Mouse CNTNAP2 / CASPR2 Protein (His Tag)

Catalog Number: **50649-M08H**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

5430425M22Rik; Caspr2; mKIAA0868

Protein Construction:

A DNA sequence encoding the extracellular domain of mouse CASPR2 (NP_001004357.2) (Met 1-Ser 1262) was expressed, with a C-terminal polyhistidine tag.

Source: Mouse

Expression Host: HEK293 Cells

QC Testing

Purity: ≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.

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 ℃

Predicted N terminal: Ala 28

Molecular Mass:

The secreted recombinant mouse CASPR2 comprises 1246 amino acids and has a calculated molecular mass of 139 kDa. The recombinant protein migrates as an approximately 140-150 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:

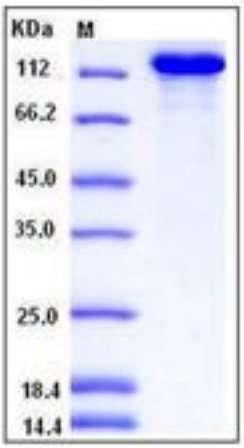
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

CNTNAP2/CASPR2 is a member of the neurexin family which functions in the vertebrate nervous system as cell adhesion molecules and receptors. This protein, like other neurexin proteins, contains epidermal growth factor repeats and laminin G domains. In addition, it includes an F5/8 type C domain, discoidin/neuropilin- and fibrinogen-like domains, thrombospondin N-terminal-like domains and a putative PDZ binding site. CNTNAP2/CASPR2 is localized at the juxtaparanodes of myelinated axons, and mediates interactions between neurons and glia during nervous system development and is also involved in localization of potassium channels within differentiating axons. This protein encoding gene is directly bound and regulated by forkhead box protein P2 (FOXP2), a transcription factor related to speech and language development. This gene has been implicated in multiple neurodevelopmental disorders, including Gilles de la Tourette syndrome, schizophrenia, epilepsy, autism, ADHD and mental retardation. CNTNAP2/CASPR2 may play a role in the formation of functional distinct domains critical for saltatory conduction of nerve impulses in myelinated nerve fibers. CNTNAP2/CASPR2 Seems to demarcate the juxtaparanodal region of the axo-glial junction.

References

1.Poot M, *et al.* (2010) Disruption of CNTNAP2 and additional structural genome changes in a boy with speech delay and autism spectrum disorder. Neurogenetics. 11(1): 81-9. 2.Friedman JI, *et al.* (2008) CNTNAP2 gene dosage variation is associated with schizophrenia and epilepsy. Mol Psychiatry. 13(3): 261-6. 3.Verkerk AJ, *et al.* (2003) CNTNAP2 is disrupted in a family with Gilles de la Tourette syndrome and obsessive compulsive disorder. Genomics. 82(1): 1-9.