Anti-phospho-Insulin Receptor Substrate-2 (IRS-2) (pSer\textsuperscript{731})
Developed in Rabbit, Affinity Isolated Antibody

Product Number I 2783

Product Description
Anti-phospho-Insulin Receptor Substrate-2 (IRS-2) (pSer\textsuperscript{731}) is developed in rabbit using a synthetic phosphorylated peptide derived from the region of Insulin Receptor Substrate-2 (IRS-2) phosphorylated at serine 731 as immunogen. Anti-phospho-IRS-2 (pSer\textsuperscript{731}) is preadsorbed to remove any reactivity towards non-phosphorylated IRS-2 protein. The final product is generated by affinity chromatography using an IRS-2-derived peptide that is phosphorylated at serine 731. This site corresponds to serine 133 in mouse, and serine 233 in rat. The antibody recognizes human IRS-2 phosphorylated on serine 731. Anti-phosphoPhospho-IRS-2 (pSer\textsuperscript{731}) recognizes human, mouse and rat (100% homology) IRS-2. It is used in immunoblotting, immunocytochemistry and ELISA applications.

The α subunits of insulin receptor each contain insulin binding sites and are entirely extracellular in localization. Binding of insulin to the α subunits of insulin receptor induces a conformation change in the receptor, which activates the kinase domain, stimulating tyrosine autophosphorylation of the receptor and tyrosine phosphorylation of at least five different insulin receptor substrates designated IRS-1-4 and Shc. This tyrosine phosphorylation produces docking sites for proteins bearing SH2 domains, such as PI3-K, Grb-2, Nck, and Crk. While tyrosine phosphorylation of insulin receptor substrates propagates signaling from insulin, serine and threonine phosphorylation by MAPK’s, PKA, and PKC may reduce insulin signaling. This antibody recognizes IRS-2 when phosphorylated at serine 731.\textsuperscript{1-4}

IRS-2-deficient mice showed increased adiposity and serum leptin levels, which leads to conclusion that IRS-2 gene disruption results in leptin resistance, causing SREBP1 gene induction, obesity, fatty liver, and diabetes.\textsuperscript{3}

Reagent
Anti-phosphoPhospho-IRS-2 (pSer\textsuperscript{731}) is supplied in phosphate buffered saline, pH 7.4, containing 0.02% sodium azide as a preservative.

Storage/Stability
Store at −70 °C. Upon initial thawing freeze the solution in working aliquots for extended storage. Avoid repeated freezing and thawing to prevent denaturing the antibody. Do not store in frost-free freezers. Working dilution samples should be discarded if not used within 12 hours. The antibody is stable for at least 6 months when stored appropriately.

Precautions and Disclaimer
Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Product Profile
A recommended working concentration of 0.5 to 2.0 µg/ml is determined by immunoblotting using serum-treated mouse fibroblasts (3T3) cells. For immunoprecipitation use 3-5 µg of extract from 1X10\textsuperscript{7} cells, and for ELISA use 0.1-1.0 µg/ml.

Note: In order to obtain best results in different techniques and preparations, we recommend determining optimal working concentration by titration test.

References

AH/JK 8/2003