

# Human NETO1 / BTCL1 Protein (His Tag)



Sino Biological  
Biological Solution Specialist

Catalog Number: 11562-H08H

## General Information

### Gene Name Synonym:

BCTL1; BTCL1

### Protein Construction:

A DNA sequence encoding the human NETO1 isoform 3 (NP\_620416.1) extracellular domain (Met 1-Thr 344) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Thr 23

### Molecular Mass:

The secreted recombinant human NETO1 consists of 333 amino acids and has a calculated molecular mass of 38 kDa. It migrates as an approximately 46 kDa band in SDS-PAGE under reducing conditions due to glycosylation.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

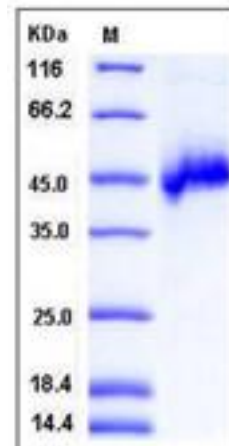
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Neuropilin tolloid-like 1 (NETO1), a complement C1r/C1s, Uegf, Bmp1 (CUB) domain-containing transmembrane protein, is a novel component of the NMDAR complex critical for maintaining the abundance of NR2A-containing NMDARs in the postsynaptic density. The N-methyl-D-aspartate receptor (NMDAR), a major excitatory ligand-gated ion channel in the central nervous system (CNS), is a principal mediator of synaptic plasticity. Both NETO1 and NETO2 share an identical and unique domain structure thus representing a novel subfamily of CUB- and LDLA-containing proteins. The cytoplasmic domains of NETO1 and NETO2 are not homologous to other known protein sequences but contain a conserved FXNPXY-like motif, which is essential for the internalization of clathrin coated pits during endocytosis or alternatively, may be implicated in intracellular signaling pathways. NETO1 and NETO2, have marked effects on receptor properties, increasing further the potential diversity of Kainate receptors (KARs) functional properties. NETO1 involves in the development and/or maintenance of neuronal circuitry. NETO1 regulates long-term NMDA receptor-dependent synaptic plasticity and cognition, at least in the context of spatial learning and memory.

## References

1. Sthr H, *et al.* (2002) A novel gene encoding a putative transmembrane protein with two extracellular CUB domains and a low-density lipoprotein class A module: isolation of alternatively spliced isoforms in retina and brain. *Gene*. 286(2): 223-31.
2. Ng D, *et al.* (2002) for synaptic plasticity and learning. *PLoS Biol.* 7(2): e41.
3. Perrais D, *et al.* (2010) Gating and permeation of kainate receptors: differences unveiled. *Trends Pharmacol Sci.* 31(11): 516-22.

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