SANTA CRUZ BIOTECHNOLOGY, INC.

IRS-2 (H-205): sc-8299

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IRS-2, originally described as 4PS, acts as a signaling intermediate downstream of the Insulin, IGF-1, IL-4, IL-9 and IL-13 receptors. In IRS-2-deficient mice, reduction in total PI 3-kinase activity by 30% and abolition of downstream activation of protein kinase C (PKC) ζ leads to the development of type 2 diabetes. Additionally, reconstitution with retroviral IRS-2 restores IRS-2/PI 3-kinase/PKC ζ signalling as well as glucose uptake. IRS-2 translocates to the nuclei of mouse embryo fibroblasts expressing the Insulin-like growth factor 1 receptor. Various mutations in the IGF-IR can result in an abrogation of or decrease in the translocation of IRS proteins to the nucleoli. IRS-2 is responsible for mitogen-activated protein kinase (MAPK) and protein kinase B (PKB) activation by Insulin and is the major adapter molecule linking the Insulin receptor to this step.

CHROMOSOMAL LOCATION

Genetic locus: IRS2 (human) mapping to 13q34; Irs2 (mouse) mapping to 8 A1.1.

SOURCE

IRS-2 (H-205) is a rabbit polyclonal antibody raised against amino acids 926-1130 of IRS-2 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.

IRS-2 (H-205) is available conjugated to agarose (sc-8299 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

APPLICATIONS

IRS-2 (H-205) is recommended for detection of IRS-2 of mouse, rat and human 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).

IRS-2 (H-205) is also recommended for detection of IRS-2 in additional species, including canine.

Suitable for use as control antibody for IRS-2 siRNA (h): sc-29378, IRS-2 siRNA (m): sc-35714, IRS-2 shRNA Plasmid (h): sc-29378-SH, IRS-2 shRNA Plasmid (m): sc-35714-SH, IRS-2 shRNA (h) Lentiviral Particles: sc-29378-V and IRS-2 shRNA (m) Lentiviral Particles: sc-35714-V.

Molecular Weight of IRS-2: 165-185 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, HeLa whole cell lysate: sc-2200 or 3T3-L1 cell lysate: sc-2243.

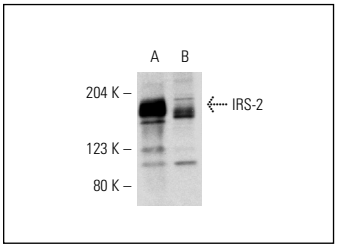
RESEARCH USE

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

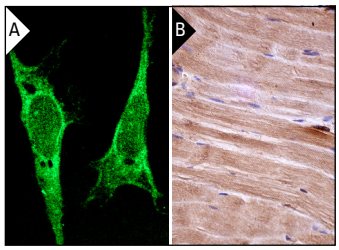
STORAGE

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

DATA



IRS-2 (H-205): sc-8299. Western blot analysis of IRS-2 expression in HeLa (**A**) and 3T3-L1 (**B**) whole cell lysates.



IRS-2 (H-205): sc-8299. Immunofluorescence staining of methanol-fixed 3T3-L1 cells showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (**B**).

SELECT PRODUCT CITATIONS

1. Gao, Z., et al. 2002. Serine phosphorylation of Insulin receptor substrate 1 by inhibitor κB kinase complex. J. Biol. Chem. 277: 48115-48121.
2. Tong, K.M., et al. 2008. Leptin induces IL-8 expression via leptin receptor, IRS-1, PI 3-K, Akt cascade and promotion of NFκB/p300 binding in human synovial fibroblasts. Cell. Signal. 20: 1478-1488.
3. Colomiere, M., et al. 2009. Defective Insulin signaling in placenta from pregnancies complicated by gestational diabetes mellitus. Eur. J. Endocrinol. 160: 567-578.
4. Taghibiglou, C., et al. 2009. Mechanisms involved in cholesterol-induced neuronal Insulin resistance. Neuropharmacology 57: 268-276.
5. Kim, J.W., et al. 2010. Induction of Insulin receptor substrate-2 expression by Fc fusion to exendin-4 overexpressed in *E. coli:* a potential long-acting glucagon-like peptide-1 mimetic. BMB Rep. 43: 146-149.
6. Toyoshima, Y., et al. 2010. Dietary protein deprivation upregulates Insulin signaling and inhibits gluconeogenesis in rat liver. J. Mol. Endocrinol. 45: 329-340.
7. Georgescu, A., et al. 2011. Dysfunction of human subcutaneous fat arterioles in obesity alone or obesity associated with Type 2 diabetes. Clin. Sci. 120: 463-472.
8. Chirivella, L., et al. 2012. IRS2 signalling is required for the development of a subset of sensory spinal neurons. Eur. J. Neurosci. 35: 341-352.