Recombinant Cynomolgus Monkey/Rhesus Macaque Nectin-1 Fc Chimera

Catalog Number: 10287-N1

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived Nectin-1 protein

Cynomolgus Monkey/Rhesus Macaque Nectin-1 (Gln31-Gly349) Accession # XP_005579992.1	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	No results obtained: Gln31 predicted
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	62 kDa

SPECIFICATIONS

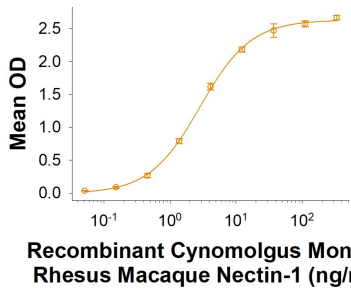
SDS-PAGE	87-101 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Nectin-3 His-tag (Catalog # 3064-N3) is immobilized at 1 µg/mL (100 µL/well), Recombinant Cynomolgus Monkey/Rhesus Macaque Nectin-1 Fc Chimera (Catalog # 10287-N1) binds with an ED_{50} of 2.5-20 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in 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.

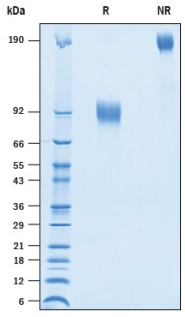
DATA

Binding Activity



When Recombinant Human Nectin-3 (Catalog # 3064-N3) is immobilized at 1 µg/mL (100 µL/well), Recombinant Cynomolgus Monkey/Rhesus Macaque Nectin-1 Fc Chimera (Catalog # 10287-N1) binds with an ED_{50} of 2.5-20 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey/Rhesus Macaque Nectin-1 Fc Chimera was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 87-100 kDa and 170-200 kDa, respectively.

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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^{2+}-independent cell-cell adhesion (2). Nectin-1 forms homodimers in cis, followed by interactions in trans with Nectin-1, -3 or -4 (2). Based on the similarity with human Nectin-1, the 519 amino acid (aa) cynomolgus Nectin-1 may contain a 30 aa signal sequence, a 328 aa extracellular domain (ECD), a 21 aa transmembrane segment (TM), and a 140 aa cytoplasmic region. Nectin ECDs contain three Ig-like domains: an N-terminal V-type that mediates ligand binding, and two C2-type (3,4). The ECD of cynomolgus Nectin-1 shares 98% and 100% aa identity with human and rhesus monkey 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 v beta 3 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 downregulation in epithelial cancers, mediated in part by ectodomain shedding, may contribute to invasiveness (14). In colorectal cancer, Nectin-1 expression was found to be associated with a high risk for early disease recurrence (15).

References:

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