Recombinant Human SIRPγ/CD172g His-tag

Catalog Number: 9999-SB

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human SIRP gamma/CD172g protein Glu29-Pro360, with a C-terminal 6-His tag Accession # Q9P1W8
N-terminal Sequence Analysis	Glu29
Predicted Molecular Mass	38 kDa

SPECIFICATIONS

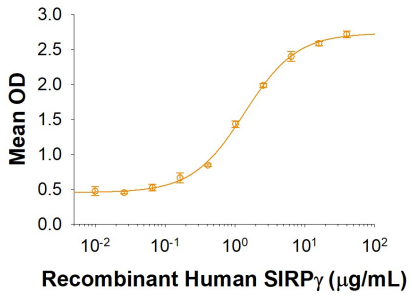
SDS-PAGE	38-48 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD47 Fc Chimera (Catalog # 4670-CD) is immobilized at 0.5 µg/mL (100 µL/well), Recombinant Human SIRPγ/CD172g binds with an ED_{50} of 0.3-3.6 µg/mL.
Endotoxin Level	<0.10 EU 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 with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	• 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

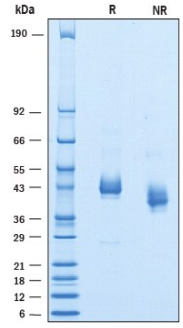
DATA

Binding Activity



When Recombinant Human CD47 Fc Chimera (Catalog # 4670-CD) is immobilized at 0.5 µg/mL, Recombinant Human SIRPγ/CD172g (Catalog # 9999-SB) binds with an ED_{50} of 0.6-3.6 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human SIRPγ/CD172g was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 38-48 kDa.

BACKGROUND

Signal regulatory protein gamma (SIRPγ, designated CD172g), also called SIRPβ2, 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) SIRPγ 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. SIRPγ 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 SIRPγ isoform 1 shares 78% aa identity with human SIRPβ1, and appears to have structurally similar orthologs only in rhesus monkey and chimpanzee (100% and 91% aa identity, respectively) (2). SIRPγ is the only SIRP known to be expressed on T cells, $CD56^{bright}$ 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 SIRPα(6). Expression of SIRP gamma on T cells suggests a role as an accessory protein interacting with CD47-expressing antigen presenting cells (5, 6). Unlike SIRPα that has cytoplasmic ITIM domains, and SIRPβ1 that interacts with DAP-12, SIRPγ does not contain any obvious signaling mechanism (1, 2, 6). However, SIRPγ -mediated adhesion appears to promote antigen-specific T cell proliferation and co-stimulate T cell activation (5). Engagement of CD47 by SIRPγ was shown to induce apoptosis on T-cell and monocyte cell lines (6).

References:

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