Biotinylated Recombinant Human CD200R1 Avi-tag His-tag

Catalog Number: AVI10053

DESCRIPTION

Source

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

Human CD200R1 (Gln29-Leu266) Accession # NP_620161.1	Avi-tag	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis	Gln29; by Protein ID
Predicted Molecular Mass	31 kDa

SPECIFICATIONS

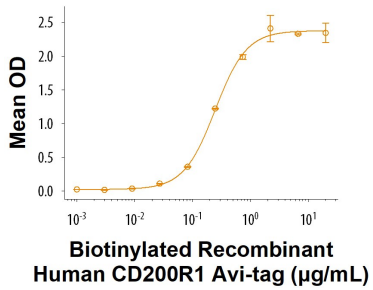
SDS-PAGE	55-65 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD200 Fc Chimera (Catalog # 2724-CD) is immobilized at 0.25 µg/mL (100 µL/well), Biotinylated Recombinant Human CD200R1 Avi-tag His-tag (Catalog # AVI10053) binds with an ED_{50} of 0.150-1.80 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 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.

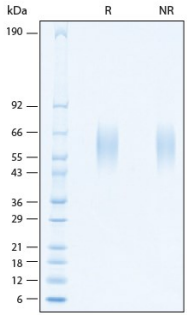
DATA

Binding Activity



Biotinylated Recombinant Human CD200R1 Avi-tag His-tag Protein Binding Activity. When Recombinant Human CD200 Fc Chimera (Catalog # 2724-CD) is immobilized at 0.25 µg/mL (100 µL/well), Biotinylated Recombinant Human CD200R1 Avi-tag His-tag Protein (Catalog # AVI10053) binds with an ED_{50} of 0.150-1.80 µg/mL.

SDS-PAGE



Biotinylated Recombinant Human CD200R1 Avi-tag His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human CD200R1 Avi-tag His-tag Protein (Catalog # AVI10053) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 55-65 kDa.

GLOBAL info@bio-techne.com techsupport@bio-techne.com bio-techne.com/find-us/distributors TEL +1(612) 379 2956
NORTH AMERICA TEL 800 343 7475 • EUROPE | MIDDLE EAST | AFRICA TEL +44 (0)1235 529449
CHINA info.cn@bio-techne.com TEL +86 (21) 52380373

Biotinylated Recombinant Human CD200R1 Avi-tag His-tag

Catalog Number: AVI10053

BACKGROUND

CD200 R1, also known as OX-2 receptor, is a 90 kDa transmembrane protein in the immunoglobulin superfamily and is important in the regulation of myeloid cell activity (1-3). The human CD200 R1 cDNA encodes a 325 amino acid (aa) precursor that includes a 28 aa signal sequence, a 215 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 61 aa cytoplasmic domain. The ECD is composed of one Ig-like V-type domain and one Ig-like C2-type domain (4). Within the ECD, human CD200 R1 shares 56% aa sequence identity with both mouse and rat CD200 R1. Alternate splicing of the human CD200 R1 mRNA generates four isoforms, two of which are truncated in the Ig-C2 domain and are likely secreted (4). In human, a separate CD200 RL gene encodes a protein that shares 81% ECD aa identity with CD200 R1 (5). In mouse, at least four genes for CD200 R1-like molecules have been described (5-7). CD200 R1 expression is restricted primarily to mast cells, basophils, macrophages, and dendritic cells (8-10), while its ligand, CD200, is widely distributed (11). 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). Association of CD200 with CD200 R1 takes place between their respective N-terminal Ig-like domains (13). The capacity of CD200 R1-like molecules to interact with CD200 is controversial (6, 14). CD200 R1 propagates inhibitory signals despite lacking a cytoplasmic ITIM (immunoreceptor tyrosine-based inhibitory motif) (9, 10, 15, 16). CD200 R1-like molecules, in contrast, are potentially activating receptors by means of their association with DAP12 (5, 7). 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 (17). Furthermore, 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 (18). Our Avi-tag Biotinylated human CD200 R1 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:

1. Rosenblum, M.D. *et al.* (2006) J. Dermatol. Sci. **41**:165.
2. Gorczynski, R.M. (2005) Curr. Opin. Invest. Drugs **6**:483.
3. Barclay, A.N. *et al.* (2002) Trends Immunol. **23**:285.
4. Vieites J.M. *et al.* (2003) Gene. Jun**.** 5**; 311**:99.
5. Wright, G.J. *et al.* (2003) J. Immunol. **171**:3034.
6. Hatherley, D. *et al.* (2005) J. Immunol. **175**:2469.
7. Voehringer, D. *et al.* (2004) J. Biol. Chem. **279**:54117.
8. Shiratori, I. *et al.* (2005) J. Immunol. **175**:4441.
9. Cherwinski, H.M. *et al.* (2005) J. Immunol. **174**:1348.
10. Fallarino, F. *et al.* (2004) J. Immunol. **173**:3748.
11. Wright, G.J. *et al.* (2001) Immunology **102**:173.
12. Hoek, R.M. *et al.* (2000) Science **290**:1768.
13. Hatherley, D. and A.N. Barclay (2004) Eur. J. Immunol. **34**:1688.
14. Gorczynski, R. *et al.* (2004) J. Immunol. **172**:7744.
15. Jenmalm, M.C. *et al.* (2006) J. Immunol. **176**:191.
16. Zhang, S. *et al.* (2004) J. Immunol. **173**:6786.
17. Vaine, C.A. *et al.* (2014) Adv Immunol.**121**:191.
18. Hernangómez, M. *et al.* (2014) Curr Pharm Des. **20**:4707.

GLOBAL info@bio-techne.com techsupport@bio-techne.com bio-techne.com/find-us/distributors TEL +1(612) 379 2956
NORTH AMERICA TEL 800 343 7475 • EUROPE | MIDDLE EAST | AFRICA TEL +44 (0)1235 529449
CHINA info.cn@bio-techne.com TEL +86 (21) 52380373