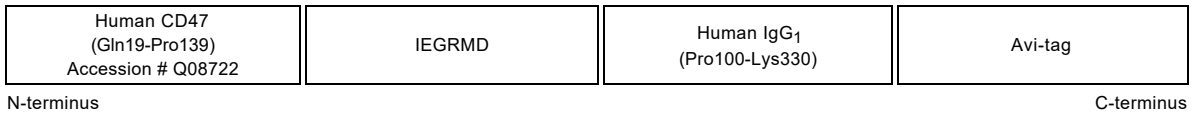
Biotinylated Recombinant Human CD47 Fc Chimera Avi-tag

Catalog Number: AVI4670

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human CD47 protein



N-terminal Sequence Analysis	No results obtained: Gln19 predicted
Structure / Form	Disulfide-linked homodimer, Biotinylated via Avi-tag
Predicted Molecular Mass	42 kDa

SPECIFICATIONS

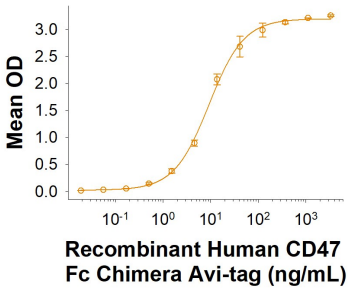
SDS-PAGE	60-70 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human SIRP alpha/CD172a Fc Chimera (Catalog # 4546-SA) is immobilized at 0.1 µg/mL (100 µL/well), the concentration of Recombinant Human CD47 Fc Chimera Avi-tag (Catalog # AVI4670) that produces 50% of the optimal binding response is 6-48 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 100 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.

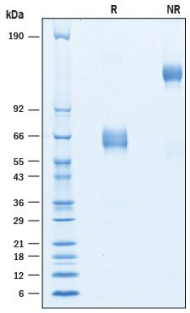
DATA

Bioactivity



When Recombinant Human SIRP alpha/CD172a Fc Chimera (Catalog # 4546-SA) is immobilized at 0.1 µg/mL (100 µL/well), Recombinant Human CD47 Fc Chimera Avi-tag (Catalog # AVI4670) binds with an ED_{50} of 6-48 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Human CD47 Fc Chimera Avi-tag (Catalog # AVI4670) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 60-70 kDa and 120-140 kDa, respectively.

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BACKGROUND

CD47, also known as Integrin-Associated Protein (IAP) and OA3, is a 40-60 kDa variably glycosylated atypical member of the immunoglobulin superfamily (1, 2). Human CD47 is an integral membrane protein that consists of a 123 amino acid (aa) extracellular domain (ECD) with a single Ig-like domain, five membrane-spanning regions with short intervening loops, and a 34 aa C-terminal cytoplasmic tail (3). Alternate splicing of human CD47 generates additional isoforms with deletions in the cytoplasmic tail (3). Within the N-terminal ECD, human CD47 shares 63% aa sequence identity with mouse and rat CD47. A portion of the N-terminal ECD can by shed from smooth muscle cells by MMP-2-mediated proteolysis (4). The ubiquitously expressed CD47 binds to SIRP family members on macrophages, neutrophils, and T cells (5, 6). These interactions prevent macrophage-mediated clearance of healthy CD47-expressing cells and promote immune cell transmigration across the vascular endothelium (5-8). The CD47-SIRPα interaction is species specific, and this lack of cross-species interaction has been implicated in xenotransplantation rejection (16). CD47 associates *in cis* with Fas on T cells and enhances Fas-mediated apoptosis; its ligation promotes T cell anergy and dampens Th1 immune responses (9-11). CD47 also associates *in cis* with Integrins α4β1, αVβ3, α2bβ3, and α2β1 which can positively or negatively modulate Integrin-mediated function (2, 12). In the vasculature, CD47 binding by Thrombospondin-1 inhibits the angiogenic and vasorelaxant effects of nitric oxide (2, 13, 14). On dendritic cells and myeloma cells, CD47 ligation by TSP-1 induces giant cell formation and osteoclast differentiation (15).

References:

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