Revision 1

Store at -20C

#6113

Phospho-IGF-I Receptor β (Tyr1316) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	95	Rabbit	#P08069	3480

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-IGF-I Receptor β (Tyr1316) Antibody detects endogenous levels of IGF-I receptor only when phosphorylated at Tyr1316. This antibody may also cross-react with other overexpressed, related tyrosine-phosphorylated tyrosine kinases.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr1316 of human IGF-I receptor. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Type I insulin-like growth factor receptor (IGF-IR) is a transmembrane receptor tyrosine kinase that is widely expressed in many cell lines and cell types within fetal and postnatal tissues (1-3). Receptor autophosphorylation follows binding of the IGF-I and IGF-II ligands. Three tyrosine residues within the kinase domain (Tyr1131, Tyr1135, and Tyr1136) are the earliest major autophosphorylation sites (4). Phosphorylation of these three tyrosine residues is necessary for kinase activation (5,6). Insulin receptors (IRs) share significant structural and functional similarity with IGF-I receptors, including the presence of an equivalent tyrosine cluster (Tyr1146/1150/1151) within the kinase domain activation loop. Tyrosine autophosphorylation of IRs is one of the earliest cellular responses to insulin stimulation (7). Autophosphorylation begins with phosphorylation at Tyr1146 and either Tyr1150 or Tyr1151, while full kinase activation requires triple tyrosine phosphorylation (8).
Phosphorylation of IGF-I receptor on Tyr1346 (equivalent to Tyr1316 in mature protein) was identified at Cell Signaling Technology (CST) using PhosphoScan®, CST's LC-MS/MS platform for phosphorylation site discovery (9). Phosphorylation of IGF-I receptor on Tyr1346 was also reported by several other labs in select carcinoma cell lines (10,11).

Background References

1. Adams, T.E. et al. (2000) *Cell Mol Life Sci* 57, 1050-93.
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3. Scheidegger, K.J. et al. (2000) *J Biol Chem* 275, 38921-8.
4. Hernández-Sánchez, C. et al. (1995) *J Biol Chem* 270, 29176-81.
5. Lopaczynski, W. et al. (2000) *Biochem Biophys Res Commun* 279, 955-60.
6. Baserga, R. (1999) *Exp Cell Res* 253, 1-6.
7. White, M.F. et al. (1985) *J Biol Chem* 260, 9470-8.
8. White, M.F. et al. (1988) *J Biol Chem* 263, 2969-80.
9. Rush, J. et al. (2005) *Nat Biotechnol* 23, 94-101.
10. Peterson, J.E. et al. (1996) *J Biol Chem* 271, 31562-71.
11. Knowlden, J.M. et al. (2005) *Endocrinology* 146, 4609-18.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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