SANTA CRUZ BIOTECHNOLOGY, INC.

IRS-4 (C-19): sc-8189

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., Wang, Q., Lienhard, G.E., Keller, S.R. 2000. Mice lacking Insulin receptor substrate 4 exhibit mild defects in growth, reproduction and glucose homeostasis. Am. J. Physiol. Endocrinol. Metab. 278: E127-133.
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., Liu, S.C., Lane, W.S., Piletz, J.E., Lienhard, G.E. 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.
5. Urso, B., et al. 2003. IRS-4 mediated mitogenic signalling by Insulin and growth hormone in LB cells, a murine T-cell lymphoma devoid of IGF-1 receptors. Cell Signal. 15: 385-394.

CHROMOSOMAL LOCATION

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

SOURCE

IRS-4 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IRS-4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8189 P, (100 µg 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

IRS-4 (C-19) is recommended for detection of IRS-4 of human and, to a lesser extent, 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) 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.

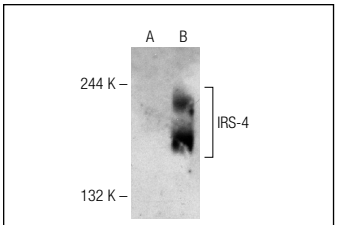
Molecular Weight of IRS-4: 160 kDa.

Positive Controls: IRS-4 (h): 293T Lysate: sc-176236.

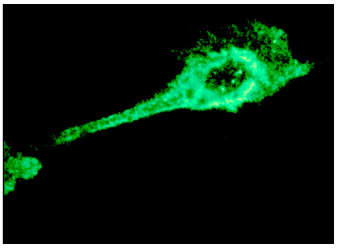
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IRS-4 (C-19): sc-8189. 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-19): sc-8189. Immunofluorescence staining of methanol-fixed SK-MEL-24 cells showing cytoplasmic localization.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **IRS-4 (C-1): sc-373778** or **IRS-4 (C-4): sc-393207**, our highly recommended monoclonal alternatives to IRS-4 (C-19).