

Product datasheet for **SC128070**

Spastin (SPAST) (NM_014946) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Spastin (SPAST) (NM_014946) Human Untagged Clone
Tag:	Tag Free
Symbol:	Spastin
Synonyms:	ADPSP; FSP2; SPG4
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL6</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for NM_014946, the custom clone sequence may differ by one or more nucleotides

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ATGAATTCCTCGGGTGGACGAGGGAAGAAGAAAGGCTCCGGCGGCAGCAACCCGGTGCCTCCCAGGC
CTCGCCCCCTTGCTGGCCCCGCCCCCTCCCGCCGGCGGGCCGCCCCCTCCGCCGAGTCGCCGATAA
GCGGAACCTGTACTATTTCTCCTACCCGCTGTTTGTAGGCTTCGCGCTGCTGCGTTTGGTCGCTTCCAC
CTGGGGCTCCTCTTCGTGTGGCTCTGCCAGCGCTTCTCCCGCCCTCATGGCAGCCAAGAGGAGCTCCG
GGCCCGCCAGCACCTGCCTCGGCCTCGGCCCGCGCGGTGCCGGCGGCGAGGCCGAGCGCTCCG
AGTCTTCCACAAACAGGCCTTCGAGTACATCTCCATTGCCTGCGCATCGATGAGGATGAGAAAAGCAGGA
CAGAAGGAGCAAGCTGTGGAATGGTATAAGAAAGGTATTGAAGAACTGGAAAAAGGAATAGCTGTTATAG
TTACAGGACAAGGTGAACAGTGTGAAAGAGCTAGACGCCCTCAAGCTAAAATGATGACTAATTTGGTTAT
GGCCAAGGACCGTTACAACCTTAGAGAAGATGCAACCAAGTTTGGCATTTCAGAGTCACAAACGGAC
GTCTATAATGACAGTACTAAGTGGCATGCCGCAATGGACATCTCCAGTCAGAAAGTGGAGCTGTTCCAA
AAAGAAAAGACCCCTAACACACACTAGTAATTCAGTGCCTCGTTCAAAAACAGTTATGAAAAGTGGATC
TGCAGGCCTTTCAGGCCACCATAGAGCACCTAGTTACAGTGGTTTATCCATGGTTTCTGGAGTGAACAG
GGATCTGGTCTGCTCCTACCACTCATAAGGGTACTCCGAAAACAAATAGGACAAAATAAACCTTCTACCC
CTACAAGTCTACTCGTAAGAAAAAGACTTGAAGAATTTAGGAATGTGGACAGCAACCTTGCTAACCT
TATAATGAATGAAATTGTGGACAATGGAACAGCTGTTAAATTTGATGATATAGCTGGTCAAGACTTGGCA
AAACAAGCATTGCAAGAAATTGTTATTTCTTCTCTCTGAGGCCTGAGTTGTTACAGGGCTTAGAGCTC
CTGCCAGAGGGCTGTTACTCTTTGGTCCACCTGGGAATGGGAAGACAATGCTGGCTAAAGCAGTAGCTGC
AGAATCGAATGCAACCTCTTTAATAAAGTGTGCAAGTTAACTTCAAATACGTGGGAGAAGGAGAG
AAATTTGGTGGGGCTCTTTTGGTGGCTCGAGAACTCAACCTCTATAATTTTTATAGATGAAGTTG
ATAGCCTTTTGTGTGAAAGAAGAGAAGGGGAGCAGATGCTAGTAGACGCCTAAAAACTGAATTTCTAAT
AGAATTTGATGGTGTACAGTCTGCTGGAGATGACAGAGTACTTGTAAATGGGTGCAACTAATAGGCCACAA
GAGCTTGATGAGGCTGTTCTCAGCGTTTCATCAAACGGGTATATGTGTCTTTACCAAATGAGGAGACAA
GACTACTTTTGTGTTAAAAATCTGTTATGTAACAAGGAAGTCCATTGACCCAAAAAGAACTAGCACAACT
TGCTAGAATGACTGATGGATACTCAGGAAGTGACCTAACAGCTTTGGCAAAGATGCAGCACTGGGTCT
ATCCGAGAACTAAAACAGAACAGGTGAAGAATATGTCTGCCAGTGAAGATGAGAAATATTCGATTATCTG
ACTTCACTGAATCCTTAAAAAAAATAAACGCAGCGTCAGCCCTCAAACCTTAGAAGCGTACATACGTTG
GAACAAGGACTTTGGAGATACCACTGTTTAA
    
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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_014946 unedited

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NNNTTTTNNGGGGGNNNNNNNNNNNNCCNNNNNATTTAAATACACCCGCCCGTTGNCG
CAAAGGGCGGTAGGCGGTACGGTGGNGAGTCTATATAAGCAGAGCTCATTTAGGTGACA
CTATAGAATACAAGCTACTTGTCTTTTTTGCAGCGGCCGGAATTCGGCACGAGGCAGCG
ACAGGAAGGGAGGGGCCGAGCCACCGACTGCAGGAGGAGAAGGGTTGTGCTCCTGGCC
GAGGAAGGAGAAAAGGGCGGGGCCGCGGCAGCGTGCAGCAGTGCAGGAGCTCCTGAGAC
CGCGGGCACACGGGGTCTGTGGCCCCGCCGTAGCAGTGGCTGCCGCCGTGCTTGGT
TCCCGTGGTCTGCGGGAGGCGGGTTATGGCGGCGGCGCAGTGAGAGCTGTGAATGAAT
TCTCCGGTGGACGAGGGAAGAAGAAAGGCTCCGGCGGCAGCAACCCGGTGCCTCCC
AGGCCTCCGCCCTTGCTGGCCCCGCCCCCTCCCGCCGCCGGCGGCCCTCCGCC
GAGTCGCAGCATAAGCGAACCTGTACTATTTCTCCTACCCGCTGTTTGTAGGCTTCGG
CTGCTGCGTTTGGTGCCTTCCACTGGGGCTCCTCTTCTGTGGCTCTGCCAGCGCTTC
TCCCGCGCCCTCATGGCAGCCAAGAGGAGCTCCGNGCCGCGCCAGCACCTGCCTCGGCC
TCGGCCCGGGCGCGGTGCCGGGCGGCGAGGCCGAGCGGTCCCGAGTCTTCCACAAACA
GGCCTTCGAGTACATCTCCATTGCCCTGCGCATCGATGGAAGATGAGCACAGCAGGACAG
GAAGAGCAAGCTGGTGAATGTTATAAGAAAGGTTTTTCGAGAAGTGGGAAAAGGCAAAA
GCCTGTTTTAACTTCCGGAACCAAGGCGGAA
    
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3' Read Nucleotide Sequence:	>OriGene 3' read for NM_014946 unedited GGGAGGCGTTCCTACTGCATTCAACTTCCACAGCCAGGNAGAGGANTGAGGAGGGGTCACAG GGATGCCACCCGGGATCTGTTTCAGGAAACAGCTATGACCGCGCCGCAATCTAGAGTCGA GTTAAAAAGTTTATCATTATTCCAATACATT AGGATAAAAACCCACTTTATGCAACTGTACCCTTAATTCATTCTTCTGAAGAAAAGTA CAAAAGACCAGACTAAAATTGAGACAAGCATTAAAGGAAAATCCTTTGACTCAAAGTCC AAAACCGAAGTAAATGGTTCATTTTACCAAAAAGAATTAGTTTTGTACAAAATATAAA GAATTCTACACTATAAACAAAGACGGCTGATATGTAATTAATTAAGAAATTCTAGTATCT GCTTTTCTCTAATTCTTCTGGAGTACAAACATATTTGCAAGTCAGAAATCTAATATTCT CAATGGACAGACTGTCTTAGAATAAGCTTTTACCCTTAAGATATCTGAAAGATAGTACT CATTCTTCCCTTG
Restriction Sites:	NotI-NotI
ACCN:	NM_014946
Insert Size:	5200 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
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:	<ol style="list-style-type: none"> 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:	<u>NM_014946.3</u> , <u>NP_055761.2</u>
RefSeq Size:	5221 bp
RefSeq ORF:	1851 bp
Locus ID:	6683
UniProt ID:	<u>Q9UBP0</u>

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]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longest isoform (1; also known as M1). It also encodes a shorter isoform (M87) from an alternate, in-frame, downstream translation initiation site.