

BACKGROUND

The insulin receptor substrate (IRS) proteins are cytoplasmic docking proteins that function as essential signaling intermediates downstream of activated cell surface receptors. The IRS proteins do not contain intrinsic kinase activity but rather function by organizing signaling complexes to initiate intracellular signaling cascades. The insulin receptor substrate-2 (IRS-2) is a protein homologous to IRS-1, originally identified as a protein phosphorylated in response to interleukin-4.¹ It is a major insulin signaling molecule. The initial mechanism of insulin action involves its binding to specific cell surface receptors leading to the autophosphorylation and activation of an intrinsic tyrosine kinase associated with the beta-receptor subunit. IRS proteins (IRS-1 and IRS-2) are substrates for the insulin receptor and other tyrosine kinases associated with the receptors of growth factors and cytokines.² IRS proteins act as an interface between activated receptors and signaling proteins with Src homology 2 (SH2) domains. After insulin stimulation, IRS-1 and IRS-2 associate with several proteins including phosphatidylinositol (PI) 3- kinase, Syp, Nck, Grb2, and Fyn,³ which mediate the downstream insulin signaling. IRS-2 inactivation in mice induces a form of diabetes characterized by peripheral insulin resistance and reduced beta cell mass.

References:

1. Wang, L. M. et al : EMBO J. 11 : 4899, 1992.
2. Dearth, R. K. et al: Cell Cycle. 6:705,2007.
3. Wick, K. R. et al: J. Biol. Chem. 278:8460, 2003.

TECHNICAL INFORMATION

Source:

Anti-IRS-2 is a rabbit polyclonal antibody raised against a KLH-conjugated peptide containing human IRS-2 sequence close to its C-terminal end.

Specificity and Sensitivity:

This antibody specifically detects endogenous levels of IRS-2 proteins. This antibody does not cross-react with other IRS family members.

Storage Buffer: 0.1 M PBS (pH 7.2), 0.1% glycine, 0.1% sodium azide, 0.1% BSA, 50% glycerol.

Storage:

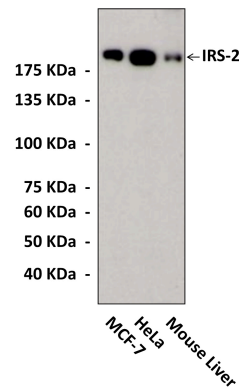
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	n/d
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Specific detection of IRS-2 proteins from MCF-7, HeLa, and mouse liver cell lysates in Western blot analysis using IRS-2 Antibody.

