

Product datasheet for **RN206671**

Spast (NM_001108702) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Spast (NM_001108702) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Spast
Synonyms:	Spg4
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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Fully Sequenced ORF: >RN206671 representing NM_001108702
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGAGTTCCTCGGCCGACGACGGAAGAAGAAAGGCTCAGGCGGCGAGCCCCGCGCCCGCCAGGCCTC
CGCCCCCGCGCGGTCCCCGCCCTGCCGCCGCGCCCGGCCCTGCGCCCGGCTCGCCGATAAGCGGAA
CCTGTATTACTTCTCGTATCCGCTGGTCTGCGCTTCGCCCTGCTGCGCTGCTGGCCTGCCACCTGGGG
CTCCTCTTCTGTGGCTCTGCCAGCGCTTCTCCGCGCCCTCATGGCCGCAAGAGGAGCTCCGGGACCG
CGCCGGCGCCCGCTCGCCCTCGACTCCAGCCCCGGACCGGTGGCAGGCGGAGAGCGTCCGCGTCTT
CCACAAGCAGGCCTTTGAGTACATCTCCATTGCCCTGCGCATCGACGAGGAAGAGAAAGGACAGAAGGAA
CAAGCTGTGGAATGGTATAAGAAAGGCATCGAAGAAGTGAAGAAAGGAATCGCGTTATAGTTACGGGCC
AAGGTGAACAGTACGAAAGAGCTAGACGCCTTCAAGCCAAAATGATGACGAATTTGGTTATGGCTAAGGA
CCGTTTACAACCTCTAGAAAGTGGAGCAGTTCCGAAGAAGAAAGACCCCTAACACATGCTAGTAATTCA
TTGCTCGATCAAAAAGTGCATGAAAAGTGGATCCACAGGGCTCTCCGGTCAACACAGGGCGCCTAGTT
GCAGTGGTTTATCCATGGTTTCTGGAGCAAGACCGGGATCTGGTCTGCAGCTACACACATAAGGGTAC
TTCAAAACCAAATAGAACCAACAACTTCTACACCCACAAGTGCAGTTCGAAAAAGAAAGACTTGAAA
AATTTTAGGAATGTGGACAGCAATCTTGCTAACCTTATAATGAATGAAATGTTGACAATGGGACAGCTG
TAAATTTGATGATATAGCTGGTCAGGAAGTGGCAAAACAAGCATTGCAAGAGATTGTCATTCTCCCTTC
TCTGCGCCTGAGTTGTTACAGGGCTCAGAGCTCCCGCCAGAGGCTTGTACTCTCGGTCCACCAGGA
AACGAAAAACCATGCTGGCTAAAGCAGTAGCTGCAGAATCTAATGCGACTTTTTTCAATATAAGTGCTG
CAAGTTTAACTTCAAAAATGTAGGAGAGGGAGAGAAATGGTGAGAGCTTTTTTGTGGTGGCTCGAGA
ACTTCAACCCTCTATAATTTTTATAGATGAAGTTGATAGTCTTTTGTGTGAGAGAAGAGAAGGGGAGCAC
GATGCTAGTAGACGACTAAAACTGAATTTTTAATAGAATTTGATGGTGTGCAGTCTGCTGGAGATGACA
GAGTCTCGTAATGGGTGCAACCAACAGGCCCAAGAGCTGGATGAAGCTGTTCTCAGGCGTTTCATTAA
ACGGGTGTATGTGTCATTACCAATGAGGAGACACGACTACTTCTACTTAAAACTGTTATGTAACAA
GGAAGTCCACTGACCCAAAAAGAACTTGTCAACTGGCGAGAATGACTGATGGATACTCTGGAAGTATC
TGACTGCTTTGGCAAAGGATGCAGCACTGGTCTATCCGAGAAGTAAACCAGAGCAGGTGAAGAACAT
GTCTGCCAGTGAATGAGAAATATCGATTATCTGACTTACAGAATCCTTAAAAAGATCAAACGCAGT
GTGAGTCTCAGACTTTAGAAGCATAACATACGCTGGAACAAGGACTTTGGAGACCACTGTT**TAA**

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI

ACCN: NM_001108702

Insert Size: 1746 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

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_001108702.2](#), [NP_001102172.2](#)

RefSeq Size: 4489 bp

RefSeq ORF: 1746 bp

Locus ID: 362700

UniProt ID: [B2RYN7](#)

Cytogenetics: 6q13

Gene Summary: ATP-dependent microtubule severing protein that specifically recognizes and cuts microtubules that are polyglutamylated. Preferentially recognizes and acts on microtubules decorated with short polyglutamate tails: severing activity increases as the number of glutamates per tubulin rises from one to eight, but decreases beyond this glutamylation threshold. Severing activity is not dependent on tubulin acetylation or deetyrosination. Microtubule severing promotes reorganization of cellular microtubule arrays and the release of microtubules from the centrosome following nucleation. It is critical for the biogenesis and maintenance of complex microtubule arrays in axons, spindles and cilia. SPAST is involved in abscission step of cytokinesis and nuclear envelope reassembly during anaphase in cooperation with the ESCRT-III complex. Recruited at the midbody, probably by IST1, and participates in membrane fission during abscission together with the ESCRT-III complex. Recruited to the nuclear membrane by IST1 and mediates microtubule severing, promoting nuclear envelope sealing and mitotic spindle disassembly during late anaphase. Required for membrane traffic from the endoplasmic reticulum (ER) to the Golgi and endosome recycling. Recruited by IST1 to endosomes and regulates early endosomal tubulation and recycling by mediating microtubule severing (By similarity). Probably plays a role in axon growth and the formation of axonal branches (PubMed:18234839).[UniProtKB/Swiss-Prot Function]