

Product datasheet for **RG220458**

Spastin (SPAST) (NM_014946) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Spastin (SPAST) (NM_014946) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Spastin
Synonyms:	ADPSP; FSP2; SPG4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG220458 representing NM_014946
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGAATTCCTCGGGTGGACGAGGGAAGAAGAAAGGCTCCGGCGGCCAGCAACCCGGTGCCTCCCAGGC
 CTCGCCCCCTTGCTTGCCCGCCCGCCCTCCCGCCGGCGGCCCGCCCTCCGCCGAGTCGCCGATAA
 GCGGAACCTGTACTATTTCTCTACCCGCTGTTTGTAGGCTTCGCGCTGCTGCGTTTGGTCGCTTCCAC
 CTGGGGCTCCTCTCGTGTGGCTCTGCCAGCGCTTCTCCCGCCCTCATGGCAGCAAGAGGAGCTCCG
 GGGCCGCGCCAGCACCTGCCTCGGCTCGGCCCGGCCGGTCCGGGGCGGAGGCCGAGCGCTCCG
 AGTCTTCCACAAACAGGCCTTCGAGTACATCTCCATTGCCCTGCGCATCGATGAGGATGAGAAAGCAGGA
 CAGAAGGAGCAAGCTGTGAATGGTATAAGAAAGGTATTGAAGAACTGGAAAAAGGAATAGCTGTTATAG
 TTACAGGACAAGGTGAACAGTGTAAAGAGCTAGACGCCCTCAAGCTAAAATGATGACTAATTTGGTTAT
 GGCCAAGGACCGTTACAACCTTAGAGAAGATGCAACCAAGTTTGGCATTTCAGAGTCACAAACGGAC
 GTCTATAATGACAGTACTAATTGGCATGCCGCAATGGACATCTCCAGTCAGAAAAGTGGAGCTGTTCCAA
 AAAGAAAAGACCCCTTAACACACACTAGTAATTCAGTGCCTCGTTCAAAAACAGTTATGAAAAGTGGATC
 TGCAGGCCTTTCAGGCCACCATAGAGCACCTAGTTACAGTGGTTTATCCATGGTTTCTGGAGTGAACAG
 GGATCTGGTCTGCTCCTACCACTCATAAGGGTACTCCGAAAACAAATAGGACAAATAAACCTTCTACCC
 CTACAACCTGCTACTCGTAAGAAAAAGACTTGAAGAATTTAGGAATGTGGACAGCAACCTTGCTAACCT
 TATAATGAATGAAATTGTGGACAATGGAACAGCTGTTAAATTTGATGATATAGCTGGTCAAGACTTGGCA
 AAACAAGCATTGCAAGAAATGTTATTCTTCTCTGAGGCCTGAGTTGTTACAGGGCTTAGAGCTC
 CTGCCAGAGGGCTGTTACTCTTTGGTCCACCTGGGAATGGGAAGACAATGCTGGCTAAAGCAGTAGCTGC
 AGAATCGAATGCAACCTTCTTAAATATAAGTGTGCAAGTTAACTTCAAATACGTGGGAGAAGGAGAG
 AAATTGGTGAAGGCTCTTTTGTGTGGCTCGAGAAGTCAACCTTCTATAATTTTATAGATGAAGTTG
 ATAGCCTTTTGTGTAAGAAAGAGAAGGGGAGCACGATGCTAGTAGACGCCTAAAAACTGAATTTCTAAT
 AGAATTTGATGGTGTACAGTCTGCTGGAGATGACAGAGTACTTGAATGGGTGCAACTAATAGGCCACAA
 GAGCTTGATGAGGCTGTTCTCAGGCGTTTCATCAAACGGGTATATGTGCTTTACCAAATGAGGAGACAA
 GACTACTTTTGTAAAAATCTGTTATGTAACAAGGAAGTCCATTGACCCAAAAAGAACTAGCACAACT
 TGCTAGAATGACTGATGGATACTCAGGAAGTGACCTAACAGCTTTGGCAAAAGATGCAGCACTGGGTCT
 ATCCGAGAATAAAACCAGAACAGTGAAGAATATGTCTGCCAGTGAGATGAGAAATATTCGATTATCTG
 ACTTCACTGAATCCTTGAAAAAATAAAACGCAGCGCTCAGCCCTCAAACCTTAGAAGCGTACATACGTTG
 GAACAAGGACTTTGGAGATACCACTGTT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG220458 representing NM_014946
 Red=Cloning site Green=Tags(s)

MNSPGGRGKKGSGGASNPVPPRPPPPCLAPAPPAAGPAPPPEPHKRNLYYFSYPLFVGFALLRLVAFH
 LGLLFVWLQRF SRALMAAKRSSGAAPAPASASAPAPVPGGEAERVRVFKQAFEYISIALRIDEDEKAG
 QKEQAVEWYKKGIEELEKGI AVIVTGQGEQCERARRLQAKMMTNLVMKDRLQLLEKMQPVL PFSKSQTD
 VYNDSTNLACRNHGLQSESGAVPKRKDPLTHTSNLPRSKTVMKTGSAGLSGHRAPSYGLSMVSGVKQ
 GSGPAPTHKGTPTNRTNKPSTPTTATRKKKDLKNFRNVDSNLANLIMNEIVDNGTAVKFDDIAGQDLA
 KQALQEIVILPSLRPELFTGLRAPARGLLLFPPGNGKTM LAKAVAAESNATFFNI SAASLTSKYVGEGE
 KLYRALFAVARELQPSIIFIDEVDSLLCERREGEHDASRRLKTEFLIEFDGVQSAGDDRVLVGMATNRPQ
 ELDEAVLRRFIKRVYVSLPNEETRLLLLKNLLCKQGSPLTQKELAQ LARMTDGYSGSDLTALAKDAALGP
 IRELKPEQVKNMSASEMRNIRLSDFTESLKKIKRSVSPQTLEAYIRWNKDFGDTTV

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_014946

ORF Size: 1848 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_014946.4](#)

RefSeq Size: 5221 bp

RefSeq ORF: 1851 bp

Locus ID: 6683

UniProt ID: [Q9UBP0](#)

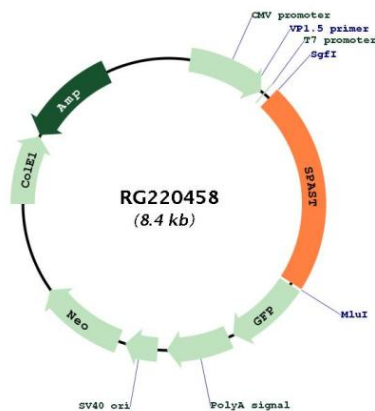
Cytogenetics: 2p22.3

Domains: AAA, AAA, MIT

Protein Families: Druggable Genome, Transmembrane

Gene Summary: This gene encodes a member of the AAA (ATPases associated with a variety of cellular activities) protein family. Members of this protein family share an ATPase domain and have roles in diverse cellular processes including membrane trafficking, intracellular motility, organelle biogenesis, protein folding, and proteolysis. The use of alternative translational initiation sites in this gene results in a single transcript variant that can produce isoforms that differ in the length of their N-terminus and which thereby differ in the efficiency of their export from the nucleus to the cytoplasm. In addition, alternative splicing results in multiple transcript variants that encode isoforms that differ in other protein regions as well. One isoform of this gene has been shown to be a microtubule-severing enzyme that regulates microtubule abundance, mobility, and plus-end distribution. Mutations in this gene cause the most frequent form of autosomal dominant spastic paraplegia 4. [provided by RefSeq, May 2018]

Product images:



Circular map for RG220458