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Spastin Rabbit pAb

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Catalog # AP52337

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9UBP0
Reactivity	Rat, Human, Mouse
Predicted	Pig, Dog, Rabbit, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	67197
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human FSP
Epitope Specificity	551-616/616
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane; Single-pass membrane protein (Potential). Cytoplasm, cytoskeleton, centrosome. Cytoplasm, cytoskeleton. Cytoplasm, perinuclear region. Endoplasmic reticulum. Endosome. Nucleus. Cytoplasm, cytoskeleton, spindle. Note=Localization to the centrosome is independent of microtubules. Localizes to the midbody of dividing cells, and this requires CHMP1B. Enriched in the distal axons and branches of postmitotic neurons. Isoform 3 is the main endosomal form.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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 encoded ATPase may be involved in the assembly or function of nuclear protein complexes. Two transcript variants encoding distinct isoforms have been identified for this gene. Other alternative splice variants have been described but their full length sequences have not been determined. Mutations associated with this gene cause the most frequent form of autosomal dominant spastic paraplegia 4. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	6683
Other Names	Spastin {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000303|PubMed:10610178}, 5.6.1.1 {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:15716377,

ECO:0000269|PubMed:16219033, ECO:0000269|PubMed:16815977, ECO:0000269|PubMed:17389232, ECO:0000269|PubMed:18410514, ECO:0000269|PubMed:22637577}, Spastic paraplegia 4 protein, SPAST {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000312|HGNC:HGNC:11233}

Dilution WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name SPAST {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000312|HGNC:HGNC:11233}

Function ATP-dependent microtubule severing protein that specifically recognizes and cuts microtubules that are polyglutamylated (PubMed:11809724, PubMed:15716377, PubMed:16219033, PubMed:17389232, PubMed:20530212, PubMed:22637577, PubMed:26875866). 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 (PubMed:26875866). Severing activity is not dependent on tubulin acetylation or detyrosination (PubMed:26875866). 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 (PubMed:19000169, PubMed:21310966, PubMed:26040712). Recruited at the midbody, probably by IST1, and participates in membrane fission during abscission together with the ESCRT-III complex (PubMed:21310966). Recruited to the nuclear membrane by IST1 and mediates microtubule severing, promoting nuclear envelope sealing and mitotic spindle disassembly during late anaphase (PubMed:26040712). Required for membrane traffic from the endoplasmic reticulum (ER) to the Golgi and endosome recycling (PubMed:23897888). Recruited by IST1 to endosomes and regulates early endosomal tubulation and recycling by mediating microtubule severing (PubMed:23897888). Probably plays a role in axon growth and the formation of axonal branches (PubMed:15716377).

Cellular Location Membrane {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:19000169}; Peripheral membrane protein {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000305|PubMed:20200447} Endoplasmic reticulum {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:16602018}. Midbody {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:18997780, ECO:0000269|PubMed:21310966, ECO:0000269|PubMed:25390646}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:15269182, ECO:0000269|PubMed:15891913, ECO:0000269|PubMed:25390646}. Cytoplasm, cytoskeleton {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:15716377, ECO:0000269|PubMed:17389232, ECO:0000269|PubMed:18410514, ECO:0000269|PubMed:19000169, ECO:0000269|PubMed:20200447}. Cytoplasm, perinuclear region {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:11809724, ECO:0000269|PubMed:15147984, ECO:0000269|PubMed:15269182,

ECO:0000269|PubMed:15537668}. Nucleus {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:15147984, ECO:0000269|PubMed:15269182, ECO:0000269|PubMed:16026783}. Cytoplasm, cytoskeleton, spindle {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:15269182}. Cytoplasm {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:16026783, ECO:0000269|PubMed:20200447}. Cell projection, axon. Note=Forms an intramembrane hairpin-like structure in the membrane (PubMed:20200447). Localization to the centrosome is independent of microtubules (PubMed:15891913). Localizes to the midbody of dividing cells, and this requires CHMP1B (PubMed:18997780). Enriched in the distal axons and branches of postmitotic neurons (PubMed:15269182). Mainly nuclear in interphase cells and becomes associated with the centrosomes, spindle microtubules, midzone and finally the midbody during cell division (PubMed:15269182). {ECO:0000255|HAMAP-Rule:MF_03021, ECO:0000269|PubMed:15269182, ECO:0000269|PubMed:15891913, ECO:0000269|PubMed:18997780, ECO:0000305|PubMed:20200447} [Isoform 3]: Cytoplasm. Endosome. Nucleus membrane Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Constitutes the main endosomal form (PubMed:19000169). Recruited to nuclear membrane by IST1 during late anaphase (PubMed:26040712).

Tissue Location

Expressed in brain, heart, kidney, liver, lung, pancreas, placenta and skeletal muscle. The short isoforms may predominate in brain and spinal cord.

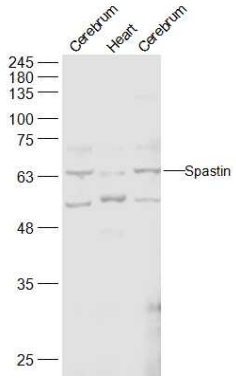
Background

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

References

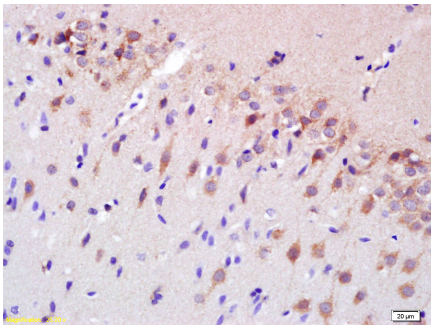
Hazan J.,et al.Nat. Genet. 23:296-303(1999).
Kikuno R.,et al.DNA Res. 6:197-205(1999).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Errico A.,et al.Hum. Mol. Genet. 11:153-163(2002).
Ciccarelli F.D.,et al.Genomics 81:437-441(2003).

Images



Sample:
Cerebrum (Mouse) Lysate at 40 ug
Heart (Mouse) Lysate at 40 ug
Cerebrum (Rat) Lysate at 40 ug
Primary: Anti-Spastin (AP52337) at 1/500 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 68 kD
Observed band size: 68 kD

Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;



Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-FSP/Spastin Polyclonal Antibody, Unconjugated(AP52337) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining