PRODUCT INFORMATION

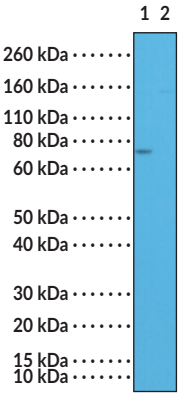
Spastin (N-Term) Rabbit Monoclonal Antibody (Clone RM346)

Item No. 32280

Overview and Properties

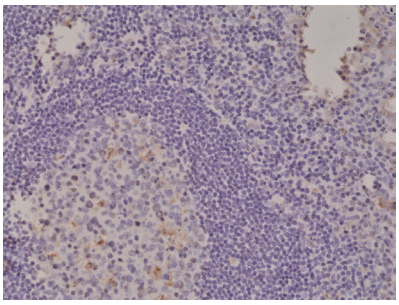
Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Spastic Paraplegia 4, SPG4
Immunogen:	Peptide from the N-terminal region of human spastin
Cross Reactivity:	(+) Spastin
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM346
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:500-1:1,000 for IHC and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

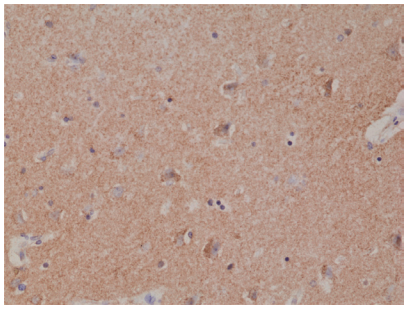


Lane 1: HeLa cell lysate transfected with control siRNA
Lane 2: HeLa cell lysate transfected with spastin siRNA

WB of HeLa cell lysates transfected with control siRNA or spastin siRNA using Spastin (N-Term) Rabbit Monoclonal Antibody (Clone RM346) at a dilution of 1:500.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using Spastin (N-Term) Rabbit Monoclonal Antibody (Clone RM346) at a 1:1,000 dilution.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain tissue using Spastin (N-Term) Rabbit Monoclonal Antibody (Clone RM346) at a 1:1,000 dilution.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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PRODUCT INFORMATION

Description

Spastin is an ATP-dependent microtubule-severing protein and a member of the ATPases associated with various cellular activities (AAA) family encoded by *SPG4* in humans.[1] It is composed of a hydrophobic region, microtubule-interacting and endosomal trafficking (MIT) domain, microtubule-binding domain, and an AAA ATPase domain.[2,3] It is ubiquitously expressed and localized to the endoplasmic reticulum. Alternative splicing of *SPG4* produces a second shorter isoform that lacks the first 87 amino acids of full-length spastin and is localized to the cytosol.[4] Spastin functions as a hexamer that binds to tubulin dimers on the plus-end of microtubules and disrupts tubulin dimer interactions in an ATP-dependent manner to sever them from microtubules.[5] Mutations in *SPG4* are associated with autosomal dominant uncomplicated hereditary spastic paraplegia (HSP).[2,4] Cayman's Spastin (N-Term) Rabbit Monoclonal Antibody (Clone RM346) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Lopes, A.T., Hausrat, T.J., Heisler, F.F., *et al*. Spastin depletion increases tubulin polyglutamylation and impairs kinesin-mediated neuronal transport, leading to working and associative memory deficits. *PLoS Biol*. **18(8)**, e3000820 (2020).
2. Allison, R., Edgar, J.R., and Reid, E. Spastin MIT domain disease-associated mutations disrupt lysosomal function. *Front. Neurosci*. **13**, 1179 (2019).
3. Errico, A., Ballabio, A., and Rugarli, E.I. Spastin, the protein mutated in autosomal dominant hereditary spastic paraplegia, is involved in microtubule dynamics. *Hum. Mol. Genet*. **11(2)**, 153-163 (2002).
4. Plaud, C., Joshi, V., Kajevu, N., *et al*. Functional differences of short and long isoforms of spastin harboring missense mutation. *Dis. Model Mech*. **11(9)**, dmm033704 (2018).
5. Sharp, D.J. and Ross, J.L. Microtubule-severing enzymes at the cutting edge. *J. Cell Sci*. **125(Pt 11)**, 2561-2569 (2012).

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