bs-0681R **[Primary Antibody]**

Insulin Receptor Rabbit pAb

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DATASHEET

Host: Rabbit **Isotype:** IgG

Clonality: Polyclonal

GeneID: 3643 **SWISS:** P06213

Target: Insulin Receptor

Immunogen: KLH conjugated synthetic peptide derived from human Insulin Receptor: 51-150/1384.

Purification: affinity purified by Protein A

Concentration: 1mg/ml

Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: The human insulin receptor is a heterotetrameric membrane glycoprotein consisting of disulfide linked subunits in a beta-alpha-alpha-beta configuration. The beta subunit (95 kDa) possesses a single transmembrane domain, whereas the alpha subunit (135 kDa) is completely extracellular. The insulin receptor exhibits receptor tyrosine kinase (RTK) activity. RTKs are single pass transmembrane receptors that possess intrinsic cytoplasmic enzymatic activity, catalyzing the transfer of the gamma phosphate of ATP to tyrosine residues in protein substrates. RTKs are essential components of signal transduction pathways that affect cell proliferation, differentiation, migration and metabolism. Included in this large protein family are the insulin receptor and the receptors for growth factors such as epidermal growth factor, fibroblast growth factor and vascular endothelial growth factor. Receptor activation occurs through ligand binding, which facilitates receptor dimerization and autophosphorylation of specific tyrosine residues in the cytoplasmic portion. The interaction of insulin with the alpha subunit of the insulin receptor activates the protein tyrosine kinase of the beta subunit, which then undergoes an autophosphorylation that increases its tyrosine kinase activity. Three adapter proteins, IRS1, IRS2 and Shc, become phosphorylated on tyrosine residues following insulin receptor activation. These three phosphorylated proteins then interact with SH2 domain containing signaling proteins.

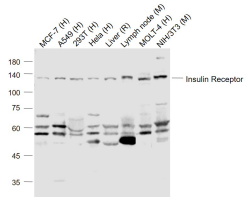
Applications: **WB** (1:500-2000)
IHC-P (1:100-500)
IHC-F (1:100-500)
IF (1:100-500)
Flow-Cyt (1ug/Test)

Reactivity: Human, Mouse, Rat (predicted: Rabbit, Sheep, Cow, Chicken, Dog, Horse)

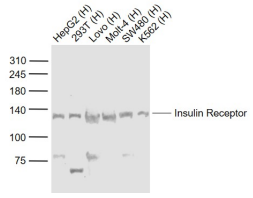
Predicted MW.: 80/152 kDa

Subcellular Location: Cell membrane

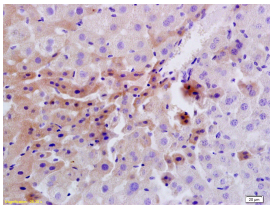
VALIDATION IMAGES



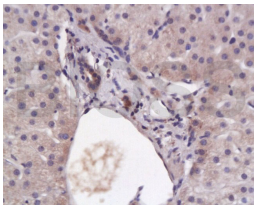
Sample: Lane 1: MCF-7 (Human) Cell Lysate at 30 ug Lane 2: A549 (Human) Cell Lysate at 30 ug Lane 3: 293T (Human) Cell Lysate at 30 ug Lane 4: Hela (Human) Cell Lysate at 30 ug Lane 5: Liver (Rat) Lysate at 40 ug Lane 6: Lymph node (Mouse) Lysate at 40 ug Lane 7: MOLT-4 (Human) Cell Lysate at 30 ug Lane 8: NIH/3T3 (Mouse) Cell Lysate at 30 ug Primary: Anti-Insulin Receptor (bs-0681R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 120 kD Observed band size: 120 kD



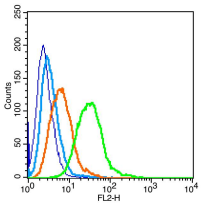
Sample: Lane 1: HepG2 (Human) Cell Lysate at 30 ug Lane 2: 293T (Human) Cell Lysate at 30 ug Lane 3: Lovo (Human) Cell Lysate at 30 ug Lane 4: Molt-4 (Human) Cell Lysate at 30 ug Lane 5: SW480 (Human) Cell Lysate at 30 ug Lane 6: K562 (Human) Cell Lysate at 30 ug Primary: Anti-Insulin Receptor (bs-0681R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 120 kD Observed band size: 120 kD



Tissue/cell: rat liver tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min; Incubation: Anti-Insulin Receptor/CD220 Polyclonal Antibody, Unconjugated(bs-0681R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Tissue/cell: human liver tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min; Incubation: Anti-Insulin Receptor/CD220 Polyclonal Antibody, Unconjugated(bs-0681R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Blank control: Raji (blue). Primary Antibody: Rabbit Anti-Insulin Receptor alpha antibody(bs-0681R), Dilution: 1µg in 100 µL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG(orange),used under the same conditions); Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA. Protocol The cells were fixed with 2% paraformaldehyde (10 min) , then permeabilized with 90% ice-cold methanol for 30 min on ice. Primary antibody (bs-0681R, 1µg /1x10^6 cells) were incubated for 30 min on the ice, followed by 1 X PBS containing 0.5% BSA + 1 0% goat serum (15 min) to block non-specific protein-protein interactions. Then the Goat Anti-rabbit IgG/PE antibody was added into the blocking buffer mentioned above to react with the primary antibody at 1/200 dilution for 30 min on ice. Acquisition of 20,000 events was performed.

SELECTED CITATIONS

- **[IF=7.7]** Bing Yang. et al. Hovenia dulcis (Guaizao) polysaccharide ameliorates hyperglycemia through multiple signaling pathways in rats with type 2 diabetes mellitus. INT J BIOL MACROMOL. 2024 Dec;:138338 WB ;Rat. 39638196
- **[IF=8.2]** Mingming Ning. et al. Microvesicles facilitate the differentiation of mesenchymal stem cells into pancreatic beta-like cells via miR-181a-5p/150-5p. INT J BIOL MACROMOL. 2024 Jan;254:127719 IF ;Human. 37918601
- **[IF=5.076]** Tingting Zhaoet al. Sodium Butyrate-Modulated Mitochondrial Function in High-Insulin Induced HepG2 Cell Dysfunction. Oxid Med Cell Longev . 2020 Jul 16;2020:1904609. IF ;Human. 32724489
- **[IF=4.427]** Yuan J et al. Fluoride exposure decreased learning ability and the expressions of the insulin receptor in male mouse hippocampus and olfactory bulb. Chemosphere. 2019 Feb 18;224:71-76. IHC ;Mouse. 30818196
- **[IF=4.221]** Huimin Wang. et al. Chronic exposure of bisphenol-A impairs cognitive function and disrupts hippocampal insulin signaling pathway in male mice. TOXICOLOGY. 2022 Apr;472:153192 WB ;Mouse. 35489422