

# Rtn-1A (MON161): sc-58587

## 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). Reticulon proteins are anchored to the membranes of the endoplasmic reticulum through their common C-terminal regions. 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 carcinoid tumors show expression of Rtn-1A. Rtn-1B exists as multiple forms. Expression of Rtn-1C strongly correlates with neuronal differentiation.

## REFERENCES

- Senden, N.H., et al. 1994. Subcellular localization and supramolecular organization of neuroendocrine-specific protein B (NSP-B) in small cell lung cancer. *Eur. J. Cell Biol.* 65: 341-353.
- van de Velde, H.J., et al. 1994. NSP-encoded reticulons are neuroendocrine markers of a novel category in human lung cancer diagnosis. *Cancer Res.* 54: 4769-4776.
- 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Rtn-1A (MON161) is a mouse monoclonal antibody raised against amino acids 174-337 of bacterially expressed Rtn-1A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rtn-1A (MON161) is available conjugated to either phycoerythrin (sc-58587 PE) or fluorescein (sc-58587 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

## APPLICATIONS

Rtn-1A (MON161) is recommended for detection of Rtn-1A of mouse, rat, human and hamster origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

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.

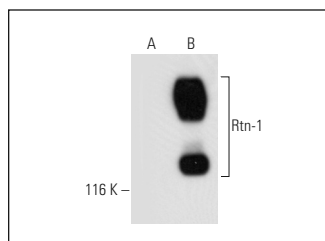
Molecular Weight of Rtn-1A: 135 kDa.

Positive Controls: H69AR whole cell lysate: sc-364382, IMR-32 cell lysate: sc-2409 or Rtn-1A (h): 293T Lysate: sc-111610.

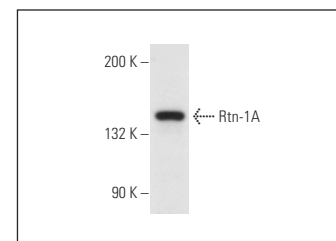
## RECOMMENDED SUPPORT REAGENTS

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-1A (MON161): sc-58587. Western blot analysis of Rtn-1 expression in non-transfected: sc-117752 (A) and human Rtn-1 transfected: sc-111610 (B) 293T whole cell lysates.



Rtn-1A (MON161): sc-58587. Western blot analysis of Rtn-1A expression in H69AR whole cell lysate.

## 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.