

## RTN4 Protein, Human, Recombinant (GST)

### General Information

Synonyms:	Neurite outgrowth inhibitor; Neuroendocrine-specific protein C homolog; Neuroendocrine-specific protein; RTN4; Foccen; Reticulon-5; Reticulon-4; NOGO; Nogo protein; RTN-x; KIAA0886
Protein Construction:	A DNA sequence encoding the human RTN4 (NP_065393.1) N-terminal fragment (Met 1-Val 185) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	NP_065393.1
Molecular Weight:	46.2 kDa (predicted); 48 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 70 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 20 mM Tris, 150 mM NaCl, 1 mM DTT, 0.2 mM GSH, pH 7.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Reticulon-4, also known as Foccen, Neurite outgrowth inhibitor, Nogo protein, Neuroendocrine-specific protein, Neuroendocrine-specific protein C homolog, RTN-x, Reticulon-5 and RTN4, is a multi-pass membrane protein that contains one reticulon domain. Isoform 1 of RTN4 is specifically expressed in brain and testis and weakly in heart and skeletal muscle. Isoform 2 of RTN4 is widely expressed except for the liver. Isoform 3 of RTN4 is expressed in

brain, skeletal muscle and adipocytes. Isoform 4 of RTN4 is testis-specific. Reticulon-4 / RTN4 is a 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. Reticulon-4 / RTN4 regulates neurite fasciculation, branching and extension in the developing nervous system. Reticulon-4 / RTN4 is involved in down-regulation of growth, stabilization of wiring and restriction of plasticity in the adult CNS. It regulates the radial migration of cortical neurons via an RTN4R-LINGO1 containing receptor complex. Isoform 2 of RTN4 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 of RTN4 inhibit BACE1 activity and amyloid precursor protein processing.

### Reference

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