SANTA CRUZ BIOTECHNOLOGY, INC.

SIRP-α (OX41): sc-53115

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-α1 is a substrate for activated receptor tyrosine kinases. In its tyrosine phosphorylated form, SIRP-α1 binds to SH-PTP2 through SH2 interactions and acts as an SH-PTP2 substrate. SIRP-α1 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-α1 in its extracellular portion but lacks the cytoplasmic portion. SIRP-γ, originally designated SIRP-β2 (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. Milarski, K.L., et al. 1994. Expression of catalytically inactive SYP phosphatase in 3T3 cells blocks stimulation of mitogen-activated protein kinase by Insulin. J. Biol. Chem. 269: 21239-21243.
2. 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.
3. Yamauchi, K., et al. 1995. Protein-tyrosine-phosphatase SHPTP2 is a required positive effector for Insulin downstream signaling. Proc. Natl. Acad. Sci. USA 92: 664-668.
4. Tang, T.L., et al. 1995. The SH2-containing protein-tyrosine phosphatase SH-PTP2 is required upstream of MAP kinase for early *Xenopus* development. Cell 80: 473-483.

CHROMOSOMAL LOCATION

Genetic locus: Sirpa (mouse) mapping to 2 F1.

SOURCE

SIRP-α (OX41) is a mouse monoclonal antibody raised against peritoneal macrophages of rat 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 (OX41) is available conjugated to either phycoerythrin (sc-53115 PE) or fluorescein (sc-53115 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

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 (OX41) is recommended for detection of SIRP-α of mouse and rat origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for SIRP-α siRNA (m): sc-36493, SIRP-α siRNA (r): sc-270499, SIRP-α shRNA Plasmid (m): sc-36493-SH, SIRP-α shRNA Plasmid (r): sc-270499-SH, 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.

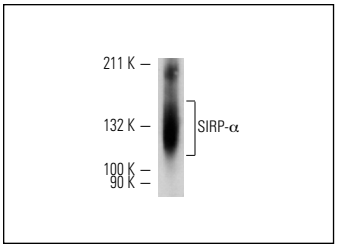
Molecular Weight of glycosylated SIRP-α: 100-150 kDa.

Positive Controls: rat PBL whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SIRP-α (OX41): sc-53115. Western blot analysis of SIRP-α expression in rat PBL whole cell lysate under non-reducing conditions.

RESEARCH USE

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

CONJUGATES

See **SIRP-α/β (A-1): sc-17803** for SIRP-α/β antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.