

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human SIRP $\alpha$ /CD172a in direct ELISAs and Western blots. In direct ELISAs, 50-100% cross-reactivity with recombinant human (rh) SIRP $\beta$ 1 and no cross-reactivity with rhSIRP $\beta$ 2 is observed. In Western blots, approximately 10% cross-reactivity with rhSIRP $\beta$ 1 and no cross-reactivity with rhSIRP $\beta$ 2 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 602411
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human SIRP $\alpha$ /CD172a Gly27-Asn370 (predicted) Accession # P78324
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

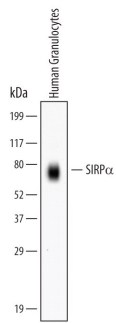
**APPLICATIONS**

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	2 $\mu$ g/mL	See Below
<b>Flow Cytometry</b>	2.5 $\mu$ g/10 <sup>6</sup> cells	See Below
<b>Immunocytochemistry</b>	8-25 $\mu$ g/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

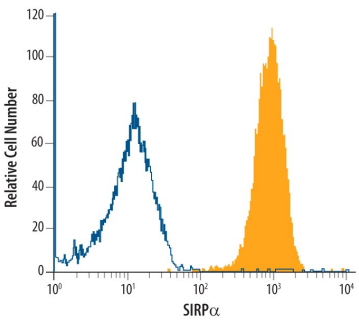
**DATA**

**Western Blot**



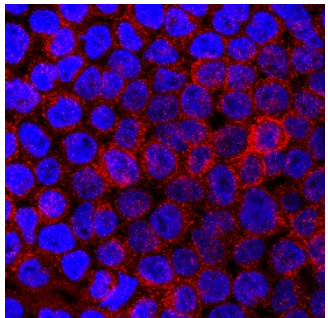
**Detection of Human SIRP $\alpha$ /CD172a by Western Blot.** Western blot shows lysates of human granulocytes. PVDF Membrane was probed with 2  $\mu$ g/mL of Mouse Anti-Human SIRP $\alpha$ /CD172a Monoclonal Antibody (Catalog # MAB4546) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for SIRP $\alpha$ /CD172a at approximately 70 kDa (as indicated). This experiment was conducted under non-reducing conditions and using Immunoblot Buffer Group 1.

**Flow Cytometry**



**Detection of SIRP $\alpha$ /CD172a in U937 Human Cell Line by Flow Cytometry.** U937 human histiocytic lymphoma cell line was stained with Mouse Anti-Human SIRP $\alpha$ /CD172a Monoclonal Antibody (Catalog # MAB4546, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # F0101B).

**Immunocytochemistry**



**SIRP $\alpha$ /CD172a in THP-1 Human Cell Line.** SIRP $\alpha$ /CD172a was detected in immersion fixed THP-1 human acute monocytic leukemia cell line using Mouse Anti-Human SIRP $\alpha$ /CD172a Monoclonal Antibody (Catalog # MAB4546) at 10  $\mu$ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI. Specific staining was localized to cell membranes. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

SIRP $\alpha$  (Signal regulatory protein alpha; also SHPS1 and BIT) is a variably glycosylated 90-120 kDa member of the SIRP family of proteins. It is widely expressed, being found on neurons, microglia/macrophages, endothelium, and fibroblasts. SIRP $\alpha$  has a variety of functions, including presynaptic organization, inhibition of integrin action, and induction of myogenesis. It binds to CD47 and likely other ligands. Mature human SIRP $\alpha$  is a 477 amino acid (aa) type I transmembrane glycoprotein. It contains an extracellular region (aa 27-372) that shows one V-type Ig-like (aa 32-137) and two C2-type Ig-like domains (aa 147-347). Its cytoplasmic domain possesses two ITIMs which interact with protein tyrosine phosphatases. There is one alternative start site at Met102 plus a four aa insertion after Gln421. Over aa 27-370, human SIRP $\alpha$  shares 61% aa identity with mouse SIRP $\alpha$ .