

BM6040P**Monoclonal Antibody to Reticulon 1 / RTN1 (Isoform RTN1-A/B) - Purified****Alternate names:** NSP, Neuroendocrine-specific protein, RTN1, Reticulon-1**Quantity:** 0.1 mg**Concentration:** 1.0 mg/ml

Background: Recently, a novel gene family has been identified and characterized, designated the Reticulons because the proteins encoded by these genes are anchored to the membranes of the endoplasmic reticulum. Reticulon-1 was formerly designated NSP for Neuroendocrine-Specific-Protein, because it is specifically expressed in neural and neuroendocrine tissues. The NSP-gene has been mapped by fluorescence in situ hybridization to human chromosome 14q21-q22. The NSP-gene encodes three overlapping proteins, i.e. Reticulon-1A (NSPA), Reticulon-1B (NSP-B), and Reticulon-1C (NSPC). These proteins were found to be anchored to membranes of the endoplasmic reticulum through their common carboxy-terminal regions. Reticulon- 1A is a protein with a molecular weight (MW) of about 135 kDa, which occurs in various isoforms presumably depending on the degree of phosphorylation of serine residues. In lung cancer diagnosis Reticulon-1A appeared to be a reliable marker for the detection of neuroendocrine differentiation, since most of the small cell lung carcinoma (SCLC) and carcinoid tumors showed expression of Reticulon-1A. Reticulon-1B is a phosphoprotein with a MW of 45 kDa and is restricted to the lung cancer cell line NCI-H82. Reticulon-1B is so far not found in human tissues. Reticulon-1C is a protein with a MW of 23 kDa which is not phosphorylated and is found with Reticulon-1A in SCLC (cell lines) and not in non-SCLC (cell cultures).

Uniprot ID: [Q16799](#)**NCBI:** [NP_066959.1](#)**GeneID:** [6252](#)**Host / Isotype:** Mouse / IgG1**Recommended Isotype Controls:** SM10P (for use in human samples), AM03095PU-N**Clone:** RNL-3**Immunogen:** Small cell lung cancer cell line NCI-H82.**Format:** **State:** Liquid purified IgG fraction
Buffer System: Phosphate buffered saline (PBS)
Preservatives: 0.09% Sodium Azide

Applications: **Immunoblotting:** 1/100-1/500.
Immunocytochemistry.
Flow Cytometry: 1/100-1/200.
Immunohistochemistry on Frozen Sections: 1/100-1/200 with ABC as detection reagent.
Immunohistochemistry on Paraffin Sections: 1/100-1/200 with ABC as detection

reagent.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

RNL-3 recognizes an epitope located within the region of amino acids 421-589 of the neuroendocrine specific protein Reticulon-1A (NSP-A), which is also present in the N-terminal part of Reticulon-1B (NSP-B).

In normal tissues, RNL-3 reacts with brain Purkinje cells, pancreatic islet cells, cells in the pituitary gland and some (peripheral) nerve fibers. In addition, a few epithelia show positive staining.

Species Reactivity:

Tested: Human, Rabbit and Rhesus Monkey.

Storage:

Store the antibody undiluted at 2-8°C for one month or (in small aliquots) at -20°C for longer.

Avoid repeated freeze-thaw cycles.

Shelf life: One year from despatch.

General Readings:

1. Broers JL, Mijnheere EP, Rot MK, Schaart G, Sijlmans A, Boerman OC, et al. Novel antigens characteristic of neuroendocrine malignancies. *Cancer*. 1991 Feb 1;67(3):619-33. PubMed PMID: 1845952.
2. Roebroek AJ, van de Velde HJ, Van Bokhoven A, Broers JL, Ramaekers FC, Van de Ven WJ. Cloning and expression of alternative transcripts of a novel neuroendocrine-specific gene and identification of its 135-kDa translational product. *J Biol Chem*. 1993 Jun 25;268(18):13439-47. PubMed PMID: 7685762.
3. Senden NH, van de Velde HJ, Broers JL, Timmer ED, Roebroek AJ, van de Ven WJ, et al. Cluster-10 lung-cancer antibodies recognize NSPs, novel neuro-endocrine proteins associated with membranes of the endoplasmic reticulum. *Int J Cancer Suppl*. 1994;8:84-8. PubMed PMID: 7515034.
4. Senden NH, Timmer ED, Boers JE, van de Velde HJ, Roebroek AJ, Van de Ven WJ, et al. Neuroendocrine-specific protein C (NSP-C): subcellular localization and differential expression in relation to NSP-A. *Eur J Cell Biol*. 1996 Mar;69(3):197-213. PubMed PMID: 8900485.
5. Senden NH, Timmer ED, de Bruïne A, Wagenaar SS, Van de Velde HJ, Roebroek AJ, et al. A comparison of NSP-reticulons with conventional neuroendocrine markers in immunophenotyping of lung cancers. *J Pathol*. 1997 May;182(1):13-21. PubMed PMID: 9227337.