

PRODUCT INFORMATION



Contactin-3 (human, recombinant)

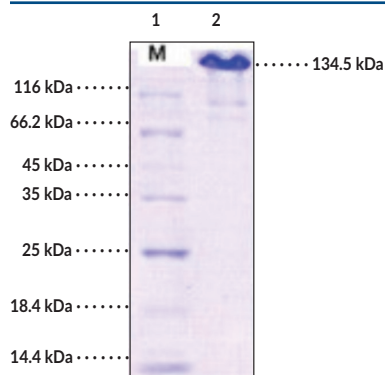
Item No. 43687

Overview and Properties

Synonyms: BIG-1, Brain-derived Immunoglobulin Superfamily Protein 1, CNTN3, PANG, PCS, Plasmacytoma-associated Neuronal Glycoprotein
Source: Recombinant human C-terminal IgG1 Fc-tagged contactin-3 expressed in HEK293 cells
Amino Acids: 20-1,002
Uniprot No.: Q9P232
Molecular Weight: 134.5 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥90% estimated by SDS-PAGE
Supplied in: Lyophilized from sterile 100 mM glycine, 10 mM sodium chloride, 50 mM Tris, pH 7.5
Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Contactin-3

SDS-PAGE Analysis of Contactin-3. This protein has a calculated molecular weight of 134.5 kDa. It has an apparent molecular weight of approximately 160-170 kDa by SDS-PAGE under reducing conditions due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Contactin-3 is a neural cell adhesion molecule and member of the immunoglobulin (Ig) superfamily.¹ It is composed of six Ig-like repeats, four fibronectin type III-like domains, and a hydrophobic C-terminal sequence that contains a glycosylphosphatidylinositol (GPI) anchor site. Contactin-3 is primarily expressed in the frontal lobe, occipital lobe, cerebellum, and amygdala in the brain where it interacts with amyloid precursor protein (APP), amyloid- β precursor-like protein 1 (APLP-1), and protein tyrosine phosphatase γ (PTP γ).^{2,3} Expression of *CNTN3*, the gene encoding contactin-3, is decreased in cortical tubers isolated from patients with tuberous sclerosis complex (TSC), a condition characterized by increased incidence of epilepsy and intellectual impairment.⁴ Low expression levels of *CNTN3* are associated with decreased overall survival and poor prognosis in patients with glioblastoma multiforme.⁵ Cayman's Contactin-3 (human, recombinant) protein is a disulfide-linked homodimer. This protein is a disulfide-linked homodimer. The reduced monomer, composed of contactin-3 (amino acids 20-1,002) fused to IgG1 Fc at its C-terminus, consists of 1,221 amino acids, has a calculated molecular weight of 134.5 kDa, and a predicted N-terminus of Gly20 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 160-170 kDa due to glycosylation.

References

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3. Nikolaienko, R.M., Hammel, M., Dubreuil, V., *et al.* Structural basis for interactions between contactin family members and protein-tyrosine phosphatase receptor type G in neural tissues. *J. Biol. Chem.* **291(41)**, 21335-21349 (2016).
4. Korotkov, A., Luinenburg, M.J., Romagnolo, A., *et al.* Down-regulation of the brain-specific cell-adhesion molecule contactin-3 in tuberous sclerosis complex during the early postnatal period. *J. Neurodev. Disord.* **14(1)**, 8 (2022).
5. Zhu, Y.-F., Guo, Y.-B., Zhang, H.-Y., *et al.* Prognostic significance of contactin 3 expression and associated genes in glioblastoma multiforme. *Oncol. Lett.* **18(2)**, 1863-1871 (2019).

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