

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived human Nectin-1 protein			
	Human Nectin-1 (Gln31-Gly346) Accession # Q15223.3	IEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)	Avi-tag
	N-terminus		C-terminus	
<b>N-terminal Sequence Analysis</b>	Gln31 inferred from deblocking revealing Val32			
<b>Structure / Form</b>	Disulfide-linked homodimer, biotinylated via Avi-tag			
<b>Predicted Molecular Mass</b>	64 kDa			

**SPECIFICATIONS**

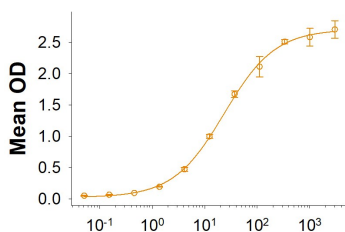
<b>SDS-PAGE</b>	85-96 kDa, under reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Human Nectin-3 Protein (Catalog # 3064-N3) is immobilized at 0.5 µg/mL, 100 µL/well, the concentration of Biotinylated Recombinant Human Nectin-1 Fc Chimera Avi-tag (Catalog # AV110697) that produces 50% of the optimal binding response is approximately 6.0-40 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 visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<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>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <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**

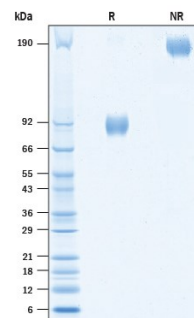
**Binding Activity**



**Biotinylated Recombinant Human Nectin-1 Fc Chimera Avi-tag (ng/mL)**

**Biotinylated Recombinant Human Nectin-1 Fc Chimera Avi-tag Protein Binding Activity.** When Recombinant Human Nectin-3 Protein (Catalog # 3064-N3) is immobilized at 0.5 µg/mL, 100 µL/well, the concentration of Biotinylated Recombinant Human Nectin-1 Fc Chimera Avi-tag (Catalog # AV110697) that produces 50% of the optimal binding response is approximately 6.0-40 ng/mL.

**SDS-PAGE**



**Recombinant Human Nectin-1 Fc Chimera Avi-tag Protein SDS-PAGE.** 2 µg/lane of Biotinylated Human Nectin-1 Fc Chimera Avi-tag (Catalog # AV110697) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 85-96 kDa and 160-190 kDa.

**BACKGROUND**

Nectin-1 (designated CD111), also called PRR-1 (poliovirus receptor-related protein 1) or HVEC (herpesvirus entry mediator C), is a widely expressed 110 kDa type I transmembrane glycoprotein important in formation of adherens junctions and synapses. It is a member of the nectin family within the Ig superfamily (1, 2). The Latin word *necto* means "to connect", indicating the role of nectins in Ca<sup>2+</sup>-independent cell-cell adhesion (2). Nectin-1 forms homodimers in cis, followed by interactions in trans with Nectin-1, -3 or -4 (2). The 517 amino acid (aa) human Nectin-1 isoform 1 contains a 30 aa signal sequence, a 325 aa extracellular domain (ECD), a 21 aa transmembrane segment (TM), and a 141 aa cytoplasmic region. Nectin ECDs contain three Ig-like domains: an N-terminal V-type that mediates ligand binding, and two C2-type (3). Nectin-1, like other nectins, has a splice form (isoform 2 or HigR, 458 aa) with alternate TM and cytoplasmic sequences. Another, isoform 3, is a 352 aa secreted protein (4). The common region of mature human Nectin-1 (aa 31-334) shares 93%, 94%, 96% and 96% aa identity with mouse, rat, bovine and porcine Nectin-1, respectively. Nectin-1 binds viral glycoprotein D to mediate herpesvirus (but not poxvirus) entry into vaginal mucosa, sensory neurons and fibroblasts (4-7). In forming adherens junctions and synapses, nectins 1 and 3 initiate cell-cell interactions, recruiting  $\alpha\beta3$  integrin extracellularly and cadherins intracellularly through afadin and other junctional proteins (2, 8-11). These interactions organize the cytoskeleton, strengthen attachment to basement membrane and promote further cell-cell connections. Nectin-1 also recognizes CD96 on NK cells (12). Deficiency of Nectin-1 can result in cleft lip/palate ectodermal dysplasia (13). Nectin-1 down-regulation in epithelial cancers, mediated in part by ectodomain shedding, may contribute to invasiveness (14). Our Avi-tag Biotinylated Human Nectin-1 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 uncharged so there is no interference in the protein's bioactivity.

**References:**

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