

**DESCRIPTION**

|                                     |  |        |   |         |
|-------------------------------------|--|--------|---|---------|
| <b>Source</b>                       | Human embryonic kidney cell, HEK293-derived human Nectin-2/CD112 protein |        |   |         |
|                                     | Human Nectin-2/CD112<br>(Gln32-Leu360)<br>Accession # NP_002847.1        | IEGRMD | Human IgG <sub>1</sub><br>(Pro100-Lys330) | Avi-tag |
|                                     | N-terminus   |        | C-terminus                                |         |
| <b>N-terminal Sequence Analysis</b> | Gln32 inferred from enzymatic pyroglutamate treatment revealing Asp33.   |        |   |         |
| <b>Structure / Form</b>             | Disulfide-linked homodimer   |        |   |         |
| <b>Predicted Molecular Mass</b>     | 62 kDa   |        |   |         |

**SPECIFICATIONS**

|                        |   |
|------------------------|---|
| <b>SDS-PAGE</b>        | 74-84 kDa, under reducing conditions.   |
| <b>Activity</b>        | Measured by its binding ability in a functional ELISA.<br>When Recombinant Human DNAM-1 Fc Chimera (Catalog # 666-DN) is immobilized at 1.00 µg/mL (100 µL/well), Biotinylated Recombinant Human Nectin-2/CD112 Fc Chimera Avi-tag binds with an ED <sub>50</sub> of 8.00-48.0 ng/mL. |
| <b>Endotoxin Level</b> | <0.10 EU per 1 µg of the protein by the LAL method.   |
| <b>Purity</b>          | >95%, by SDS-PAGE with silver staining, under reducing conditions.  |
| <b>Formulation</b>     | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.   |

**PREPARATION AND STORAGE**

|                                |   |
|--------------------------------|---|
| <b>Reconstitution</b>          | Reconstitute at 500 µg/mL in PBS.   |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.   |
| <b>Stability &amp; Storage</b> | <p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

**DATA**

|  |  |
|--|--|
| <p><b>Binding Activity</b></p> <p><b>Biotinylated Recombinant Human Nectin-2/CD112 Fc Chimera Avi-tag Protein Binding Activity.</b> When Recombinant Human DNAM-1 Fc Chimera (Catalog # 666-DN) is immobilized at 1.00 µg/mL (100 µL/well), Biotinylated Recombinant Human Nectin-2/CD112 Fc Chimera Avi-tag (Catalog # AVI9317) binds with an ED<sub>50</sub> of 8.00 - 48.0 ng/mL.</p> | <p><b>SDS-PAGE</b></p> <p><b>Biotinylated Recombinant Human Nectin-2/CD112 Fc Chimera Avi-tag Protein SDS-PAGE.</b> 2 µg/lane of Biotinylated Recombinant Human Nectin-2/CD112 Fc Chimera Avi-tag Protein (Catalog # AVI9317) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 74 - 84 kDa and 148 - 168 kDa, respectively.</p> |
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## BACKGROUND

Nectin-2, also known as Poliovirus receptor-related 2 (PRR2), is a member of the Nectin family which are Ca<sup>++</sup>-independent immunoglobulin (Ig)-like cell adhesion molecules (CAMs) that organize intercellular junctions (1). The Nectin family is comprised of 4 family members and 5 nectin-like molecules and they are structurally homologous to the poliovirus receptors (2). Mature human Nectin-2 consists of an extracellular domain (ECD) with three immunoglobulin-like domains, a single transmembrane segment, and a cytoplasmic domain bind the F-actin-binding protein afadin (3). Within the ECD, human Nectin-2 shares 72% amino acid (aa) sequence identity with mouse Nectin-2. Alter native splicing generates an isoform with a truncated cytoplasmic tail (1). Nectin-2 localizes to adherens junctions between neurons, endothelial cells, epithelial cells, and fibroblasts (3, 4). It forms homodimers in *cis*, followed by dimers in *trans* (between cells) (4). It does not *cis*-dimerize with other Nectins but forms *cis*-dimers between its two splice forms. Notably, a Nectin-2 *cis*-dimer on one cell can heterodimerize with a Nectin-3 *cis*-dimer on a neighboring cell (4). Nectin-2 additionally binds to DNAM-1/CD226 on NK cells and triggers NK cell cytolytic activity (5, 6). Nectin-2 is known to bind pseudorabies virus and herpes simplex virus-2 (HSV-2), but not HSV-1 or poliovirus (4, 7). Nectin-2 is a component of cardiac intercalated discs and limits fibrosis and dysfunction resulting from pressure overload (8). Our Avi-tag Biotinylated Nectin-2 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

## References:

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6. Pende, D. *et al.* (2005) *Mol. Immunol.* **42**:463.
7. Warner, M.S. *et al.* (1998) *Virology* **246**:179.
8. Satomi-Kobayashi, S. *et al.* (2009) *Hypertension* **54**:825.