

SIRP- α / β 1 (N-19): sc-6921

BACKGROUND

SIRPs (signal-regulatory proteins) are a family of transmembrane glycoproteins that were identified by their association with the Src homology 2 domain-containing protein-tyrosine phosphatase SHP-2 in response to Insulin. The SIRP family negatively regulates the PI 3-K pathway, which may diminish EGFR-mediated motility and survival phenotypes that contribute to transformation of certain cell types. SIRP- α is a transmembrane protein which contains an extracellular portion with three immunoglobulin-like structures and a cytoplasmic region with four potential tyrosine phosphorylation sites. SIRP- α is a substrate for activated receptor tyrosine kinases. In its tyrosine phosphorylated form, SIRP- α binds to SH-PTP2 through SH2 interactions and acts as an SH-PTP2 substrate. SIRP- α has been shown to have negative regulatory effects on cellular responses induced by growth factors, oncogenes and insulin. SIRP- β 1 shares extensive sequence homology with SIRP- α in its extracellular portion but lacks the cytoplasmic portion. SIRP- γ , originally designated SIRP- β 2 (SIRP-B2, CD172g) has unique characteristics from both the α and β versions. SIRP- γ is expressed on the majority of T cells and a proportion of B cells. CD47 associates with SIRP- γ , and this interaction signals unidirectionally only.

REFERENCES

1. Yamauchi, K., et al. 1995. Identification of the major SHPTP2-binding protein that is tyrosine-phosphorylated in response to Insulin. *J. Biol. Chem.* 270: 17716-17722.
2. Fujioka, Y., et al. 1996. A novel membrane glycoprotein, SHPS-1, that binds the SH2-domain-containing tyrosine phosphatase SHP-2 in response to mitogens and cell adhesion. *Mol. Cell. Biol.* 16: 6887-6899.
3. Kharitonov, A., et al. 1997. A family of proteins that inhibit signalling through tyrosine kinase receptors. *Nature* 386: 181-186.
4. Stofega, M.R., et al. 1998. Growth hormone regulation of SIRP and SHP-2 tyrosyl phosphorylation and association. *J. Biol. Chem.* 273: 7112-7117.

CHROMOSOMAL LOCATION

Genetic locus: SIRPA/SIRPB1 (human) mapping to 20p13.

SOURCE

SIRP- α / β 1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SIRP- α of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6921 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

SIRP- α / β 1 (N-19) is recommended for detection of SIRP- α and SIRP- β 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SIRP- α / β 1 (N-19) is also recommended for detection of SIRP- α and SIRP- β 1 in additional species, including canine.

Suitable for use as control antibody for SIRP- α / β 1/ γ siRNA (h): sc-36492, SIRP- α / β 1/ γ shRNA Plasmid (h): sc-36492-SH and SIRP- α / β 1/ γ shRNA (h) Lentiviral Particles: sc-36492-V.

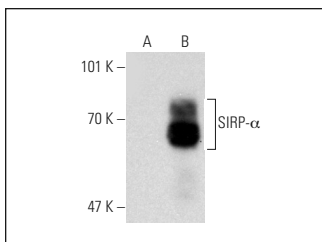
Molecular Weight of unglycosylated SIRP- α : 65 kDa.

Molecular Weight of glycosylated SIRP- α : 100-150 kDa.

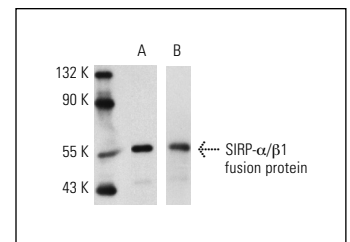
Molecular Weight of SIRP- β : 55 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, SIRP- α (h): 293T Lysate: sc-159295 or HL-60 whole cell lysate: sc-2209.

DATA



SIRP- α / β 1 (N-19): sc-6921. Western blot analysis of SIRP- α expression in non-transfected: sc-117752 (A) and human SIRP- α transfected: sc-159295 (B) 293T whole cell lysates.



Western blot analysis of human recombinant SIRP- α / β 1 fusion protein. Antibodies tested include SIRP- α / β 1 (H-300): sc-11374 (A) and SIRP- α / β 1 (N-19): sc-6921 (B).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **SIRP- α / β (A-1): sc-17803** or **SIRP- α / β 1 (E-7): sc-55491**, our highly recommended monoclonal alternatives to SIRP- α / β 1 (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **SIRP- α / β (A-1): sc-17803**.