

Product datasheet for **MG209421**

Trak1 (NM_175114) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Trak1 (NM_175114) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Trak1
Synonyms:	2310001H13Rik; AI413908; AI467545; hyrt; mKIAA1042
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>MG209421 representing NM_175114
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCATTGGCAATTCAGCTCAGGCAGCCCTCCAGGGCCCAACCTCTGCCAGGACTCAGCCACACTGG
 CTGGGACAGACTCATGTGACGTGTGCAACAGCACCAACCTTCCAGAAGTTGAGATCATTAGCCTGCTGGA
 GGAACAGCTGCCCCATTACAAGCTAAGAGCGGACACCATCTATGGTTACGACCACGATGACTGGCTGCAT
 ACGCCCTCATCTCCCCAGATGCCAACATCGACCTCACAACCTGAGCAGATCGAAGAGACGCTGAAATACT
 TCCTTCTATGTGCCGAAAGAGTTGGCCAGATGACTAAGACATAACAATGACATTGATGCTGTCACGAGGCT
 TCTTGAGGAGAAAGAGCGGGATTTGGAGCTGGCTGCGAGGATCGGTCACTTGTGTTGAAGAAGAACAAG
 ACCCTAACTGAGAGGAATGAACTGCTGGAAGAGCAGGTGGAGCACATCCGGGAGGAGGTGTCTCAGTCC
 GACATGAGCTGTCCATGAAAGACGAGCTGCTTCAATTCTACACCAGTCCCGCTGAGGAGACGAGCCTGA
 GTCGGTCTGCTCAACCCCGCTGAAGAGGAACGAGTCCCTCCTCCGTCAGAACTACTTCCACCTGGAC
 TCTCTTCAGAAGAAGCTCAAGGACCTCGAAGAGGAGAACGTTGTACTTCCGATCCGAGGCCTGTCAGCTGA
 AGACAGAGACCATCACCTATGAGGAGAAGGAGCAGCAGCTGGTGAACGACTGCGTGAAGGAGCTGAGGGA
 TGCCAACGTCCAGATTGCGAGCATCTCTGAGGAGCTGGCTAAGAAGACGGAAGATGCCGCCGCCAGCAG
 GAGGAGATCACCCACCTGCTGTGCGAAATCGTGGACTTACAGAAGAAGGCAAAATCTTGCAGGTTGAAA
 ATGAAGAGCTTGTCCAGCACCTGGGCGCTGCCAAGGACGCCAGCGTCAACTCACAGCCGAGCTCCGAGA
 GCTGGAGGATAAGTACGCGGAGTGCATGGAGATGCTTTCATGAGGCTCAGGAGGAGTTGAAGAACCTGCGG
 AACAGACGATGCCACGTCCCGGCGCTACCAGTCTCTGGGCTGTTCCCATGGACTCGTTGGCTGCAG
 AAATCGAGGAACTATGCGCAAGGAGCTGCAGCTGGAAGAGCTGGAGTCTCCAGACATCACCCACGAA
 CGGTGTCTTCGAGACGGTGAGGAACGTCATCAAGTGGTCAAGCAGAGATCACTAACCCCTTCTCCCATG
 AACATCCCGGGCTCCAACCAGTCTCAGCCATGAACTCCCTCCTGTCCAGCTGCGTCAGCACCCCTCGCT
 CCAGTCTTACGGCAGCGACGTGAGCAACGTGGTCTCGATAACAAAACCAACAGCATCCTCCTGGAGAC
 CGAGGCAGCCGACCTGGGAAACGAGGACCACAATAAGAAGCCGGGCACTCCAGGCACGCCAGGCTCCCAT
 GACCTGGAGACGGCACTTAGGCGGCTATCCCTACGCCGGGAGAACTACCTGTCTGAGCGGAGGTTCTTCG
 AGGAGGAGCAGGAGGAAAGCTGCGAGAGCTGGCTGAGAAGGGGGAGCTGCACAGTGGCTCGCTCACGCC
 CACCGAGAGCATCATGTCCCTGGGAACACACTCACGCTTCTCCGAGTTCACGGGCTTCTCTGGCATGTCC
 TTCAGCAGCCGCTCCTACCTGCCGAGAAGCTGCAGATCGTGAAGCCACTCGAAGTTTCAGCCACGCTTC
 ACCACTGGCAGCAATTGGCCAGCCTCATCTTGGGGGCATCCTGGACCCCGTCCCTGGTGTGGTACCAA
 GGGCTTCCGGACTTTGGATGTTGACCTGGATGAAGTGTACTGCCTTAACGACTTTGAGGAAGATGACACA
 GGTGACCACATTTCTCTGGCGGGCTAGCTACCTCCACGCCAATTCAGCACCCGGAGACCTCAGCGCACC
 ACCCTGGGAAGTGCATGTCACAGACCAACTCAACTTTACCTTTACCCTTGGCCGATCCTGCACCCCTTC
 AGACGAGCTCACTCGGGTACGCCAAGCCTTAACTCTGCCCCAGCTCCGGCTTGTAGCAGTACCAGCCAC
 TTGAAATCCACACCAGTGGCCACGCCATGCACCCCGGAGACTGAGCCTGGCTGAGTCTTTCACAAATG
 TCCGTGAGTCCACGACAACCATGAGCACGTCCCTGGGGCTGGTATGGTTGCTGAAGGAGCGAGGCATCTC
 GCGCGCGTGTACGACCCCGAGAGTTGGGACAGAGCCGGCAGGGGCTCCCTCCTCACTCCTACACCCCT
 AGGATGGCTGTGATCCCGTCCACCCACCAAACTCCCTATGCAGACACCTTCGGCTCCCGCCCTCCT
 TCGAGTTCAAGTGCACGAGCCCTCCCTACAACAACTTCTGGCTTCAAGCCGGCCAGCTCTATCCTGAG
 GGAGGTGAGGGAAAAGAGGCCCGTGCAGGAGCAGGAGAGCCAAACAGATGTGTCTGTCTCAACCTCAAC
 CTTGTGGACAAAGTCAAGGAGTTTGGGGTGGCCAGAGTGGTGAACCTCAGGACGTGCCCGTATCCCCACT
 TGACTGAGGAACAGGGACCTCTCCTCTGTGGACCCACAGGGCCAGCACAGGCTCTGTCCCTGGGGGCT
 GGTCCCCGAGGGCTGCCTCTGGGGTGGCCAGTGGCATCCGACGGAATCGCAGCTTCCCCACTATGGTC
 GGGTCCAGCGTGCAGATGAGAGCCCGTATCCTCACCTCGGGCATCTGATGGGTGCTAAGCTCCCCA
 AACAGACTAGCTTGCGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG209421 representing NM_175114
 Red=Cloning site Green=Tags(s)

MALAIQLRQPSRAQPLPGLSHTLAGTDCDVCNSTNLPEVEIISLLEEQLPHYKLADTIYGYDHDWLH
 TPLISPDANIDL TTEQIEETLKYFLLCAERVGMKTYNDIDAVTRLLEEKERDLEAARIGQSLKKNK
 TLTERNELLEEQVEHIREEVSQLRHEL SMKDELLQFYTSAAEESEPEVCSTPLKRNESSSVQNYFHLD
 SLQKLLKDL EEENVLRSEACQLK TETIT YEEKEQQLVND CVKELRDANVQIASISEELAKKTED AARQQ
 EEITHLLSQIVDLQKKAKSCAVENEELVQHLGAAKDAQRLTAELRELEDKYAECMEMLHEAQEELKNLR
 NKTMPTRSRYHSLGLFPMDSLAAEIEGTMRKELQLEELSPDITHQKRVFETVRNVNQVVKQRSLTPSPM
 NIPGSNQSSAMNSLLSSCVSTPRSSFYGSVSNVVDNKTNSILLETEAADLGNEDHNKPGTPTGPGSH
 DLETALRRLSLRRENYLSERRFFEEEQERKRELAEKGELHSGSLTPTESIMSLGTHSRFSEFTGFSGMS
 FSSRSYLPEKLQIVKPLEGSATLHHWQQLAQPHLGGILDPRPGVVTKGFRTL DVLDDEVYCLNDFEEDT
 GDHISLAGLATSTPIQHPETSAHHPGKCMSQTNSTFTFTTCRILHPSDELTRVTPSLNSAPAPACSTSH
 LKSTPVATPCTPRRLSLAESFTNVRESTTTMSTSLGLVLLKERGISAAVYDPQSWDRAGRGSLLHSYTP
 RMAVIPSTPPNSPMQTPSAPPSFEFKCTSPYNNFLASKPASSILREVREKRPVRSSESQTDVSVSNLN
 LVDKVRRFGVARVNSGRARIPTL TEEQGPLLCGPTGPAQALVPGLVPEGLPLGCP SGIRNRNSFPTM
 GSSVQMRAPVILTSGILMGAKLPKQTSLR

TRTRPLE - GFP Tag - V

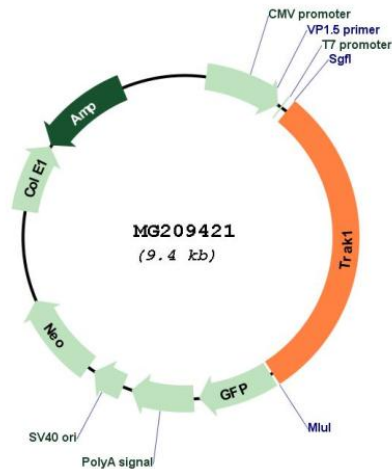
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_175114

ORF Size: 2817 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_175114.3](#), [NP_780323.2](#)

RefSeq Size: 4914 bp

RefSeq ORF: 2820 bp

Locus ID: 67095

UniProt ID: [Q6PD31](#)

Cytogenetics: 9 72.41 cM

Gene Summary:

Involved in the regulation of endosome-to-lysosome trafficking, including endocytic trafficking of EGF-EGFR complexes and GABA-A receptors (By similarity). Involved in mitochondrial motility (PubMed:24995978). When O-glycosylated, abolishes mitochondrial motility. Crucial for recruiting OGT to the mitochondrial surface of neuronal processes (By similarity). TRAK1 and RHOT form an essential protein complex that links KIF5 to mitochondria for light chain-independent, anterograde transport of mitochondria (By similarity).[UniProtKB/Swiss-Prot Function]