Human SIRPγ/CD172g Antibody

Antigen Affinity-purified Polyclonal Sheep IgG

Catalog Number: AF4486

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human SIRPγ/CD172g in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) SIRPα, rhSIRPβ1, and recombinant mouse SIRPα is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human SIRPγ/CD172g Val64-Ser364, (Val263Ala) and (Ser286Leu) Accession # Q9P1W8
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

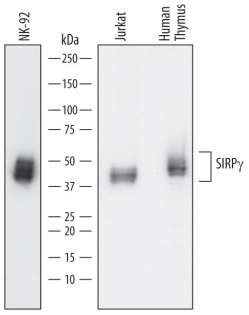
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below
Flow Cytometry	2.5 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

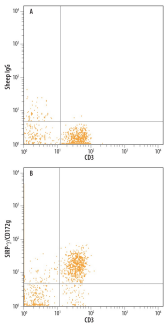
DATA

Western Blot



Detection of Human SIRPγ/CD172g by Western Blot. Western blot shows lysates of NK-92 human natural killer lymphoma cell line, Jurkat human acute T cell leukemia cell line, and human thymus tissue. PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human SIRPγ/CD172g Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4486) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). Specific bands were detected for SIRPγ/CD172g at approximately 45-50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of SIRPγ/CD172g in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Sheep Anti-Human SIRPγ/CD172g Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4486) followed by Phycoerythrin-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0126) and Mouse Anti-Human CD3ε APC-conjugated Monoclonal Antibody (Catalog # FAB100A). Quadrant markers were set based on control antibody staining (Catalog # 5-001-A).

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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 gamma (SIRPγ, designated CD172g), also called SIRPβ2, is a monomeric 45-47 kDa type I transmembrane glycoprotein 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 SIRPγ 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 costimulate T cell activation (5).

References:

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