Human SIRPα/CD172a
Alexa Fluor® 647-conjugated Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF4546R
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human SIRPα/CD172a in Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human SIRPα/CD172a Gly27-Asn370 Accession # P78324
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Signal regulatory protein alpha (SIRPα, designated CD172a), also called SHPS-1 (SHP substrate 1) and previously, MyD-1 (Myeloid/Dendritic-1), is a monomeric ~90 kDa type I transmembrane glycoprotein that belongs to the SIRP/SHPS (CD172) family of the immunoglobulin superfamily (1-4). SIRPs are paired receptors, with similar extracellular domains but differing C-termini and functions (1, 2). The 503 amino acid (aa) human SIRPα contains a 342 aa extracellular domain (ECD), with one V-type, and two C1 type Ig domains, and three potential N glycosylation sites. It has a 110 aa cytoplasmic sequence with ITIM motifs that recruit tyrosine phosphatases SHP-1 and SHP-2 when phosphorylated (4). Human SIRPα has more than 40 described polymorphisms, including the prominent BIT (Brain Ig like molecule with Tyrosine-based activation motifs, also called $SIRPα_2$ or PTPNS) (5). One reported isoform lacks aa 1-101, which eliminates most of the V type Ig domain. Human SIRPα ECD shares 61%, 60%, 71%, 72% and 73% aa identity with mouse, rat, porcine, bovine and equine SIRPα, respectively; it shares 84% and 76% aa identity with human SIRPβ1 and SIRPγ, respectively (2). SIRPα is expressed mainly on myeloid cells, including macrophages, neutrophils, dendritic and Langerhans cells (3-6). It is also found on neurons, smooth muscle and endothelial cells (7-9). SIRPα shows adhesion to the ubiquitous CD47/IAP (integrin associated protein), while SIRPγ binds more weakly and SIRPα1 does not bind at all (1, 2). Mouse and human SIRPα-CD47 binding only cross-reacts for specific polymorphisms and influences engraftment of xenotransplanted stem cells (6, 10). SIRPα engagement generally produces a negative regulatory signal (4). Low SIRPα recognition of CD47, which occurs on aged erythrocytes or platelets or xenogenic cells, promotes clearance of $CD47^{low}$ cells from circulation (11, 13). SIRPα recognition of surfactants SP-A and SP-D in the lung can inhibit alveolar macrophage cytokine production (14). The CD47 integrin-SIRPα interaction is reported to promote macrophage fusion during osteoclastogenesis (15).

PRODUCT SPECIFIC NOTICES

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