RTN4 Positive Control – Nogo

PRODUCT OVERVIEW

Product Name	Nogo (RTN4), Positive Control
Full Product Name	Nogo Positive Control
Product Gene Name	RTN4 positive control
Product Synonym Names	1110020G17Rik; AA407876; AA409940; AA960376; ASY; C130026I10Rik; Foocen; Glut4 vesicle 20 kDa protein; Human NogoA; Kiaa0886; KIAA4153; MGC116054; MGC139261; mKIAA0886; mKIAA4153; My043 protein; Nbla00271; Nbla10545; Neurite growth inhibitor 220; Neuroendocrine-specific protein; NI-250; Nogo A; NOGO; Nogo B; Nogo C; NSP; NSP CL; rat N; Reticulon 4; Reticulon 5; RTN X; RTN4 A; RTN4-B1; Vp20 antibody
Form/Format	Western Blot Positive Control
Preparation and Storage	-20• degree C for long term storage
Matching Pairs	Antibody: Nogo (MBS540399) Positive Control: Nogo (MBS542994)
Matching Pairs	Antibody: Nogo (MBS542230) Positive Control: Nogo (MBS542994)
Matching Pairs	Antibody: Nogo (MBS542231) Positive Control: Nogo (MBS542994)
Molecular Weight	108,450 Da
OMIM	604475
3D Structure	ModBase 3D Structure for Q9NQC3
Immunogen	Purified Protein
Expression	Isoform 1 is specifically expressed in brain and testis and weakly in heart and skeletal muscle. Isoform 2 is widely expressed except for the liver. Isoform 3 is expressed in brain, skeletal muscle and adipocytes. Isoform 4 is testis-specific.
Molecular Function	poly(A) RNA binding
Structure	Binds to RTN4R, interacts with Bcl-xl and Bcl-2. Isoform 2 binds to NGBR and RTN3. Isoform 2 and Isoform 3 interact with BACE1 and BACE2, interacts with RTN4IP1 and ATL1.
Subcellular Location	Endoplasmic Reticulum membrane; Multi-pass membrane protein
Applications Tested/Suitable for RTN4 positive control	Western Blot (WB)
Application Notes for RTN4 positive control	Western Blot: 1:500
Related Product Information for RTN4 positive control	Western Blot Positive Control Reticulon-4 isoform A Antibody Developmental neurite growth regulatory factor with a role as a negative regulator of axon-axon adhesion and growth, and as a facilitator of neurite branching. Regulates neurite fasciculation, branching and extension in the developing nervous system.
Other Notes	Small volumes of RTN4 positive control vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for RTN4 purchase	MBS542994 is a positive control targeting RTN4. Also known as Nogo Positive Control.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for RTN4. It may not necessarily be applicable to this product.

NCBI GI #	24431935
NCBI GeneID	57142
NCBI Accession #	NP_065393.1
UniProt Primary Accession #	Q9NQC3
UniProt Secondary Accession #	O94962; Q7L7Q5; Q7L7Q6; Q7L7Q8; Q8IUA4; Q96B16; Q9BXG5; Q9H212; Q9H3I3; Q9UQ42; Q9Y293
UniProt Related Accession #	Q9NQC3
GenBank Nucleotide #	NM_020532.4
NCBI Official Full Name	reticulon-4 isoform A
NCBI Official Synonym Full Names	reticulon 4
NCBI Official Symbol	RTN4
NCBI Official Synonym Symbols	ASY; NSP; NOGO; NOGOC; RTN-X; NOGO-A; NSP-CL; Nogo-B; Nogo-C; RTN4-A; RTN4-C; RTN4-B1; RTN4-B2; NI220/250; Nbla00271; Nbla10545
UniProt Protein Name	Reticulon-4
UniProt Synonym Protein Names	Foocen; Neurite outgrowth inhibitor; Nogo protein; Neuroendocrine-specific protein; NSP; Neuroendocrine-specific protein C homolog; RTN-x; Reticulon-5
Protein Family	Reticulon
UniProt Gene Name	RTN4
UniProt Synonym Gene Names	KIAA0886; NOGO; Nogo protein; NSP
UniProt Entry Name	RTN4_HUMAN
NCBI Protein Information	reticulon-4
NCBI Summary for RTN4	This gene belongs to the family of reticulon encoding genes. Reticulons are associated with the endoplasmic reticulum, and are involved in neuroendocrine secretion or in membrane trafficking in neuroendocrine cells. The product of this gene is a potent neurite outgrowth inhibitor which may also help block the regeneration of the central nervous system in higher vertebrates. Alternatively spliced transcript variants derived both from differential splicing and differential promoter usage and encoding different isoforms have been identified. [provided by RefSeq, Jul 2008]

UniProt Comments for RTN4	Nogo: Developmental neurite growth regulatory factor with a role as a negative regulator of axon-axon adhesion and growth, and as a facilitator of neurite branching. Regulates neurite fasciculation, branching and extension in the developing nervous system. Involved in down-regulation of growth, stabilization of wiring and restriction of plasticity in the adult CNS. Regulates the radial migration of cortical neurons via an RTN4R-LINGO1 containing receptor complex. Isoform 2 reduces the anti-apoptotic activity of Bcl-xl and Bcl-2. This is likely consecutive to their change in subcellular location, from the mitochondria to the endoplasmic reticulum, after binding and sequestration. Isoform 2 and isoform 3 inhibit BACE1 activity and amyloid precursor protein processing. 6 isoforms of the human protein are produced by alternative splicing. Protein type: Membrane protein, multi-pass; Membrane protein, integral; Endoplasmic reticulum; Inhibitor; Motility/polarity/chemotaxis; Cell development/differentiation Chromosomal Location of Human Ortholog: 2p16.3 Cellular Component: endoplasmic reticulum; endoplasmic reticulum membrane; integral to endoplasmic reticulum membrane; intracellular; nuclear envelope; plasma membrane Molecular Function: protein binding Biological Process: apoptosis; axonal fasciculation; cerebral cortex radial glia guided migration; negative regulation of axon extension; negative regulation of axonogenesis; negative regulation of cell growth; nuclear pore complex assembly; regulation of apoptosis; regulation of cell migration
Research Articles on RTN4	**1.** RTN4-C knockdown blocks cell cycle progression and cell growth in colorectal cancer cell lines.
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