

Product Information

Anti-Claudin-1

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200462**

Product Description

Anti-Claudin-1 is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence located at the C-terminal region of human claudin-1 (GeneID: 9076), conjugated to KLH. The corresponding sequence is identical in rat claudin-1 and highly conserved (single amino acid substitution) in mouse claudin-1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Claudin-1 specifically recognizes rat claudin-1. The antibody may be used in immunoblotting (~23 kDa) and immunohistochemistry. Detection of the claudin-1 band by immunoblotting is specifically inhibited by the claudin-1 immunizing peptide.

The claudins comprise a large family of highly related proteins, important in tight junctions (TJs) structure and function. TJs are crucial to form diffusion barriers and in regulating paracellular transport both in epithelium and endothelium.^{1,2} Three classes of proteins are known to localize to TJs, including the claudins, occludin and junction adhesion molecules (JAMs). Claudins consist of four transmembrane domains and two extracellular loops, required to form tight junction strands.

Expression of claudins is often highly restricted to specific regions of different tissues and may have an important role in transcellular transport through tight junctions. Claudins are located in both epithelial and endothelial cells in tissues. Claudin-1 (also known as CLDN1, SEMP1 and ILVASC) is expressed at high levels in kidney and liver and at lower levels in spleen, heart, brain, lung and testis. Claudin-1 directly interacts with TJ-associated peripheral membrane proteins ZO-1/2/3. Defects in the gene encoding claudin-1 are the cause of an autosomal recessive syndrome named ichthyosis-sclerosing cholangitis neonatal (NISCH). Claudins expression is altered in several human cancers. Claudin-1 is frequently up-regulated in colorectal carcinomas (CRCs), resulting in tumor differentiation and progression.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 1.5-3.0 µg/mL is recommended using extracts of rat kidney (S1 fraction).

Immunohistochemistry: A working concentration of 20 µg/mL is recommended using formalin-fixed, paraffin-embedded rat kidney.

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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3. Furuse, M., et al., *J. Cell Biol.*, **156**, 1099-1111 (2002).
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5. Hewitt, K., et al., *BMC Cancer*, **6**, 186 (2006).
6. Morin, P.J., et al., *Cancer Res.*, **65**, 9603-9606 (2005).
7. Tsukita, S., et al., *Oncogene*, **27**, 6930-6938 (2008).

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