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CLDN1 Antibody

Catalog # ASC10912

Product Information

Application	WB, IF, ICC, E
Primary Accession	O95832
Other Accession	CAG33419, 48146393
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	22744
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CLDN1 antibody can be used for detection of CLDN1 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunocytochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	9076
Other Names	Claudin-1, Senescence-associated epithelial membrane protein, CLDN1, CLD1, SEMP1
Target/Specificity	CLDN1;
Reconstitution & Storage	CLDN1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	CLDN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CLDN1
Synonyms	CLD1, SEMP1
Function	Claudins function as major constituents of the tight junction complexes that regulate the permeability of epithelia. While some claudin family members play essential roles in the formation of impermeable barriers, others mediate the permeability to ions and small molecules. Often, several claudin family members are coexpressed and interact with each other, and this determines the overall permeability. CLDN1 is required to prevent the paracellular diffusion of small molecules through tight junctions in the epidermis and is

	required for the normal barrier function of the skin. Required for normal water homeostasis and to prevent excessive water loss through the skin, probably via an indirect effect on the expression levels of other proteins, since CLDN1 itself seems to be dispensable for water barrier formation in keratinocyte tight junctions (PubMed:23407391).
Cellular Location	Cell junction, tight junction. Cell membrane; Multi-pass membrane protein. Basolateral cell membrane Note=Associates with CD81 and the CLDN1-CD81 complex localizes to the basolateral cell membrane.
Tissue Location	Strongly expressed in liver and kidney. Expressed in heart, brain, spleen, lung and testis.

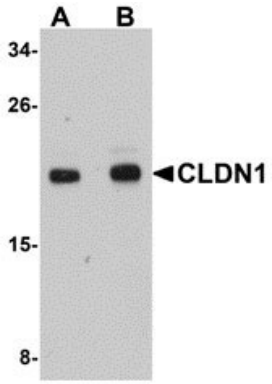
Background

CLDN1 Antibody: Claudin1 (CLDN1), a member of the claudin family, is an integral membrane protein and a component of tight junction strands. Tight junctions are specialized regions of cell to cell contact consisting of networking strands that act as a molecular gasket for preventing the leakage of ions, water, etc., between cells. They are abundant in luminal epithelial sheets where they maintain epithelial cell polarity. Different tissues exhibit different Claudin composition and CLDN1 expression is often cell type and tissue dependent. Loss of function mutations result in neonatal ichthyosis-sclerosing cholangitis syndrome. CLDN1 and CLDN2 were found to be overexpressed in colonal cancer tissues and may be useful as tumor markers and targets for the treatment of colorectal cancer. Characterization of Claudins expression in human tumors can be an additional diagnostic tool. Recent studies show that CLDN1 has gastric tumor suppressive activity and is a direct transcriptional target of RUNX3. Along with SCARB1, LDL-R, and the tetraspanin superfamily member CD81, CLDN1 has been reported to be an entry factor for the Hepatitis C virus.

References

Tepass U. Claudin complexities at the apical junctional complex. Nat. Cell Biol.2003; 5:595-7.
Kinugasa T, Huo Q, Higashi D, et al. Selective up-regulation of claudin-1 and claudin-2 in colorectal cancer. Anticancer Res.2007; 27:3729-34.
Paschoud S, Bongiovanni M, Pache JC, et al. Claudin-1 and claudin-5 expression patterns differentiate lung squamous cell carcinomas from adenocarcinomas. Mod. Pathol.2007; 20:947-954.
Morohashi S, Kasumi T, Sato F, et al. Decreased expression of claudin-1 correlates with recurrence status in breast cancer. Int. J. Mol. Med.2007; 20:139-43.

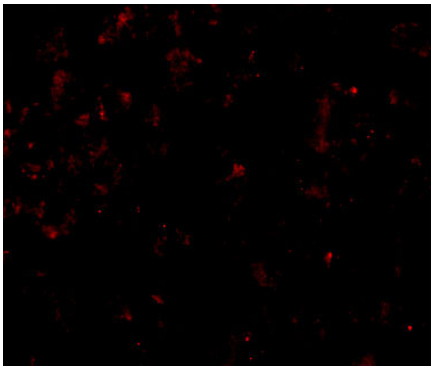
Images



Western blot analysis of CLDN1 in HepG2 cell lysate with CLDN1 antibody at (A) 1 and (B) 2 µg/mL.

Immunocytochemistry of CLDN1 in HepG2 cells with CLDN1 antibody at 5 µg/mL.





Immunofluorescence of CLDN1 in HepG2 cells with CLDN1 antibody at 20 µg/mL.

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