

Rtn-1A/B (RNL-3): sc-53008

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.

CHROMOSOMAL LOCATION

Genetic locus: RTN1 (human) mapping to 14q23.1.

SOURCE

Rtn-1A/B (RNL-3) is a mouse monoclonal antibody raised against NCI-H82 cell line of human origin.

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.

Rtn-1A/B (RNL-3) is available conjugated to either phycoerythrin (sc-53008 PE) or fluorescein (sc-53008 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

Rtn-1A/B (RNL-3) is recommended for detection of Rtn-1A and Rtn-1B of human 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) and flow cytometry (1 µg per 1 x 10⁶ cells).

Rtn-1A/B (RNL-3) is also recommended for detection of Rtn-1A and Rtn-1B in additional species, including rabbit and rhesus monkey.

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

Molecular Weight (predicted) of Rtn-1A/B isoforms: 26-113 kDa.

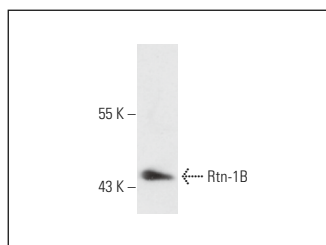
Molecular Weight (observed) of Rtn-1A/B: 115 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SHP-77 whole cell lysate: sc-364258 or NCI-H1688 whole cell lysate: sc-551390.

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.

DATA



Rtn-1A/B (RNL-3): sc-53008. Western blot analysis of Rtn-1B expression in NCI-H1688 whole cell lysate.

SELECT PRODUCT CITATIONS

- Gong, L., et al. 2017. Rtn-1C mediates cerebral ischemia/reperfusion injury via ER stress and mitochondria-associated apoptosis pathways. *Cell Death Dis.* 8: e3080.
- Fan, X.X., et al. 2018. Knockdown of Rtn-1C attenuates traumatic neuronal injury through regulating intracellular Ca²⁺ homeostasis. *Neurochem. Int.* 121: 19-25.
- Chang, J., et al. 2019. Downregulation of Rtn-1C attenuates MPP⁺-induced neuronal injury through inhibition of mGluR5 pathway in SN4741 cells. *Brain Res. Bull.* 146: 1-6.

RESEARCH USE

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

PROTOCOLS

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