

Rtn-1A (4A66): sc-71980

BACKGROUND

The reticulon (Rtn) family consists of four members: Rtn-1 (also designated neuroendocrine-specific protein or NSP), Rtn-2 (also designated NSP-like-1), Rtn-3 (also designated NSP-like-2) and Nogo (also designated Rtn-4A). Localized on human chromosome 14q23.1, the gene encoding Rtn-1 is expressed as three isoforms: Rtn-1A (NSP-A), Rtn-1B (NSP-B) and Rtn-1C (NSP-C), which are produced by alternative splicing, are anchored to the endoplasmic reticulum in neural and neuroendocrine tissues and cells, and may be involved in neuroendocrine secretion or in membrane trafficking. In lung cancer diagnosis, Rtn-1A appears to be a reliable marker for the detection of neuroendocrine differentiation, since most of the small cell lung carcinoma (SCLC) and carcinoma tumors show expression of Rtn-1A. Rtn-1B exists as multiple forms. Expression of Rtn-1C strongly correlates with neuronal differentiation.

REFERENCES

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- Geisler, J.G., et al. 1998. Molecular cloning of a novel mouse gene with predominant muscle and neural expression. *Mamm. Genome* 9: 274-282.
- Roebroek, A.J., et al. 1998. cDNA cloning, genomic organization, and expression of the human RTN2 gene, a member of a gene family encoding reticulons. *Genomics* 51: 98-106.
- Hens, J., et al. 1998. Neuronal differentiation is accompanied by NSP-C expression. *Cell Tissue Res.* 292: 229-237.
- Moreira, E.F., et al. 1999. Cloning of a novel member of the reticulon gene family (RTN3): gene structure and chromosomal localization to 11q13. *Genomics* 58: 73-81.
- GrandPré T., et al. 2000. Identification of the Nogo inhibitor of axon regeneration as a reticulon protein. *Nature* 403: 439-444.

CHROMOSOMAL LOCATION

Genetic locus: RTN1 (human) mapping to 14q23.1; Rtn1 (mouse) mapping to 12 C3.

SOURCE

Rtn-1A (4A66) is a mouse monoclonal antibody raised against bacterially expressed Rtn-1A of human origin with epitope mapping to amino acids 174-337.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Rtn-1A (4A66) is recommended for detection of Rtn-1A of mouse, rat, human and hamster origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:2,000), 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Rtn-1 siRNA (h): sc-42216, Rtn-1 siRNA (m): sc-42217, Rtn-1 shRNA Plasmid (h): sc-42216-SH, Rtn-1 shRNA Plasmid (m): sc-42217-SH, Rtn-1 shRNA (h) Lentiviral Particles: sc-42216-V and Rtn-1 shRNA (m) Lentiviral Particles: sc-42217-V.

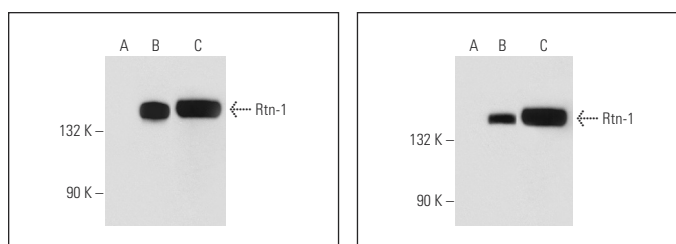
Molecular Weight of Rtn-1A: 100 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, rat brain extract: sc-2392 or Rtn-1 (m2): 293T Lysate: sc-123322.

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



Rtn-1 (4A66): sc-71980. Western blot analysis of Rtn-1 expression in non-transfected: sc-117752 (A) and mouse Rtn-1 transfected: sc-123322 (B) 293T whole cell lysates and rat brain tissue extract (C).

Rtn-1 (4A66): sc-71980. Western blot analysis of Rtn-1 expression in non-transfected: sc-117752 (A) and mouse Rtn-1 transfected: sc-123321 (B) 293T whole cell lysates and rat brain tissue extract (C).

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.