

## Product datasheet for **MG226130**

### **Ntrk2 (NM\_001025074) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Ntrk2 (NM_001025074) 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:

>MG226130 representing NM\_001025074  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCCGCATCGCC

ATGTCGCCTGGCTGAAGTGGCATGGACCCGCCATGGCGGGCTCTGGGGCTTATGCCTGCTGGTCTTGG  
 GCTTCTGGAGGGCTCTCTCGCCTGCCGACGTCTTGCAAATGCAGTTCCGCTAGGATTTGGTGTACTGA  
 GCCTTCTCCAGGCATCGTGGCATTCCCGAGGTTGGAACCTAACAGCGTTGACCCGGAGAACATCACGGAA  
 ATTCTCATTGCAAACCAGAAAAGGCTAGAAATCATCAATGAAGATGACGTTGAAGCTTACGTGGGGCTGA  
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 GCGGCACATAAATTTACACGAAACAAGCTGACGAGTTTGTCCAGGAGACATTTCCGCCACCTTGACTTG  
 TCTGACCTGATCCTGACGGTAATCCGTTACGTGCTCCTGCGACATCATGTGGCTCAAGACTCTCCAGG  
 AGACTAAATCCAGCCCCGACACTCAGGATTTGTACTGCCTCAATGAGAGCAGCAAGAATGCCCTGGC  
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 GGAAGTCTGTGACCCTTCTCGCAGTGTGGGGGTGACCCACTCCACCTTGTACTGGGACGTTGGGA  
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 TGATGACAGTGGAAAGCAAATCTCTTGTGTGGCAGAAAACCTTGTAGGAGAAGATCAAGATTCTGTGAAC  
 CTCACTGTGCATTTTGCGCCAATATCACGTTTCTCGAGTCTCCAACCTCAGATCACCCTGGTGCATTC  
 CATTCACTGTGAGAGGCAACCCCAAGCCTGCGCTTCAAGTGGTCTACAATGGGGCCATACTGAATGAGTC  
 CAAGTACATCTGTACTAAGATCCACGTCACCAATCACACGGAGTACCATGGCTGCCTCCAGCTGGATAAC  
 CCCACTCATGAATAACGGGAGACTACACCCTGATGGCCAAGAACGAGTATGGGAAGGATGAGAGACAGA  
 TCTCCGCTCACTTCATGGGCGGCTGGAGTCGACTACGAGACAAACCCAAATACCCTGAAGTCTCTCTA  
 TGAAGACTGGACCACGCCAACTGACATTGGGGATACTACGAACAAAAGTAAATGAAATCCCTCCAGGGAT  
 GTTGCTGACCAAAGCAATCGGGAGCATCTCTCGGTCTATGCCGTGGTGGTATTGCATCTGTGGTGGAT  
 TCTGCCTGCTGGTGTGTTGCTCCTGCTCAAGTTGGCAGACATTCGAAGTTTGGCATGAAAGGCCCAGC  
 TTCGGTCACTCAGCAACGACGATGACTCTGCCAGCCCCCTCCACCACATCTCCAATGGGAGTAACACTCCA  
 TCTTCTCGGAGGGCGGTCCCGACGCTGTCATTATTGGAATGACCAAGATTCCTGTTATTGAAAACCCCC  
 AGTACTTTGGCATCACCAACAGTCAGCTCAAGCCAGACACATTTGTTTCCAGCATATCAAGAGACACAACAT  
 CGTTCTGAAGAGGGAACCTGGGAAGGAGCCTTCGGGAAAGTTTTCTTCCGAGTGCTACAACCTCTGC  
 CCAGAGCAGGATAAGATCCTGGTGGCTGTGAAGACGCTGAAGGACGCCAGCGACAATGCACGCAAGGACT  
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 GGAGGGCGACCCACTCATCATGGTCTTTGAGTACATGAAGCACGGGGACCTCAACAAGTTCTTAGGGCA  
 CACGGGCCGACGAGTCTGATGGCAGAGGTAACCCGCCACAGAGCTGACGCGAGTCCGAGATGCTGC  
 ACATCGCTCAGCAAATCGCAGCAGGATAGGTCTACCTGGCGTCCCAACACTTTGTGCACCGTGACCTGGC  
 CACCCGGAACCTGCTGGTGGGAGAGAACCTGCTGGTAAAATTGGGGACTTTGGGATGTCCCGAGATGTG  
 TACAGCACCGACTACTATCGGGTCGGTGGCCACACAATGTTGCCATCCGATGGATGCCTCCAGAGAGCA  
 TCATGTACAGGAAATTCACCACCGAGAGCAGCTCTGGAGCCTGGGCGTGTGTTGTGGGAGATCTTAC  
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 CTTACGGCCTCGAACGTGTCCCAGGAGGTGTATGAGCTCATGCTTGGATGCTGGCAGCGGGAACCCAC  
 ACACCCGAAGAACATCAAGAGCATCCACACCCTCTTCAAGACTTGGCCAAGGCATCTCCGCTACCT  
 GGATATCCTAGGC

ACCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG226130 representing NM\_001025074  
 Red=Cloning site Green=Tags(s)

MSPWLKWHGPAMARLWGLCLLVLFWRASLACPTSCCKSSARIWCTEPPGIVAFPRLEPNSVDPENITE  
 ILIANQKRLEIINEDDVEAYVGLRNLTI VDSGLKFVAYKAFKNSNLRHINFTRNKLTSL SRRHFRHLDL  
 SDLILTGNPFTCSCDIMWLKTLQETKSSPDTQDLYCLNESSKNMPLANLQIPNCGLPSARLAAPNLVVEE  
 GKSVTLSCSVGGDPLPTLYWDVGNLVSKHMNETSHTQGSLRITNISSDDSGKQISCVAENLVGEDQDSVN  
 LTVHFAPTITFLESPTSDDHHCIPFTVRGNPKPALQWFYNGAILNESKYICTKIHVNTNHTYHGCLQLDN  
 PTHMNGDYTLMAKNEYGKDERQISAHFMGRPGVDYETNPNYPEVLYEDWTTPTDIGDTTNKSNEIPSTD  
 VADQSNREHLSVYAVVVIASVVGFCLLVMLLLKLARHSKFGMKGPASVISNDDDSASPLHHISNGSNTP  
 SSEGPDVAIIIGMTKIPVIENPQYFGITNSQLKPDTFVQHIKRHNIVLKRELGEFAGKVF LAECYNLC  
 PEQDKILVAVKTLKDASDNARKDFHREAELLTNLQHEHIVKFYGVCEGDPLIMVFEYMKHGDNLKFLRA  
 HGPDAVLMAEGNPPTELTQSQMLHIAQQIAAGMVYLASQHFVHRDLATRNCLVGENLLVKIGDFGMSRDV  
 YSTDYYRVGGHTMLPIRWMPPESIMYRKFTTESDVWSLGVVLEIFTYQKQPWYQLSNNEVIECITQGRV  
 LQRPRTCPQEVYELMLGCWQREPHTRKNIKSIHTLLQNLAKASPVYLDILG

TRTRPLE - GFP Tag - V

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja1534\\_g03.zip](https://cdn.origene.com/chromatograms/ja1534_g03.zip)

**Restriction Sites:** Sgfl-Mlul

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

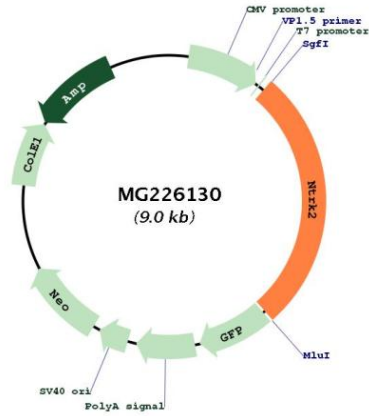
**Locus ID:** 18212

**UniProt ID:** [P15209](#)

**Cytogenetics:** 13 31.2 cM

**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 MG226130