Recombinant Cynomolgus Monkey SIRPβ1/CD172b His-tag

Catalog Number: 10192-SB

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived cynomolgus monkey SIRP beta 1/CD172b protein Glu30-Pro369, with a C-terminal 6-His tag Accession # XP005568593.1
N-terminal Sequence Analysis	Glu30
Predicted Molecular Mass	38 kDa

SPECIFICATIONS

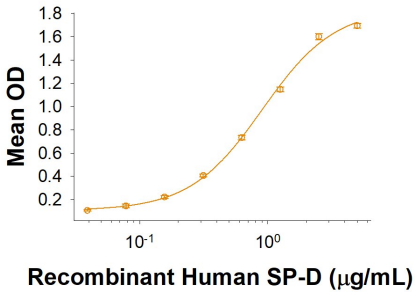
SDS-PAGE	53-68 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Cynomolgus Monkey SIRPβ1/CD172b is immobilized at 1 µg/mL, 100 µL/well, the concentration of Recombinant Human SP-D (Catalog # 1920-SP) that produces 50% of the optimal binding response is 0.15-0.9 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.

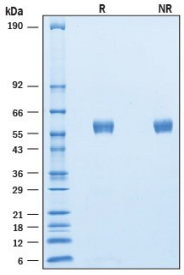
DATA

Binding Activity



When Recombinant Cynomolgus Monkey SIRPβ1/CD172b (Catalog # 10192-SB) is immobilized at 1 µg/mL, 100 µL/well, Recombinant Human SP-D (Catalog # 1920-SP) binds with an ED_{50} of 0.15-0.9 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Cynomolgus Monkey SIRP beta 1/CD172b His-tag was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® blue staining, showing bands at 53-68 kDa.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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BACKGROUND

Signal-regulatory protein beta 1 (SIRP beta 1) is a disulfide-linked type I membrane glycoprotein that belongs to the SIRP/SHPS (CD172) family of the immunoglobulin (Ig) superfamily (1). Mature cynomolgus SIRP beta 1 consists of a 342 amino acid (aa) extracellular domain (ECD), a 26 aa transmembrane segment, and a short 4 aa cytoplasmic domain. Within the ECD, cynomolgus SIRP beta 1 shares 87% aa sequence identity with human SIRP beta 1. The SIRP family are paired receptors that have similar extracellular domains but differing C-terminal domains and functions (1). Members of this family are characterized by an extracellular region containing a V-set Ig domain containing a J-like sequence and two C1-set Ig domains (2). Positively charged residues within the transmembrane domain mediate interactions with DAP12 proteins which contain immunoreceptor tyrosine-based activation motifs (ITAMs) (3). Proteins in the SIRP family are typically expressed in cells of monocyte, macrophage or dendritic lineages (4). SIRP beta 1 has a relatively short cytoplasmic region and lacks the signaling motifs for association with phosphatases. However, formation of the SIRP beta 1/DAP12 complex in myeloid cells induce tyrosine phosphorylation, mitogen-activated protein kinase activation, and cellular activation (5, 6). Engagement of SIRP beta 1 by specific monoclonal antibodies promoted Fcγ receptor-dependent or -independent phagocytosis in mouse peritoneal macrophages (7). Surfactant protein D (SP-D) has been shown to bind SIRP alpha and SIRP beta 1 in a calcium-dependent and sugar-specific manner on a distinct binding site from CD47 (8). Although the SIRP beta 1 extracellular regions share a high degree of homology with the SIRP alpha, SIRP beta 1 has been shown not to bind CD47 (9).

References:

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