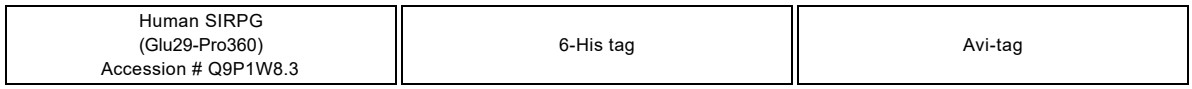
Biotinylated Recombinant Human SIRPγ/CD172g His-tag Avi-tag

Catalog Number: AVI9999

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human SIRP gamma/CD172g protein



N-terminal Sequence Analysis	Glu29
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	39 kDa

SPECIFICATIONS

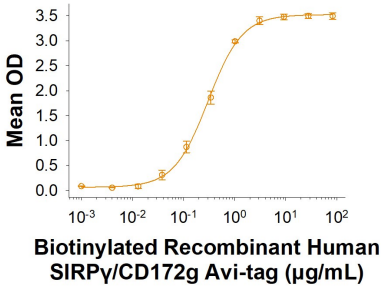
SDS-PAGE	42-49 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human SIRPγ/CD172g His-tag Avi-tag (Catalog # AVI9999) binds Recombinant Human CD47 Fc Chimera (Catalog # 4670-CD) with an ED_{50} of 0.150-3.00 µg/mL.
Endotoxin Level	<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.

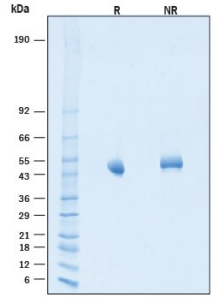
DATA

Binding Activity



Biotinylated Recombinant Human SIRPγ/CD172g His-tag Avi-tag Protein Binding Activity. Biotinylated Recombinant Human SIRPγ/CD172g His-tag Avi-tag Protein (Catalog # AVI9999) binds Recombinant Human CD47 Fc Chimera (Catalog # 4670-CD) with an ED_{50} of 0.150-3.00 µg/mL.

SDS-PAGE



Biotinylated Recombinant Human SIRPγ/CD172g His-tag Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human SIRPγ/CD172g His-tag Avi-tag Protein (Catalog # AVI9999) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 42-49 kDa, under reducing conditions.

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BACKGROUND

Signal regulatory protein gamma (SIRP gamma, designated CD172g), also called SIRP beta 2, is a monomeric 45-47 kDa type I transmembrane protein belonging to the SIRP/SHPS (CD172) family of the Ig superfamily (1-5). SIRP members are "paired receptors" with homology in the extracellular domain but variability in the C-terminus and signaling function (1, 2). The 387 amino acid (aa) SIRP gamma sequence contains a 28 aa potential signal sequence, a 332 aa extracellular domain (ECD) with four potential N-glycosylation sites, a 23 aa transmembrane domain and a 4 aa cytoplasmic sequence. SIRP gamma contains one V-type Ig-like domain that contains a J-like sequence and two C1-type Ig-like domains within its ECD (1, 2). Isoforms that lack one (isoform 2, 276 aa) or two (isoform 3, 170 aa) membrane-proximal C-type Ig-like domains have been described (5). Within the ECD, human SIRP gamma isoform 1 shares 78% aa identity with human SIRP beta 1, and appears to have structurally similar orthologs only in rhesus monkey and chimpanzee (100% and 91% aa identity, respectively) (2). SIRP gamma is the only SIRP known to be expressed on T cells, CD56bright NK cells and activated NK cells; it is not expressed on myeloid cells (5, 6). It shows adhesion to CD47, but at lower affinity than SIRP alpha (6). Expression of SIRP gamma on T cells suggests a role as an accessory protein interacting with CD47-expressing antigen presenting cells (5-7). Unlike SIRP alpha that has cytoplasmic ITIM domains, and SIRP beta 1 that interacts with DAP-12, SIRP gamma does not contain any obvious signaling motif (1, 2, 6). However, SIRP gamma -mediated adhesion appears to promote antigen-specific T cell proliferation and costimulate T cell activation (5). Engagement of CD47 by SIRP gamma was shown to induce apoptosis on T-cell and monocyte cell lines (6). Our Avi-tag Biotinylated Recombinant Human SIRPγ/CD172g His-tag 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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