SANTA CRUZ BIOTECHNOLOGY, INC.

SIRP-α (C-7): sc-376884

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-kinase pathway, which may diminish EGFR-mediated motility and survival phenotypes that contribute to transformation of certain cell types. SIRP-α1 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 (also known as SIRP-α1, SIRP-α2 or SIRP-α3) 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-β1 shares extensive sequence homology with SIRP-α in its extracellular portion but lacks the cytoplasmic portion. SIRP-γ, originally designated SIRP-β2 (SIRP-B2, CD172γ) 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.

REFERENCE

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.

CHROMOSOMAL LOCATION

Genetic locus: SIRPA (human) mapping to 20p13; Sirpa (mouse) mapping to 2 F1.

SOURCE

SIRP-α (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 475-503 at the C-terminus of SIRP-α of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SIRP-α (C-7) is available conjugated to agarose (sc-376884 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376884 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376884 PE), fluorescein (sc-376884 FITC), Alexa Fluor® 488 (sc-376884 AF488), Alexa Fluor® 546 (sc-376884 AF546), Alexa Fluor® 594 (sc-376884 AF594) or Alexa Fluor® 647 (sc-376884 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376884 AF680) or Alexa Fluor® 790 (sc-376884 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376884 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SIRP-α (C-7) is recommended for detection of SIRP-α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

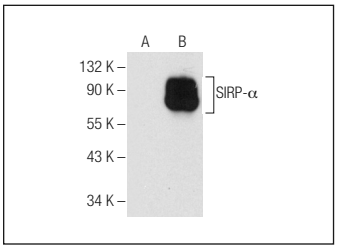
Suitable for use as control antibody for SIRP-α siRNA (h): sc-44106, SIRP-α siRNA (m): sc-36493, SIRP-α siRNA (r): sc-270499, SIRP-α shRNA Plasmid (h): sc-44106-SH, SIRP-α shRNA Plasmid (m): sc-36493-SH, SIRP-α shRNA Plasmid (r): sc-270499-SH, SIRP-α shRNA (h) Lentiviral Particles: sc-44106-V, SIRP-α shRNA (m) Lentiviral Particles: sc-36493-V and SIRP-α shRNA (r) Lentiviral Particles: sc-270499-V.

Molecular Weight of unglycosylated SIRP-α: 65 kDa.

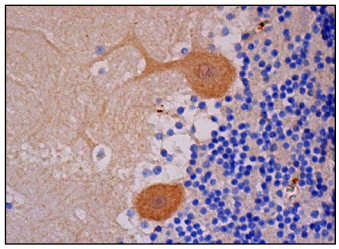
Molecular Weight of glycosylated SIRP-α: 100-150 kDa.

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

DATA



SIRP-α (C-7): sc-376884. 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.



SIRP-α (C-7): sc-376884. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells.

SELECT PRODUCT CITATIONS

1. Deshpande, R.P., et al. 2017. SIRP-α protein downregulates in human astrocytoma: presumptive involvement of Hsa-miR-520d-5p and Hsa-miR-520d-3p. Mol. Neurobiol. 54: 8162-8169.
2. Ghimire, K., et al. 2019. Deficiency in SIRP-α cytoplasmic recruitment confers protection from acute kidney injury. FASEB J. 33: 11528-11540.

STORAGE

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

RESEARCH USE

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