Biotinylated Recombinant Human CD200 His-tag Avi-tag

Catalog Number: AVI10032

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human CD200 protein

Human CD200 (Gln31-Lys232) Accession # AAH22522.1	HHHHHH	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis

Gln31 inferred from enzymatic pyroglutamate treatment revealing Val32.

Structure / Form

Biotinylated via Avi-tag

Predicted Molecular Mass

26 kDa

SPECIFICATIONS

SDS-PAGE

40-50 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 CD200R1 Fc Chimera (Catalog # 3414-CD) is immobilized at 2 µg/mL (100 µL/well), Biotinylated Recombinant Human CD200 His-tag Avi-tag (Catalog # AVI10032) binds with an ED_{50} of 0.1-0.6 µg/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 500 µg/mL in PBS.

Shipping

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

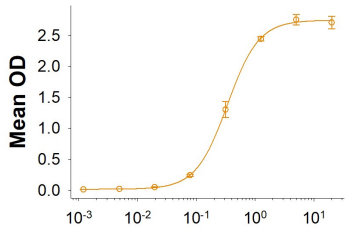
Stability & Storage

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.

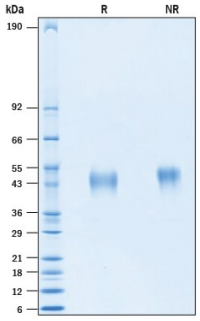
DATA

Binding Activity



When Recombinant Human CD200R1 Fc Chimera (Catalog # 3414-CD) is immobilized at 2 µg/mL (100 µL/well), Biotinylated Recombinant Human CD200 His-tag Avi-tag (Catalog # AVI10032) binds with an ED_{50} of 0.1-0.6 µg/mL.

SDS-PAGE



2 µg/lane of Biotinylated Recombinant CD200 His-tag Avi-tag Protein (Catalog # AVI10032) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 40-50 kDa.

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BACKGROUND

Cluster of Differentiation-200 (CD200), also known as OX-2, is a transmembrane immunoregulatory protein that belongs to the immunoglobulin superfamily (1, 2). Mature human CD200 consists of an extracellular domain (ECD) with one Ig-like V-type domain and one Ig-like C2-type domain, a transmembrane segment, and a short cytoplasmic domain (3). Within the mature ECD, human CD200 shares 76% amin acid (aa) sequence identity with mouse and rat CD200. A splice variant of CD200 has been identified lacking the first 43 aa of the ECD and characterized as a functional antagonist to full-length CD200 (4). CD200 is widely expressed by numerous cell types including neurons, B cells, activated T cells, thymocytes, dendritic cells and endothelium (5). Its receptor, CD200R, is restricted primarily to mast cells, basophils, macrophages, and dendritic cells, which suggests CD200 is an important inhibitory ligand for myeloid cell regulation (6-8). CD200 knockout mice are characterized by increased macrophage number and activation and are predisposed to autoimmune disorders (9). CD200 and CD200R associate via their respective N-terminal Ig-like domains (10). In myeloid cells, CD200R initiates inhibitory signals following receptor-ligand contact (7, 8, 11). In T cells, however, CD200 functions as a costimulatory molecule independent of the CD28 pathway (12). Several additional CD200R-like molecules have been identified in human and mouse, but their capacity to interact with CD200 is controversial (13, 14). Several viruses encode CD200 homologs which are expressed on infected cells during the lytic phase (15, 16). Like CD200 itself, viral CD200 homologs also suppress myeloid cell activity, enabling increased viral propagation (6, 15-17). Our Avi-tag Biotinylated human CD200 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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