



## IRS-3 (S-20): sc-8187

### BACKGROUND

Insulin receptor substrate (IRS) proteins play important roles in insulin action and pancreatic  $\beta$ -cell function. IRS-3, identified only in rodents, shows robust and prolonged tyrosine phosphorylation upon Insulin treatment of cells and may play a role in delayed and prolonged Insulin actions. IRS-3 interacts with phosphatidylinositol 3-kinase in adipocytes and hepatoma cells and contains pleckstrin and phosphotyrosine binding domains which are highly homologous to domains in IRS-1 and IRS-2. IRS-3 exhibits an expression pattern which differs from other IRS proteins. During both the embryonic development and adult life of the mouse, p53 inhibits the IRS-3 promoter, while tumor-derived p53 mutants derepress the same promoter. GFP-IRS-3 fusion protein and endogenous rat IRS-3 localize in both the plasma membrane and the nucleus, indicating that intracellular localization of IRS-3 is determined by a different mechanism from other IRS proteins.

### REFERENCES

1. Lavan, B.E., et al. 1997. The 60 kDa phosphotyrosine protein in Insulin-treated adipocytes is a new member of the Insulin receptor substrate family. *J. Biol. Chem.* 272: 11439-11441.
2. Choi, W.S., et al. 2000. Characterization of Insulin receptor substrate 3 in rat liver derived cells. *Biochem. Biophys. Res. Commun.* 272: 953-958.
3. Sciacchitano, S., et al. 2002. Cloning of the mouse receptor substrate-3 (mIRS-3) promoter, and its regulation by p53. *Mol. Endocrinol.* 16: 1577-1589.
4. Kabuta, T., et al. 2002. Insulin receptor substrate-3 functions as transcriptional activator in the nucleus. *J. Biol. Chem.* 277: 6846-6851.
5. Bjornholm, M., et al. 2002. Absence of functional Insulin receptor substrate-3 (IRS-3) gene in humans. *Diabetologia* 45: 1697-1702.

### CHROMOSOMAL LOCATION

Genetic locus: Irs3 (mouse) mapping to 5 G2.

### SOURCE

IRS-3 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IRS-3 of rat origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8187 P, (100  $\mu$ g 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

### APPLICATIONS

IRS-3 (S-20) is recommended for detection of IRS-3 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-3 siRNA (m): sc-40974, IRS-3 shRNA Plasmid (m): sc-40974-SH and IRS-3 shRNA (m) Lentiviral Particles: sc-40974-V.

Molecular Weight of IRS-3: 60 kDa.

### 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) 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.

### SELECT PRODUCT CITATIONS

1. Bose, S., et al. 2007. Molecular mechanism of bis(maltolato)oxovanadium (IV)-induced Insulin signaling in 3T3-L1 and IM9 cells: impact of dexamethasone. *J. Mol. Endocrinol.* 38: 627-649.

### RESEARCH USE

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