SANTA CRUZ BIOTECHNOLOGY, INC.

IRS-4 (C-1): sc-373778

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Insulin receptor substrate (IRS) proteins are key components in signaling from the Insulin receptor. IRS-4 is the most recently characterized member of the IRS family and has an undefined *in vivo* function. Phosphorylated IRS-4 associates with phosphatidylinositol 3-kinase (PI3-kinase), involved in Insulin-stimulated DNA synthesis, GH-induced tyrosine phosphorylation of IRS-4 and nuclear translocation of Stat5. IRS-4 also associates with IRAS which, when overexpressed, enhances IRS-4-dependent Insulin stimulation of PI3-kinase. The IRS-4 protein exhibits a limited fiber type specific expression in heart and skeletal muscle tissue and has not yet been detected in any mouse or primary human tissue. The absence of IRS-4 in mice causes mild defects in growth, reproduction and glucose homeostasis, while overexpression of IRS-4 increases basal PI3-kinase activity and Akt phosphorylation. Defects in IRS-4-null mice may result from a lower overall blood glucose concentration.

REFERENCES

1. Fantin, V.R., et al. 2000. Mice lacking Insulin receptor substrate 4 exhibit mild defects in growth, reproduction and glucose homeostasis. Am. J. Physiol. Endocrinol. Metab. 278: E127-E133.
2. Tsuruzoe, K., et al. 2001. Insulin receptor substrate 3 (IRS-3) and IRS-4 impair IRS-1- and IRS-2-mediated signaling. Mol. Cell. Biol. 21: 26-38.
3. Sano, H., et al. 2002. Insulin receptor substrate 4 associates with the protein IRAS. J. Biol. Chem. 277: 19439-19447.
4. Schreyer, S., et al. 2003. Insulin receptor substrate-4 is expressed in muscle tissue without acting as a substrate for the Insulin receptor. Endocrinology 144: 1211-1218.

CHROMOSOMAL LOCATION

Genetic locus: IRS4 (human) mapping to Xq22.3.

SOURCE

IRS-4 (C-1) is a mouse monoclonal antibody raised against amino acids 958-1257 mapping at the C-terminus of IRS-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IRS-4 (C-1) is available conjugated to agarose (sc-373778 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373778 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373778 PE), fluorescein (sc-373778 FITC), Alexa Fluor® 488 (sc-373778 AF488), Alexa Fluor® 546 (sc-373778 AF546), Alexa Fluor® 594 (sc-373778 AF594) or Alexa Fluor® 647 (sc-373778 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373778 AF680) or Alexa Fluor® 790 (sc-373778 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF 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

IRS-4 (C-1) is recommended for detection of IRS-4 of 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 IRS-4 siRNA (h): sc-35715, IRS-4 shRNA Plasmid (h): sc-35715-SH and IRS-4 shRNA (h) Lentiviral Particles: sc-35715-V.

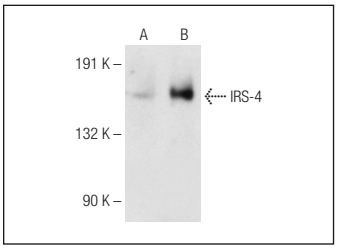
Molecular Weight of IRS-4: 160 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, IRS-4 (h): 293T Lysate: sc-176236 or HeLa whole cell lysate: sc-2200.

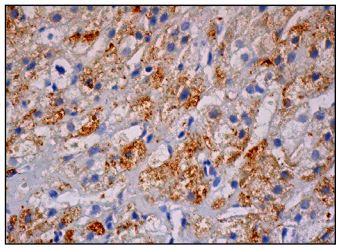
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



IRS-4 (C-1): sc-373778. Western blot analysis of IRS-4 expression in non-transfected: sc-117752 (**A**) and human IRS-4 transfected: sc-176236 (**B**) 293T whole cell lysates.



IRS-4 (C-1): sc-373778. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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

PROTOCOLS

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

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