

Rtn-1A (Mon 160): sc-23880

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; Rtn1 (mouse) mapping to 12 C3.

SOURCE

Rtn-1A (Mon 160) 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.

Rtn-1A (Mon 160) is available conjugated to agarose (sc-23880 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23880 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23880 PE), fluorescein (sc-23880 FITC), Alexa Fluor® 488 (sc-23880 AF488), Alexa Fluor® 546 (sc-23880 AF546), Alexa Fluor® 594 (sc-23880 AF594) or Alexa Fluor® 647 (sc-23880 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-23880 AF680) or Alexa Fluor® 790 (sc-23880 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Rtn-1A (Mon 160) 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.

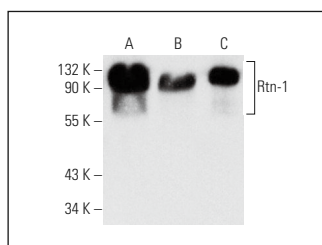
Molecular Weight of Rtn-1A: 100 kDa.

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

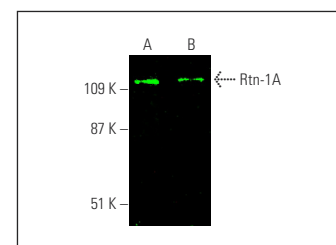
RECOMMENDED SUPPORT REAGENTS

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) 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 (Mon 160): sc-23880. Western blot analysis of Rtn-1 expression in SHP-77 (A) and IMR-32 (B) whole cell lysates and rat brain tissue extract (C).



Rtn-1A (Mon 160): sc-23880. Near-infrared western blot analysis of Rtn-1A expression in mouse brain (A) and rat brain (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Fan, X.X., et al. 2018. Knockdown of RTN1-C attenuates traumatic neuronal injury through regulating intracellular Ca²⁺ homeostasis. *Neurochem. Int.* 121: 19-25.
2. 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.
3. Schwenk, J., et al. 2019. An ER assembly line of AMPA-receptors controls excitatory neurotransmission and its plasticity. *Neuron* 104: 680-692.e9.
4. Krzystek, T.J., et al. 2023. HTT (huntingtin) and RAB7 co-migrate retrogradely on a signaling LAMP1-containing late endosome during axonal injury. *Autophagy* 19: 1199-1220.

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.

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