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ProductInformation

Anti-Reelin
produced in rabbit, affinity isolated antibody

Catalog Number **R 4904**

Product Description

Anti-Reelin is developed in rabbit using a synthetic peptide corresponding to amino acids 322-340 of rat reelin, conjugated to KLH, as immunogen. This sequence is highly conserved in mouse reelin (single amino acid substitution) and in human reelin (84% identity). The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Reelin recognizes reelin, ~400 kDa, by immunoblotting. Staining of the reelin band in immunoblotting is specifically inhibited by the immunizing peptide.

Reelin is a large extracellular matrix (ECM) protein. It binds to cell surface receptors specific for ECM proteins that are expressed on neurons. These include the α3 subunit of integrin receptors, very low density lipoprotein receptor (VLDLR) and apolipoprotein E receptor 2 (ApoER2).[1-3] Several isoforms of reelin are present in the brain, arising via cleavage of full-length reelin into two smaller protein fragments of approximately 250 kDa and 180 kDa.[3-6] The N-terminus of reelin contains a cleavable signal peptide and a region with similarity to F-spondin. In addition, reelin contains a series of eight internal repeats of 350-390 amino acids, related to the extracellular protein tenascin and integrin family of receptors. Reelin plays a central role in the developing brain during mammalian neural corticogenesis.[1,2] It functions to regulate lamination, alignment and final positioning of pyramidal neurons and in promoting dendritic sprouting and positioning of Purkinje cells in the cerebellum.[1,3,7] In the embryonic brain, reelin is secreted by transient pioneer neurons located in the marginal zone of the developing cortex (Cajal-Retzius neurons) and in the external granular layer of the cerebellum. The extracellular secretion of reelin does not occur in the reeler mice, an autosomal recessive mutation of reelin near its C-terminus, leading to impaired motor coordination, tremor and ataxia. In the null reeler mouse, migrating neurons fail to reach their correct locations in the developing brain, thus disrupting the organization of the cerebellar and cerebral cortices and other laminated regions. In the adult brain, reelin is still present in the ECM, and is secreted in the ECM by glutaminergic granule cells in the cerebellum.[3,8] Binding of reelin to the integrin receptor subunits leads to their clustering and activation of focal adhesion kinase (FAK) that phosphorylates a specific cytosolic adaptor protein called disabled-1 (Dab-1), which is expressed in neurons located post-synaptically to reelin secreting neurons.[3,9,10] Phosphorylated Dab-1 binds to and transports soluble protein tyrosine kinases and transcription factors to cell compartments.

Reagent

The product is provided as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% BSA and 15 mM sodium azide as a preservative.

Antibody concentration: ~0.4 mg/ml

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 hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage freeze in working aliquots. 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 dilution samples should be discarded if not used within 12 hours.

Product Profile

A working concentration of 0.2-0.4 µg/ml is determined by immunoblotting, using a mouse brain extract (S1 fraction), and 0.4-0.8 µg/ml by immunoblotting, using a rat brain extract (S1 fraction).

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

References

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