Biotinylated Recombinant Human CD200R1 Fc Chimera Avi-tag

Catalog Number: AVI10678

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human CD200R1 protein

Human CD200R1 (Ala27-Leu266) Accession # NP_620161.1	IEGRMD	Human IgG_1 (Pro100-Lys330)	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	Ala27
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	54 kDa

SPECIFICATIONS

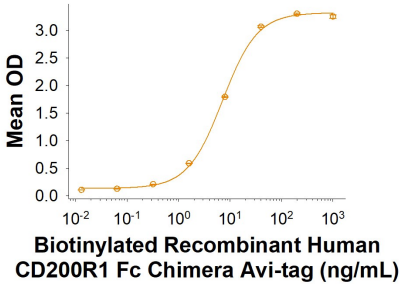
SDS-PAGE	80-100 kDa, under reducing conditions
Activity	The biotin to protein ratio is greater than 0.7 as determined by the HABA assay. Measured by its binding ability in a functional ELISA. When Recombinant Human CD200 Fc Chimera (Catalog # 2724-CD) is immobilized at 0.5 µg/mL (100 µL/well), the concentration of Biotinylated Recombinant Human CD200R1 Fc Chimera Avi-tag (Catalog # AVI10678) that produces 50% of the optimal binding response is appoximately 2.5-15 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 250 µg/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.

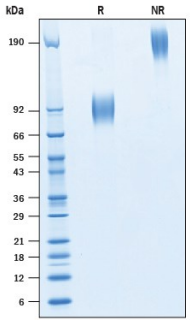
DATA

Binding Activity



Biotinylated Recombinant Human CD200R1 Fc Chimera Avi-tag Protein Binding Activity. When Recombinant Human CD200 Fc Chimera (Catalog # 2724-CD) is immobilized at 0.5 µg/mL (100 µL/well), the concentration of Biotinylated Recombinant Human CD200R1 Fc Chimera Avi-tag (Catalog # AVI10678) that produces 50% of the optimal binding response is approximately 2.5-15 ng/mL.

SDS-PAGE



Biotinylated Recombinant CD200R1 Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant CD200R1 Fc Chimera Avi-tag Protein (Catalog # AVI10678) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 80-100 kDa and 160-200 kDa, respectively.

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BACKGROUND

Cluster of Differentiation-200 receptor 1 (CD200R1), also known as OX-2 receptor, is a transmembrane protein in the immunoglobulin superfamily expressed on the surface of myeloid cells and important in the regulation of myeloid cell activity (1-3). Mature CD200R1 consists of an extracellular domain (ECD) with one Ig-like V-type and one Ig-like C2-type domain, a transmembrane segment, and a short cytoplasmic domain (4). Despite lacking a cytoplasmic ITIM domain, CD200R1 has still been shown to propagate inhibitory signals (5, 6). Within the ECD, human CD200R1 shares 56% amino acid (aa) sequence identity with both mouse and rat CD200R1. Alternate splicing of the human CD200R1 mRNA generates four isoforms, two of which are truncated in the Ig-C2 domain and are likely secreted (4). Additionally, a separate CD200R gene encodes 1 protein in humans and 4 in mouse with high aa sequence identity with CD200R1 which are potentially activating receptors by means of their association with DAP12 (7, 8). CD200R1 expression is restricted primarily to mast cells, basophils, macrophages, and dendritic cells (9-11) while its ligand, CD200, is widely distributed (12). Association of CD200 with CD200R1 takes place between their respective N-terminal Ig-like domains (13). Disruption of this receptor-ligand system by knockout of the CD200 gene in mice leads to increased macrophage number and activation and predisposition to autoimmune disorders (12). CD200R1 signaling inhibits the expression of proinflammatory molecules including TNFs, IFNs, and inducible nitric oxide synthase in response to selected stimuli, which implicate that CD200/CD200R1 inhibitory signaling pathway plays a prominent role in limiting inflammation in a wide range of inflammatory diseases (14). Further, the CD200/CD200R inhibitory signaling constitutes one of the most suitable endogenous immunoregulatory molecule candidate to restore the immune suppressive status of the CNS altered in chronic neuroinflammatory situations (15). Our Avi-tag Biotinylated CD200R1 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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