGTATGGGAAGGATGAGAGACAGA
 TCTCCGCTCACTTCATGGGCGGCCTGGAGTCGACTACGAGACAAACCCAAATACCTTGAAGCTCTCTA
 TGAAGACTGGACCACGCCAACTGACATTGGGGATACTACGAACAAAAGTAAATGAAATCCCTCCAGGGAT
 GTTGCTGACCAAAGCAATCGGGAGCATCTCTCGGTCTATGCCGTGGTGGTATTGCATCTGTGGTGGAT
 TCTGCCTGCTGGTGTGTTGCTCCTGCTCAAGTTGGCAGACATTCGAAGTTTGGCATGAAAGGCCCAGC
 TTCGGTCAACAGCAGATGACTCTGCCAGCCCCCTCCACCACATCTCCAATGGGAGTAACACTCCA
 TCTTCTCGAGGGCGGTCCCGACGCTGCTATTATTGGAATGACCAAGATTCTGTTATTGAAAACCCCC
 AGTACTTTGGCATCACCACAGTCAGCTCAAGCCAGACACATTTGTTTCCAGCATATCAAGAGACACAACAT
 CGTTCTGAAGAGGGAACCTGGGAAGGAGCCTTCGGGAAAGTTTTCTTCCGAGTGCTACAACCTCTGC
 CCAGAGCAGGATAAGATCCTGGTGGCTGTGAAGACGCTGAAGGACGCCAGCGACAATGCACGCAAGGACT
 TTCATCGGGAAGCTGAGCTGCTGACCAACCTCCAGCAGCAGCATTGTCAAGTTCTACGGTGTCTGTGT
 GGAGGGCGACCCACTCATCATGGTCTTTGAGTACATGAAGCACGGGGACCTCAACAAGTTCTTAGGGCA
 CACGGGCCGACGAGTCTGATGGCAGAGGTAACCCGCCACAGAGCTGACGAGTCCGAGATGCTGC
 ACATCGCTCAGCAAATCGCAGCAGGATAGGTCTACCTGGCGTCCCAACACTTTGTGCACCGTGCCTGGC
 CACCCGGAACCTGCTGGTGGGAGAGAACCTGCTGGTAAAATTGGGGACTTTGGGATGTCCCGAGATGTG
 TACAGCACCGACTACTATCGGGTCGGTGGCCACACAATGTTGCCATCCGATGGATGCCTCCAGAGAGCA
 TCATGTACAGGAAATTCACCACCGAGAGCAGCTCTGGAGCCTGGGCGTGTGTTGTGGGAGATCTTAC
 CTACGGCAAGCAGCCCTGGTATCAGCTATCGAACAATGAGGTGATAGAGTGCATCACCCAGGGAAGAGTC
 CTTACGGCCTCGAACGTGTCCCGAGGAGTGTATGAGCTCATGCTGGATGCTGGCAGCGGGAACCCAC
 ACACCCGAAGAACATCAAGAGCATCCACACCCTCTTCAAGACTTGGCCAAGGCATCTCCGCTACCT
 GGATATCCTAGGC

ACGCGTACGCGGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR226130 representing NM_001025074
Red=Cloning site Green=Tags(s)

MSPWLKWHGPAMARLWGLCLLVLGFWRASLACPTSCCKSSARIWCTEPPGIVAFPRLEPNSVDPENITE
ILIANQKRLEIINEDDVEAYVGLRNLTI VDSGLKFVAYKAFKNSNLRHINFTRNKLTSLSRRHFRHLDL
SDLILTGNPFTCSCDIMWLKTLQETKSSPDTQDLYCLNESSKNMPLANLQIPNCGLPSARLAAPNLVVEE
GKSVTLSCSVGGDPLPTLYWDVGNLVSKHMNETSHTQGSLRITNIISSDDSGKQISCVAENLVGEDQDSVN
LTVHFAPTITFLESPTSDDHHCIPFTVRGNPKPALQWFYNGAILNESKYICTKIHVNTNHTYHGCLQLDN
PTHMNGDYTLMAKNEYGKDERQISAHFMGRPGVDYETNPNYPEVLYEDWTTPTDIGDTTNKSNEIPSTD
VADQSNREHLSVYAVVVIASVVGFCLLVMLLLKLARHSKFGMKGPASVISNDDDSASPLHHISNGSNTP
SSEGGPDAVIGMTKIPVIENPQYFGITNSQLKPDTFVQHIKRHNIVLKRELGEFAGKVF LAECYNLC
PEQDKILVAVKTLKDASDNARKDFHREAELLTNLQHEHIVKFYGVCEGDPLIMVFEYMKHGDNLKFLRA
HGPDVAVLMAEGNPPTELTQSQMLHIAQQIAAGMVYLASQHFVHRDLATRNCLVGENLLVKIGDFGMSRDV
YSTDYRVRVGGHTMLPIRWMPPESIMYRKFTTESDVWSLGVVLEIFTYQKQPWYQLSNNEVIECITQGRV
LQRPRTCPQEVYELMLGCWQREPHTRKNIKSIHTLLQNLAKASPVYLDILG

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mm9003_g12.zip

Restriction Sites: Sgfl-MluI

Cloning Scheme:



ACCN: NM_001025074

ORF Size: 2463 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:

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_001025074.2](#), [NP_001020245.1](#)

RefSeq Size: 4614 bp

RefSeq ORF: 2466 bp

Locus ID: 18212

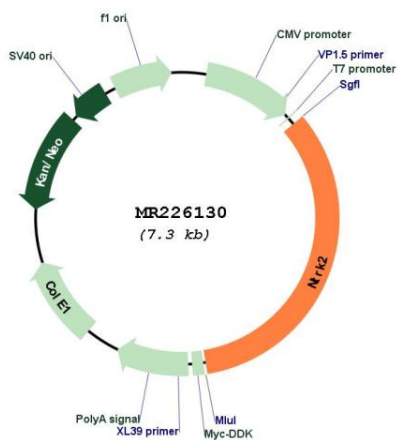
UniProt ID: [P15209](#)

Cytogenetics: 13 31.2 cM

MW: 92.6 kDa

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 MR226130