

IRS-1 Antibody
Catalog # ASC10324

Specification

IRS-1 Antibody - Product Information

Application	WB, ICC, IF
Primary Accession	P35568
Other Accession	P35568 , 547738
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	IRS-1 antibody can be used for the detection of IRS-1 by Western blot at 1 - 4 µg/mL. Antibody can also be used for immunocytochemistry starting at 2 µg/mL. For immunofluorescence start at 2 µg/mL.

IRS-1 Antibody - Additional Information

Gene ID	3667
Other Names	
IRS-1 Antibody: HIRS-1, Insulin receptor substrate 1, IRS-1, insulin receptor substrate 1	

Target/Specificity
IRS1;

Reconstitution & Storage

IRS-1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions

IRS-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

IRS-1 Antibody - Protein Information

Name IRS1

Function

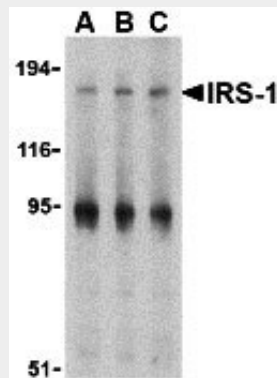
May mediate the control of various cellular processes by insulin. When phosphorylated by the insulin receptor binds specifically to various cellular proteins containing SH2 domains such as phosphatidylinositol 3-kinase p85 subunit or GRB2. Activates phosphatidylinositol 3-kinase when bound to the regulatory p85 subunit (By similarity).

IRS-1 Antibody - Protocols

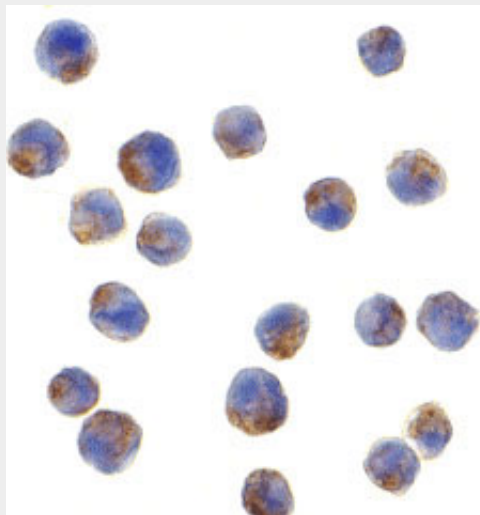
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

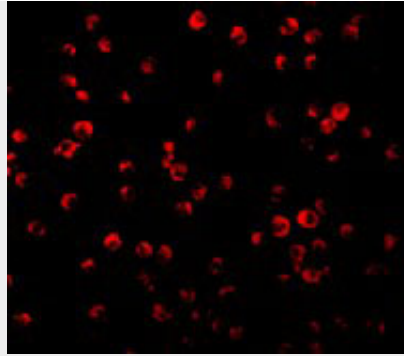
IRS-1 Antibody - Images



Western blot analysis of IRS-1 in PC-3 cell lysate with IRS-1 antibody at (A) 1, (B) 2 and (C) 4 $\mu\text{g/mL}$.



Immunocytochemistry of IRS-1 in P815 cells with IRS-1 antibody at 2 $\mu\text{g/mL}$.



Immunofluorescence of IRS-1 in P815 cells with IRS-1 antibody at 2 μ g/mL.

IRS-1 Antibody - Background

IRS-1 Antibody: Following tyrosine phosphorylation, the insulin receptor substrate 1 and 2 (IRS-1 and IRS-2) can form a protein scaffolding for the assembly of a host of Src homology 2 (SH2) domain-containing proteins. IRS-1 tyrosine phosphorylation can occur through the activity of several cytokine and growth factor receptors such as interleukin (IL)-4, IL-9, interferon-gamma, in addition to the insulin and insulin-like growth factor 1 receptors. The scaffolding provided by IRS-1 and IRS-2 is necessary for insulin signal transduction across the cell membrane. IRS-1 tyrosine phosphorylation, and thus formation of the IRS scaffolding is inhibited by tumor necrosis factor (TNF), and this inhibition can itself be blocked by rapamycin, an inhibitor of the mammalian target of rapamycin (TOR). TNF activity could also be blocked by inhibition of the Akt kinase and the PTEN tumor suppressor, suggesting that TNF impairs insulin signaling through IRS-1 by activation of the TOR signaling pathway.

IRS-1 Antibody - References

Giovannone B, Scaldaferrri ML, Federici M, et al. Insulin receptor substrate (IRS) transduction system: distinct and overlapping signaling potential. *Diabetes Metab. Res. Rev.* 2000; 16:434-41.
Waters SB and Pessin JE. Insulin receptor substrate 1 and 2 (IRS1 and IRS2): what a tangled web we weave. *Trends in Cell Biol.* 1996; 6:1-4.
Ozes ON, Akca H, Mayo LD, et al. A phosphatidylinositol 3-kinase/Akt/mTOR pathway mediates and PTEN antagonizes tumor necrosis factor inhibition of insulin signaling through insulin receptor substrate-1. *Proc. Natl. Acad. Sci. USA* 2001; 98:4640-5.
Shamji AF, Ngheim P, and Schreiber SL. Integration of growth factor and nutrient signaling: implications for cancer biology. *Mol. Cell* 2003; 12:271-80.