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SANTA CRUZ BIOTECHNOLOGY, INC.

IRS-1 (h): 293T Lysate: sc-116569

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Insulin receptor substrate-1 (IRS-1), a protein major substrate of the Insulin receptor, is phosphorylated in response to stimulation of cells by Insulin, Insulin-like growth factor 1 (IGF-1) and interleukin 4 (IL-4). IRS-1 is phosphorylated on serine, threonine and tyrosine residues in a variety of tissues. An Insulin-sensitive serine/threonine kinase casein kinase II mediates a portion of the Insulin-stimulated serine/threonine phosphorylation of overexpressed IRS-1 *in vivo*. Thr 502 is identified as the major casein kinase II-catalyzed phosphorylation site in rat IRS-1, and Ser 99 is an additional phosphorylation site catalyzed by casein kinase II. Thus, casein kinase II-catalyzed phosphorylation of IRS-1 may be a component of the intracellular Insulin signaling cascade. IRS-1 contains three putative binding sites for 14-3-3 (Ser 270, Ser 374 and Ser 641) and the motif around Ser 270 is located in the phosphotyrosine binding domain of IRS-1, which is responsible for the interaction with the Insulin receptor. The association of 14-3-3 with IRS-1 increases significantly upon treatment with okadaic acid, a potent serine/threonine phosphatase inhibitor. Therefore, the association of 14-3-3 protein may play a role in the regulation of Insulin sensitivity by interrupting the association between the Insulin receptor and IRS-1.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: IRS1 (human) mapping to 2q36.3.

PRODUCT

IRS-1 (h): 293T Lysate represents a lysate of human IRS-1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

IRS-1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive IRS-1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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