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ProductInformation

Anti-Ezrin
Developed in Rabbit, Affinity Isolated Antibody

Product Number **E1281**

Product Description

Anti-Ezrin is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 479-498 of human Ezrin with N-terminal added cysteine, conjugated to KLH. The corresponding sequence in rat and mouse differs by three amino acids. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Ezrin recognizes human and rat Ezrin. Applications include immunoblotting (~80 kDa), immunoprecipitation, immunohistochemistry, and immunofluorescence. Detection of the Ezrin band by immunoblotting is specifically inhibited with the immunizing peptide.

The 80 kDa membrane-associated protein Ezrin (also known as cytovillin, p81, and 80K), is a member of the ERM (Ezrin/Radixin/Moesin) family.[1] ERM proteins are closely related members of the talin-protein 4.1 merlin/schwannomin superfamily. They are general cross-linkers between the plasma membrane and actin filaments.[2-5] These proteins provide such links through their N-terminal halves that associate with integral membrane proteins, either directly or indirectly through adapter molecules, and through their C-terminal halves that associate with F-actin. ERM proteins are involved in a variety of cellular functions such as cell adhesion, cell shape determination, migration, and the organization of cell surface structures. ERM proteins are also involved in signal transduction and apoptosis.[2, 6] They undergo phosphorylation at a C-terminal threonine through Rho kinase, and at N-terminal tyrosines through receptor tyrosine kinases such as the epidermal growth factor receptor and c-MET. This promotes cytoskeletal reorganization and subsequent morphogenetic alterations.[7]

ERM proteins are highly homologous, both in amino acid sequence and in functional activity. There is ~ 80% homology between moesin, ezrin, and radixin.[2, 3] ERM proteins concentrate mainly in specialized microdomains and localize in the intracellular core of microextensions known as filopodia, microvilli, microspikes, and retraction fibers. The subcellular distribution of these proteins closely follows the dynamic changes in cell shape that take place when cells attach, spread, and move spontaneously or in response to extracellular signals.[2-5] There is a considerable variation in the cellular and subcellular localization of ERM proteins in different cells and tissues. Ezrin is found predominantly in polarized epithelial cells such as intestinal epithelial cells, gastric parietal cells, epithelial cells of the kidney proximal tubule, terminal bronchiole of the lung, and in mesothelia.[8] Cultured neuronal cells do express ezrin to some extent, and whole brain tissue expresses low levels of ezrin.[9] Ezrin expression is associated with malignancy in astrocytoma, osteosarcoma, mammary and pancreatic adenocarcinomas, and in cutaneous and uveal melanomas. Ezrin has been implicated in tumor progression and metastatic spread.[7, 10-12]

Reagent

The antibody supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as preservative.

Antibody Concentration: Approx. 1.0 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 is not recommended. Storage in frost-free freezers is also 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

By immunoblotting, a working antibody concentration of 0.5-1.0 µg/mL is recommended using whole extracts of rat NRK cells and a chemiluminescence detection reagent.

By immunoprecipitation, 0.5-1.0 µg of the antibody immunproecipitates Ezrin from 250 µg RIPA extract of human A431 cells.

By indirect immunofluorescence, a working concentration of 10-20 µg/mL is recommended using human HeLa cells.

By immunohistochemistry, a working concentration of 20-40 µg/mL is recommended using heat-retrieved, formalin-fixed, paraffin-embedded human melanoma tissue sections.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

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