

## CNTN4 Protein, Human, Recombinant (His)

### General Information

Synonyms:	BIG-2;AXCAM;contactin 4
Protein Construction:	A DNA sequence encoding the mature form of human CNTN4 isoform 1 (Q8I WV2-1) (Met 1-Ser 1000) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Asp 19
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q8I WV2-1
Molecular Weight:	110 kDa (predicted); 120-130 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, pH 8.5, 10% gly. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**  
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**  
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Contactin-4, abbreviated as CNTN4, is a brain-derived protein belonging to the immunoglobulin superfamily. It has been found high expression in testes, thyroid, small intestine, uterus and brain. This protein is a neuronal membrane protein that functions as a glycosylphosphatidylinositol- anchored cell adhesion molecule. Contactin-4 is considered as a candidate protein responsible for the differentiation potential of human neuroblastoma cells and it has been implicated in some cases of autism and spinocerebellar ataxia type 16. Studies of the contactin

family have revealed a complex pattern of hemophilic and heterophilic interactions that are required for axon growth and pathfinding. Such studies demonstrate that these essential functions are mediated by the combination and juxtaposition of multiple Ig and FNIII domains. Second, these neuronal adhesion molecules demonstrate highly regulated temporal and spatial expression patterns in the CNS. For this reason, the disruption of the regulatory region of the predominant brain-expressed isoform reasonable would be expected to have significant functional consequences.

### Reference

Zeng L, et al. (2002) A novel splice variant of the cell adhesion molecule contactin 4 ( CNTN4) is mainly expressed in human brain. *J Hum Genet.* 47 (9): 497-9.

Thomas Fernandez, et al. (2004) Disruption of Contactin 4 (CNTN4) Results in Developmental Delay and Other Features of 3p Deletion Syndrome. *Am J Hum Genet.* 74 (6): 1286-93.

Yoshihara Y, et al. (1996) Overlapping and differential expression of BIG-2, BIG-1, TAG-1, and F3: four members of an axon-associated cell adhesion molecule subgroup of the immunoglobulin superfamily. *J Neurobiol.* 28 (1): 51-69.

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Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481