PRODUCT INFORMATION

Contactin-1 (human, recombinant)

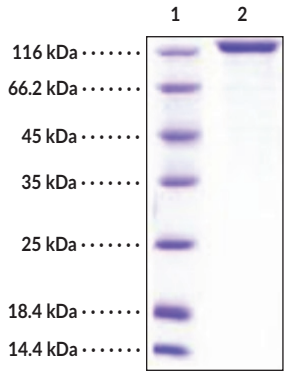
Item No. 43685

Overview and Properties

Synonyms:	CNTN1, GP135, Neural Cell Surface Protein F3
Source:	Recombinant human C-terminal His-tagged contactin-1 expressed in HEK293 cells
Amino Acids:	21-993
Uniprot No.:	Q12860
Molecular Weight:	110 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Protein Concentration:	***batch specific*** mg/ml

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

Image



Lane 1: MW Markers
Lane 2: Contactin-1

SDS-PAGE Analysis of Contactin-1. This protein has a calculated molecular weight of 110 kDa. It has an apparent molecular weight of approximately 125 kDa due to glycosylation.

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Description

Contactin-1 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.[1,2] Contactin-1 is primarily expressed in the brain and to a lesser extent in lung, pancreas, skeletal muscle, and kidney.[2] It is involved in many neuronal developmental processes, including axonal and neurite growth, glial cell differentiation, myelination, and synaptogenesis.[1,3] Contactin-1 has several interaction partners, such as Notch, protein tyrosine phosphatase α (PTPα), and tenascin-R, and binds to them in either *cis* or *trans*.[3] Increased expression of *CNTN1*, the gene encoding contactin-1, is associated with decreased overall survival in patients with bladder urothelial carcinoma or stomach adenocarcinoma.[1] Mutations in *CNTN1* are associated with familial lethal congenital myopathy.[4] Cerebrospinal fluid (CSF) levels of contactin-1 are decreased in patients with Parkinson's disease.[5] Cayman's Contactin-1 (human, recombinant) protein consists of 984 amino acids, has a calculated molecular weight of 110 kDa, and a predicted N-terminus of Glu21 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 125 kDa due to glycosylation.

References

1. Gu, Y., Li, T., Kapoor, A., *et al.* Contactin 1: An important and emerging oncogenic protein promoting cancer progression and metastasis. *Genes (Basel)* **11(8)**, 874 (2020).
2. Reid, R.A., Bronson, D.D., Young, K.M., *et al.* Identification and characterization of the human cell adhesion molecule contactin. *Brain Res. Mol. Brain Res.* **21(1-2)**, 1-8 (1994).
3. Shimoda, Y. and Watanabe, K. Contactins: Emerging key roles in the development and function of the nervous system. *Cell Adh. Migr.* **3(1)**, 64-70 (2009).
4. Compton, A.G., Albrecht, D.E., Seto, J.T., *et al.* Mutations in contactin-1, a neural adhesion and neuromuscular junction protein, cause a familial form of lethal congenital myopathy. *Am. J. Hum. Genet.* **83(6)**, 714-724 (2008).
5. Chatterjee, M., van Steenoven, I., Huisman, E., *et al.* Contactin-1 is reduced in cerebrospinal fluid of Parkinson's disease patients and is present within Lewy bodies. *Comparative Study* **10(8)**, 1177 (2020).

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