

Human Nicastrin / NCSTN Protein (His Tag)



Sino Biological
Biological Solution Specialist

Catalog Number: 11183-H08H

General Information

Gene Name Synonym:

APH2; ATAG1874; KIAA0253; NCSTN; RP11-517F10.1

Protein Construction:

A DNA sequence encoding the human NCSTN (NP_056146.1) extracellular domain (Met 1-Glu 669) was expressed, with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 93 % 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: Asn 34

Molecular Mass:

The recombinant human NCSTN consists of 647 amino acids and predicts a molecular mass of 72.4 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rh NCSTN is approximately 110-120 kDa 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:

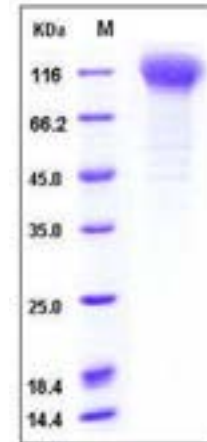
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Nicastrin (NCST, or NCT), a single-pass membrane glycoprotein that harbors a large extracellular domain, is an essential component of the gamma-secretase complex. Several lines of evidence indicate that the members of these complexes could also contribute to the control of cell death. NCT controls cell death via phosphoinositide 3-kinase/Akt and p53-dependent pathways and that this function remains independent of the activity and molecular integrity of the gamma-secretase complexes. Increasing evidences have shown that Nicastrin/NCSTN plays a crucial role in gamma-cleavage of the amyloid precursor protein (APP). The glycoprotein Nicastrin is an essential component of the gamma-secretase complex, a high molecular weight complex which also contains the presenilin proteins, Aph-1 and Pen-2. The gamma-secretase complex is not only involved in APP processing but also in the processing of an increasing number of other type I integral membrane proteins. As the largest subunit of the gamma-secretase complex, Nicastrin plays a crucial role in its activation. Inhibition of NCSTN demonstrated an altered gamma-cleavage activity, suggesting its potential implication in developing Alzheimer's disease (AD). In addition, Nicastrin can function to maintain epithelial to mesenchymal transition during breast cancer progression. Anti-nicastrin polyclonal and monoclonal antibodies were able to decrease notch1 and vimentin expression and reduced the invasive capacity of breast cancer cells in vitro.

References

1. He G, *et al.* (2007) Degradation of nicastrin involves both proteasome and lysosome. *J Neurochem.* 101(4): 982-92.
2. Hayashi I, *et al.* (2009) Single chain variable fragment against nicastrin inhibits the gamma-secretase activity. *J Biol Chem.* 284(41): 27838-47.
3. Ma Z, *et al.* (2009) Association between promoter polymorphisms of the nicastrin gene and sporadic Alzheimer's disease in North Chinese Han population. *Neurosci Lett.* 458(3): 136-9.

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