OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene Technologies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info-de@origene.com

BM6038P Monoclonal Antibody to Reticulon 1 / RTN1 (Isoform RTN1-A) - 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). The epitope of MON-162 is located between amino acid residues 338-422 of Reticulon-1A.

Uniprot ID: Q16799

NCBI: NP_066959.1

GeneID: 6252

Host / Isotype: Mouse / IgG1

Recommended Isotype Controls: SM10P (for use in human samples), SM20P (for use in rat samples), AM03095PU-N

Clone: MON162

Immunogen: Partially purified bacterially expressed Reticulon-1A (NSP-A) hybrid protein (β-GAL-NSP-A 6-776).

Format: **State:** Liquid purified IgG fraction.
Buffer System: PBS with 0.09% sodium azide as preservative.

Applications: Suitable for Immunocytochemistry, Immunohistochemistry on frozen and paraffin embedded tissue, and Immunoblotting.
Recommended dilutions:
1/100-1/200 for Immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent and 1/100-1/1000 for Immunoblotting

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

Specificity:

MON-162 exclusively recognizes the 135 kD Reticulon-1A protein in immunoblots of NCI-H82 and other SCLC cell lines, and stains normal and pathological neural and neuroendocrine tissues.
Species: Human, mouse, hamster and rat.
Other species not tested.

Storage:

Store the antibody (undiluted) at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freeze-thaw cycles.
Shelf life: One year from despatch.

General Readings:

1. van de Velde HJ, Roebroek AJ, van Leeuwen FW, Van de Ven WJ. Molecular analysis of expression in rat brain of NSP-A, a novel neuroendocrine-specific protein of the endoplasmic reticulum. Brain Res Mol Brain Res. 1994 Apr;23(1-2):81-92. PubMed PMID: 7518032.
2. van de Velde HJ, Roebroek AJ, Senden NH, Ramaekers FC, Van de Ven WJ. NSP-encoded reticulons, neuroendocrine proteins of a novel gene family associated with membranes of the endoplasmic reticulum. J Cell Sci. 1994 Sep;107 (Pt 9):2403-16. PubMed PMID: 7844160.
3. van de Velde HJ, Senden NH, Roskams TA, Broers JL, Ramaekers FC, Roebroek AJ, et al. NSP-encoded reticulons are neuroendocrine markers of a novel category in human lung cancer diagnosis. Cancer Res. 1994 Sep 1;54(17):4769-76. PubMed PMID: 8062278.
4. 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.
5. Hens J, Nuydens R, Geerts H, Senden NH, Van de Ven WJ, Roebroek AJ, et al. Neuronal differentiation is accompanied by NSP-C expression. Cell Tissue Res. 1998 May;292(2):229-37. PubMed PMID: 9560466.