SANTA CRUZ BIOTECHNOLOGY, INC.

Rtn-1C (RNL-4): sc-23882



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 carcinoid tumors show expression of Rtn-1A. Rtn-1B exists as multiple forms. Expression of Rtn-1C strongly correlates with neuronal differentiation.

REFERENCES

- 1. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Rtn-1C (RNL-4) is a mouse monoclonal antibody raised against a synthetic peptide encompassing the unique 20 N-terminal amino acid sequence of Rtn-1C.

PRODUCT

Each vial contains 200 μg lgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rtn-1C (RNL-4) is recommended for detection of Rtn-1C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-1C: 23 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

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) 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. 3) 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-1C (RNL-4): sc-23882. Immunofluorescence staining of methanol-fixed IMR-32 cells showing cytoplasmic and extracellular localization.

SELECT PRODUCT CITATIONS

- 1. Chen, L., et al. 2015. Identification of MANF as a protein interacting with RTN1-C. Acta Biochim. Biophys. Sin. 47: 91-97.
- Fan, X.X., et al. 2018. Knockdown of RTN1-C attenuates traumatic neuronal injury through regulating intracellular Ca²⁺ homeostasis. Neurochem. Int. 121: 19-25.
- 3. Chang, J., et al. 2019. Downregulation of RTN1-C attenuates MPP+-induced neuronal injury through inhibition of mGluR5 pathway in SN4741 cells. Brain Res. Bull. 146: 1-6.

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 for detailed protocols and support products.