

## Product Information

### Anti-LRP6

produced in rabbit, affinity isolated antibody

Product Number **L9294**

### Product Description

Anti-LRP6 is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human LRP6 (GeneID: 4040), conjugated to KLH. The corresponding sequence is identical in mouse and rat LRP6. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-LRP6 specifically recognizes human LRP6. The antibody may be used in various immunochemical techniques including immunoblotting (~180 kDa) and immunoprecipitation. Detection of the LRP6 band by immunoblotting is specifically inhibited by the LRP6 immunizing peptide.

The Wnt signaling pathways play an essential role in the regulation of cellular proliferation, differentiation, motility, morphogenesis, and have been linked to some forms of cancer.<sup>1,2</sup> The canonical Wnt/ $\beta$ -catenin signaling pathway is transduced through the Frizzled (Fz) family receptors and its coreceptor LRP6 (Low density lipoprotein receptor Related Protein 6) or the closely related LRP5, to the  $\beta$ -catenin signaling cascade.<sup>2</sup> The Wnt-Fz-LRP6 complex recruits Axin to the plasma membrane resulting in the inhibition of  $\beta$ -catenin phosphorylation and degradation, and activation of TCF/LEF-1-dependent transcription.

LRP6 is expressed primarily in the central nervous system and is essential for proper brain development. Deletion of the LRP6 gene results in severe brain abnormalities.<sup>3</sup> LRP6 also plays a central role in human disease.<sup>2,4</sup> Mutations in LRP6 have been shown to be associated with coronary heart disease and osteoporosis. LRP6 has been shown to undergo phosphorylation at multiple PPPSP motifs upon stimulation by Wnt. Wnt induces sequential phosphorylation of LRP6 by GSK3 and CKI thus promoting the interaction of LRP6 with Axin.<sup>5</sup> Regulated proteolytic processing of LRP6 has been shown to release its intracellular domain (ICD), which then binds to GSK3 and inhibits its activity, resulting in activation of the canonical Wnt signaling pathway.<sup>6</sup>

### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.5 mg/mL

### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

Store at  $-20^{\circ}\text{C}$ . For continuous use, the product may be stored at  $2-8^{\circ}\text{C}$  for up to one month. For extended storage, freeze in working aliquots at  $-20^{\circ}\text{C}$ . Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

### Product Profile

Immunoblotting: a working concentration of 1-2  $\mu\text{g}/\text{mL}$  is recommended using a lysate of HEK-293T cell expressing human LRP6.

Immunoprecipitation: A working amount of 5-10  $\mu\text{g}$  is recommended using a lysate of HEK-293T cells expressing human LRP6.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

### References

1. Nusse, R., *Trends Genet.*, **15**, 1-3 (1999).
2. Katoh, M., *Curr. Drug Targets*, **9**, 565-570 (2008).
3. Zhou, C. et al. *J. Neurosci.*, **24**, 7632-7639 (2004).
4. Mani, A. et al., *Science*, **315**, 1278-1282 (2007).
5. Zeng, X. et al., *Nature*, **438**, 873-877 (2005).
6. Mi, K., and Johnson, G.V.W., *J. Neurochem.*, **101**, 517-529 (2007).

VS,ER,TD,KAA,PHC,MAM 04/19-1