

Phospho-LRP6 (Ser1490) Antibody



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| Applications: W, IP | Reactivity: H | Sensitivity: Endogenous | MW (kDa): 210 | Source/Isotype: Rabbit | UniProt ID: #O75581 | Entrez-Gene Id: 4040 |
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Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:200

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-LRP6 (Ser1490) Antibody detects endogenous levels of LRP6 protein when phosphorylated at serine 1490. It is expected, although not yet confirmed, to also detect endogenous levels of LRP5 protein when phosphorylated at serine 1503 (corresponding to serine 1490 in LRP6).

Species predicted to react based on 100% sequence homology

Mouse

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser1490 of human LRP6. Antibodies are purified by protein A and peptide affinity chromatography.

Background

LRP5 and LRP6 are single-pass transmembrane proteins belonging to the low-density lipoprotein receptor (LDLR)-related protein family. Unlike other members of the LDLR family, LRP5 and LRP6 have four EGF and three LDLR repeats in the extracellular domain, and proline-rich motifs in the cytoplasmic domain (1). They function as co-receptors for Wnt and are required for the canonical Wnt/β-catenin signaling pathway (2,3). LRP5 and LRP6 are highly homologous and have redundant roles during development (4,5). The activity of LRP5 and LRP6 can be inhibited by the binding of some members of the Dickkopf (DKK) family of proteins (6,7). Upon stimulation with Wnt, LRP6 is phosphorylated at multiple sites including Thr1479, Ser1490, and Thr1493 by kinases such as GSK-3 and CK1 (8-10). Phosphorylated LRP6 recruits axin to the membrane and presumably activates β-catenin signaling (8-10).

Background References

1. Brown, S.D. et al. (1998) *Biochem. Biophys. Res. Commun.* 248, 879-888.
2. Pinson, K.I. et al. (2000) *Nature* 407, 535-538.
3. Tamai, K. et al. (2000) *Nature* 407, 530-535.
4. Kelly, O.G. et al. (2004) *Development* 131, 2803-2815.
5. He, X. et al. (2004) *Development* 131, 1663-1677.
6. Semënov, M.V. et al. (2001) *Curr Biol* 11, 951-61.
7. Bafico, A. et al. (2001) *Nat. Cell Biol.* 3, 683-668.
8. Tamai, K. et al. (2004) *Mol. Cell* 13, 149-156.
9. Zeng, X. et al. (2005) *Nature* 438, 873-877.
10. Davidson, G. et al. (2005) *Nature* 438, 867-872.

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 nonfat dry milk, 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

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