

Product Information

Anti-Villin-1 (internal)

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200533**

Product Description

Anti-Villin-1 (internal) is produced in rabbit using as immunogen a synthetic peptide corresponding to an internal sequence of human villin-1 (GenelD: 7429), conjugated to KLH. The corresponding sequence has high homology (81% identity) to mouse villin-1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Villin-1 (internal) specifically recognizes human villin-1. The antibody may be used in several immunochemical techniques including immunoblotting (~95 kDa), immunofluorescence and immunohistochemistry. Detection of the villin-1 band by immunoblotting is specifically inhibited by the villin-1 immunizing peptide.

Villin (also known as villin-1, VIL1) is a Ca^{2+} -regulated actin-binding protein that modulates the structure and assembly of actin filaments.¹ Villin is an early marker of epithelial cells of the gastrointestinal and urogenital tracts and considered as one of the most important intestinal differentiation markers. In normal adult tissues, the expression of villin is observed in epithelial cells of the small and large intestinal mucosa, kidney proximal tubules, intrahepatic bile ducts, pancreatic ducts and gall bladder epithelium. It is localized to the apical cytoplasm and brush borders of these cells. Villin is expressed in the proliferative stem cells of the intestinal crypts. Villin functions in the regulation of actin dynamics in the apical epithelium, by capping, nucleating and/or severing F-actin filaments.^{2,3} Phosphorylation of villin at Tyr⁶⁰, Tyr⁸¹ and Tyr²⁵⁶ is thought to be involved in the regulation of cell migration.⁴ Villin expression is induced in the intestinal metaplasia observed in Barrett's esophagus and in chronic atrophic gastritis. Villin expression is frequently increased in human adenocarcinomas, particularly in colorectal cancers.⁵

Reagent

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

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards 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 dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using extracts of WiDR cells.

Immunofluorescence: a working concentration of 5-10 µg/mL is recommended using Caco-2 cells.

Immunohistochemistry: a working concentration of 20 µg/mL is recommended using human small intestine.

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

References

1. Khurana, S., and George, S.P., *FEBS Lett.*, **582**, 2128-2139 (2004).
2. Kumar, N., et al., *J. Biol. Chem.*, **279**, 45036-45046 (2004).
3. Zhai, L., et al., *J. Biol. Chem.*, **276**, 36163-36167 (2001).
4. Tomar, A., et al., *Mol. Biol. Cell.*, **15**, 4807-4817 (2004).
5. Suh, N., et al., *Mod. Pathol.*, **18**, 1217-1222 (2005).

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