

# Spastin (C-3): sc-374068



The Power to Question

## BACKGROUND

The AAA protein family members share an ATPase domain and have roles in various cellular processes including intracellular motility, membrane trafficking, proteolysis, protein folding and organelle biogenesis. Spastin, a member of the AAA protein family, is a 616 amino acid protein and is involved in the function or assembly of nuclear protein complexes. The Spastin protein is expressed ubiquitously and localizes to the nucleus and the cytoplasm, where it may also be involved in microtubule dynamics. Mutations in the Spastin gene (SPAST, SPG4) cause the most common form of spastic paraplegia 4, an autosomal dominant form of hereditary spastic paraplegia (HSP). HSPs comprise a group of inherited neurological disorders characterized by spastic lower extremity weakness due to a length-dependent, retrograde axonopathy of corticospinal motor neurons. SPAST-specific mutations account for approximately 40% of all autosomal dominant HSPs.

## CHROMOSOMAL LOCATION

Genetic locus: SPAST (human) mapping to 2p22.3; Spast (mouse) mapping to 17 E2.

## SOURCE

Spastin (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 289-317 within an internal region of Spastin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374068 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Spastin (C-3) is recommended for detection of Spastin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Spastin siRNA (h): sc-61603, Spastin siRNA (m): sc-61604, Spastin shRNA Plasmid (h): sc-61603-SH, Spastin shRNA Plasmid (m): sc-61604-SH, Spastin shRNA (h) Lentiviral Particles: sc-61603-V and Spastin shRNA (m) Lentiviral Particles: sc-61604-V.

Molecular Weight of Spastin long isoform: 64-68 kDa.

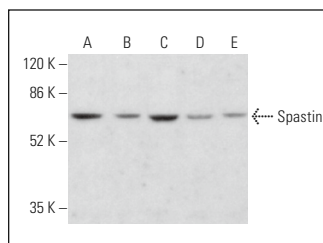
Molecular Weight of Spastin short isoform: 55-60 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

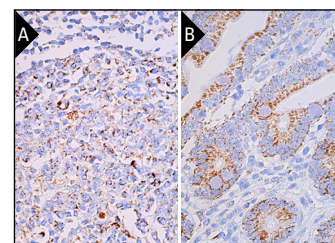
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Spastin (C-3): sc-374068. Western blot analysis of Spastin expression in MCF7 (A), HeLa (B), MM-142 (C), NIH/3T3 (D) and PC-3 (E) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Spastin (C-3): sc-374068. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Jiang, T., et al. 2020. The lncRNA MALAT1/miR-30/Spastin axis regulates hippocampal neurite outgrowth. *Front. Cell. Neurosci.* 14: 555747.
- Zou, J., et al. 2021. Different fusion tags affect the activity of ubiquitin overexpression on spastin protein stability. *Eur. J. Histochem.* 65: 3352.
- Akdağ, E.Y., et al. 2023. miR96- and miR182-driven regulation of cytoskeleton results in inhibition of glioblastoma motility. *Cytoskeleton* 80: 367-381.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.