

## Product datasheet for **RG224330**

### **TRAK1 (NM\_001042646) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	TRAK1 (NM_001042646) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	TRAK1
Synonyms:	EIEE68; MILT1; OIP106
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG224330 representing NM\_001042646  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCATTGGTTTTTCAATTCGGGCAGCCCGTCAGGGCTCAGCCTCTGCCAGGACTCTGCCACGGCAAGC  
 TCATTCGACAAAACGCCTGTGATGTGTGCAACAGCACCGATCTTCGGAAGTCGAGATCATTAGCCTGCT  
 GGAGGAGCAGCTGCCCCATTATAAGTTAAGAGCCGACACCATCTACGGTTATGACCACGACGACTGGCTC  
 CATAACCTCTCATTCTCCAGATGCCAACATTGACCTCACAAACCGAGCAAATTGAAGAGACGTTAAAT  
 ACTTCTTTTTATGTGCTGAAAGAGTTGGCCAGATGACTAAGACATATAATGACATAGATGCTGCTACTCG  
 GCTTCTTGAGGAGAAAGAGCGGGATTTAGAATTGGCCGCTCGCATCGCCAGTCGTTGTTGAAGAAGAAC  
 AAGACCCTAACCGAGAGGAACGAGCTGCTGGAGGAGCAGGTGGAACACATCAGGGAGGAGGTGTCTCAGC  
 TCCGGCATGAGCTGTCCATGAAGGATGAGCTGCTTCAGTTCTACACCAGCGCTGCGGAGGAGAGTGAGCC  
 CGAGTCCGTTTGCTCAACCCCGTTGAAGAGGAATGAGTCGTCCTCCTCAGTCCAGAATTACTTTTCAATTTG  
 GATTCTCTTCAAAGAAGCTGAAAGACCTTGAAGAGGAGAATGTTGTACTTCGATCCGAGGCCAGCCAGC  
 TGAAGACAGAGACCATCACCTATGAGGAGAAGGAGCAGCAGCTGGTCAATGACTGCGTGAAGGAGCTGAG  
 GGATGCCAATGTCCAGATTGCTAGTATCTCAGAGGAACGGCCAAAGAAGACGGAAGATGCTGCCGCCAG  
 CAAGAGGAGATCACACACCTGCTATCGCAAATAGTTGATTTGCAGAAAAAGGCAAAGCTTGCGCAGTGG  
 AAAATGAAGAACTTGTCCAGCATCTGGGGGCTGCTAAGGATGCCAGCGGCAGCTCACAGCCGAGCTGCG  
 TGAGCTGGAGGACAAGTACGACAGTGCATGGAGATGCTGCATGAGGCGCAGGAGGAGCTGAAGAACCTC  
 CGGAACAAAACCATGCCAATACCACGCTCTCGGCGCTACCACTCACTGGGCTGTTTCCCATGGATTCTCT  
 TGGCAGCAGAGATTGAGGGAACGATGCGCAAGGAGCTGCAGTTGGAAGAGGCCGAGTCTCCAGACATCAC  
 TACCAGAAGCGTGTCTTTGAGACAGTAAGAAAACATCAACCAGGTTGTCAAGCAGAGATCTCTGACCCCT  
 TCTCCATGAACATCCCCGGCTCCAACCAAGTCCCTCGGCCATGAACTCCCTCCTGTCCAGCTGCGTCAGCA  
 CCCCCGGTCCAGCTTCTACGGCAGCGACATAGGCAACGTCGTCCTCGACAACAAGACCAACAGCATCAT  
 TCTGGAACAGAGGCAGCCGACCTGGGAAACGATGAGCGGAGTAAGAAGCCGGGGACGCCGGGCACCCCA  
 GGCTCCCACGACCTGGAGACGGCGCTGAGGCGGCTGTCCCTGCGCCGGGAGAACTACCTCTCGGAGAGGA  
 GGTCTTTGAGGAGGAGCAAGAGAGGAAGCTCCAGGAGCTGGCGGAGAAGGGCGAGCTGCGCAGCGGCTC  
 CCTCACACCCACTGAGAGCATCATGTCCCTGGGCACGCACTCCCCTTCTCCGAGTTCACCGGCTTCTCT  
 GGCATGTCTTACAGCAGCCGCTCCTACCTGCTGAGAAGCTCCAGATCGTGAAGCCGCTGGAAGGTTCCG  
 CCACACTTCAACACTGGCAGCAGTTGGCCCAACCTCACCTTGGGGCATCCTGGACCCCCGCCCCGGTGT  
 GGTCAACCAAGGGCTTCCGGACGCTGGATGTTGACCTGGACGAAGTGTACTGCCTTAACGACTTTGAAGAA  
 GATGACACAGGTGACCACATTTCTCTCCACGCCTAGCTACCTCCACTCCAGTTCAGCACCCAGAGACCT  
 CAGCGCACCATCTGGGAAGTGCATGTCTCAGACCAACTCCACCTTACCTTACCCACCTGTGCGATCCT  
 GCATCCTTCAGATGAGCTCACTCGGTCACACCAAGCCTTAACTCAGCCCCAACTCCAGCTTGTGGCAGC  
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 TCACTAACACCCGTGAGTCCACGACCACCATGAGCACATCCCTGGGGCTCGTGTGGCTGTTGAAGGAGCG  
 GGGCATTCTGCTGCCGTGTACGACCCCAAGACTGGGACAGGGCCGGCCGGGGCTCCCTCCTGCACTCC  
 TACACGCCCAAGATGGCTGTGATCCCCTTACTCCGCGAACTCGCCTATGCAGACACCCACATCCTCCC  
 CACCCTCCTTTGAGTTCAAGTGCACGAGCCCTCCCTACGACAATTTCTGGCTTCAAGCCAGCCAGCTC  
 CATCCTGAGGGAAGTGAAGAAAAGAACGTCGCGCAGCAGCGAGGCCAGACCGACGTGTCCGCTCTCAAC  
 CTCAACCTCGTGGACAAAGTCAAGAGGTTTGGGGTGGCCAAAGTGGTGAAGTCAAGGGCGAGCCCATGTCC  
 CCACCTTGACTGAGGAGCAGGGACCCCTCCTCTGTGGGCCCGGGCCAGCACCAGCCCTTGTCCAG  
 AGGCTGGTACCTGAGGGCTGCCCTCAGATGCCCACTGTACCAGTGCCATCGTGGGCTGCAGCTC  
 AATAGTGGCATCCGGCGGAATCGCAGCTTCCCCACCATGGTGGGATCTAGCATGCAGATGAAAGCTCCTG  
 TGACTCTACCTCGGCATCTTGATGGGTGCTAAGCTCTCAAACAAACTAGCTTACGG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG224330 representing NM\_001042646  
 Red=Cloning site Green=Tags(s)

MALVFQFGQPVRAQPLPGLCHGKLI RTNACDVCNSTDLPEVEIISLLEEQLPHYKLRADTIYGYDHDWL  
 HTPLISPDANIDL TTEQIEETLKYFLLCAERVGQMTKTYNDIDAVTRLLEEKERDLELAARIGQSLLKKN  
 KTLTERNELLEEQVEHIREEVSQLRHEL SMKDELLQFYTSAAEESEPEVCSTPLKRNESSSSVQNYFHL  
 DSLQKCLKDLEEENNVLRSEASQLKTETIYEEKEQQLVNDVCVELRDANVQIASISEELAKKTEDAARQ  
 QEEITHLLSQIVDLQKKAKACAVENEELVQHLGAAKDAQRLTAELRELEDKYAECMEMLHEAQEELKNL  
 RNKTMPNTTSRRYHSLGLFPMDSLAAEIEGTMRKELQLEEAESPDITHQKRVFETVRNINQVVKQSLTP  
 SPMNIPGSNQSSAMNSLLSSCVSTPRSSFYGSDIGNVVLDNKTNSIILETEAADLGNDRSCKKPGTGP  
 GSHDLETALRRLSLRRENYL SERRFFEEEQERKLQELA EK GELRSGSLTPTESIMSLGTHSRFSEFTGFS  
 GMSFSSRSYLPEKLQIVKPLEGSATLHHWQQLAQPHLGGILDPRPGVVTKGFRTLDVDLDEVYCLNDFEE  
 DDTGDHISL PRLATSTPVQHPETSAHHPGKCMSQTNSTFTFTTCRILHPSDELTRVTPSLNSAPTACGS  
 TSHLKSTPVATPCTPRRLSLAESFTNTRESTTTMSTSLGLVWLLKERGISAAVYDPQSWDRAGRGSLLHS  
 YTPKMAVIPSTPPNSPMQTPTSSPPSFEFKCTSPPYDNFLASKPASSILREVREKNVRSSESQTDVSVSN  
 LNLVDKVRRFVAKVVNSGRAHVPTL TEEQGPLL CGPPGAPALVPRGLVPEGLPLRCPTV TSAIGGLQL  
 NSGIRNRNRSFPTMVGSSMQMKAPVTL TSGILMGAKLSKQTSLR

TRTRPLE - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

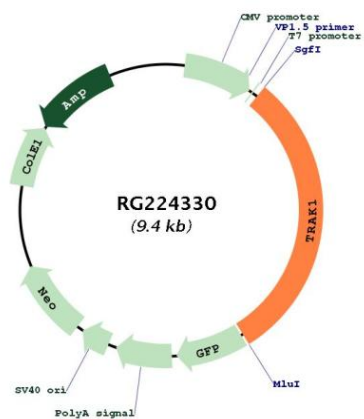


**ACCN:** NM\_001042646

**ORF Size:** 2859 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001042646.3</a>
<b>RefSeq Size:</b>	5231 bp
<b>RefSeq ORF:</b>	2862 bp
<b>Locus ID:</b>	22906
<b>UniProt ID:</b>	<a href="#">Q9UPV9</a>
<b>Cytogenetics:</b>	3p22.1
<b>Protein Families:</b>	Transcription Factors
<b>Gene Summary:</b>	Involved in the regulation of endosome-to-lysosome trafficking, including endocytic trafficking of EGF-EGFR complexes and GABA-A receptors (PubMed:18675823). Involved in mitochondrial motility. When O-glycosylated, abolishes mitochondrial motility. Crucial for recruiting OGT to the mitochondrial surface of neuronal processes (PubMed:24995978). 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]

Product images:



Circular map for RG224330