Recombinant Human CD47 Fc Chimera  
Catalog Number: 4670-CD

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived

Human CD47 (Gln19-Pro139) Accession # Q08722

IEGRMD

Human IgG1 (Pro100-Lys330)

N-terminal Sequence Analysis

No results obtained: Gln19 predicted

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 40.3 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 60-65 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.

When Recombinant Human (rh) SIRPa/CD172a Fc Chimera (Catalog # 4546-SA) is coated at 2 µg/mL, Recombinant Human CD47 Fc Chimera binds with an apparent Kd <1 nM.

Optimal dilutions should be determined by each laboratory for each application.

Also measured by its ability to antagonize red blood cell adhesion to immobilized rhSIRPa Fc Chimera. The ED50 for this effect is 0.5-2.0 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 µg/mL filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 200 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.

BACKGROUND

CD47, also known as Integrin-Associated Protein (IAP) and DA3, is a 40-65 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-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 be 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, αVβ6, and αβ1 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: