

**DESCRIPTION**

**Source** Mouse myeloma cell line, NS0-derived  
Leu29-Asn1012, with a C-terminal 10-His tag  
Accession # Q02246

**N-terminal Sequence Analysis** Leu29

**Predicted Molecular Mass** 108.9 kDa

**SPECIFICATIONS**

**SDS-PAGE** 145 kDa, reducing conditions

**Activity** Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. Optimal neurite outgrowth was observed when neurons were plated on 96-well culture plates that had been pre-coated with 50 µL/well of the rhContactin-2 solution at 10-25 µg/mL.

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100 µg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

Contactin-2 (CNTN2), also called TAG-1 (transient axonal glycoprotein), TAX1 (transiently-expressed axonal glycoprotein), or axonin-1, is a 135 kDa glycosyl-phosphatidylinositol (GPI)- anchored cell adhesion molecule that belongs to the contactin subfamily within the immunoglobulin (Ig) protein superfamily (1 - 3). Human Contactin-2 cDNA encodes a 28 amino acid (aa) signal peptide, a 984 aa mature secreted protein with six Ig-like domains followed by four fibronectin type III-like repeats, and a 28 aa C-terminal GPI anchor pro-sequence. GPI-specific phospholipase activity can release soluble, active Contactin-2 from the membrane (2). Mature human Contactin-2 shares approximately 93%, 93% and 75% aa sequence identity with human, rat and chicken Contactin-2, respectively. During development, Contactin-2 is expressed by a subset of neuronal populations in the central nervous system (CNS) and peripheral nervous system (PNS), particularly during initial phases of axon outgrowth (3 - 5). Both the 135 kDa form and a 90 kDa form are also upregulated in response to CNS injury in the adult (6). Data support a role for Contactin-2 in axon pathfinding, neurite outgrowth and adhesion, especially in the CNS (3 - 6). In mature myelinated fibers, Contactin-2 is expressed by oligodendrocytes and Schwann cells, which are myelinating glial cells of the CNS and PNS, respectively (7, 8). It is enriched in the juxtaparanodal regions, where it recruits caspr2 (Contactin-associated protein 2), a transmembrane neurexin involved in cell adhesion and intercellular communication (7 - 10). The axonal Contactin-2 interacts in cis with caspr2, and in trans with another Contactin-2 on the glial membrane (8). This ternary complex is required for the accumulation and organization of K<sup>+</sup> channels in the juxtaparanodes (9).

**References:**

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