

**Qty:** 100 μg/200 μL Mouse anti-Claudin-1 **Catalog No.** 37-4900 Lot No.

# Mouse anti-Claudin-1

# FORM

This monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A affinity.

CLONE: 2H10D10

ISOTYPE: Mouse IgG1-kappa

# IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the human and mouse claudin-1 proteins

# SPECIFICITY

This antibody is specific for the C-terminal region of the claudin-1 protein. On Western blots, it identifies the target band at  $\sim$ 22 kDa.

#### REACTIVITY

Reactivity has been confirmed with human Caco-2 and dog MDCK cell lysates, mouse kidney and intestinal lysates, frozen mouse intestine (jejunum) tissue, and rat kidney homogenates.

Sample	ELISA	Western Blotting	Immuno- fluorescence	Immuno- precipitation	Immuno- histochemistry (frozen)
Human	ND	+++	ND	++	ND
Dog	ND	++	++	ND	ND
Rat	ND	++	ND	ND	ND
Mouse	ND	++	++	ND	+++
Immunogen	+++	N/A	N/A	N/A	N/A

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

# USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA:	0.1 – 1.0 µg/mL
Western Blotting:	1-3 µg/mL
Immunofluorescence:	1-5 µg/mL
Immunoprecipitation:	10 µg/test
Immunohistochemistry (frozen):	5-10 µg/mL
Immunoprecipitation: Immunohistochemistry (frozen):	10 μg/test 5-10 μg/mL

# STORAGE

PI374900

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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#### BACKGROUND

The claudin (CLDN) superfamily consists of at least 18 homologous proteins in humans. These proteins are important structural and functional components of tight junctions in paracellular transport, complexed with two other integral transmembrane proteins, occludin and junctional adhesion molecule.<sup>1</sup> Claudins are located in both epithelial and endothelial cells in all tight junction-bearing tissues. Claudins interact directly with tight junction-specific, membrane-associated guanylate kinase homologues, ZO-1, ZO-2, and ZO-3, and indirectly with AF-6 and the myosin-binding molecule cingulin. These protein-protein interactions promote scaffolding of the tight junction transmembrane proteins and provide a link to the actin cytoskeleton for transducing regulatory signals to and from tight junctions.

Human claudin-1, like other claudin proteins, participates in cell-cell adhesion and regulates paracellular and transcellular transport of solutes across human epithelia and endothelia.<sup>2</sup> Recently, a claudin-1 cDNA has been isolated from human mammary epithelial cells (HMECs). As claudin-1 expression is low or undetectable In a number of breast tumors and breast cancer cell lines, it may be implicated as a possible tumor-suppressor gene.<sup>3</sup>

# REFERENCES

- 1. Heiskala M et al. *Traffic* 2(2):93-98, 2001.
- 2. Furuse M et al. *J Cell Biol* 143(2):391-401, 1998.
- 3. Kramer F et al. *Hum Genet* 107:249-256, 2000.

#### **RELATED PRODUCTS**

Product	Conjugate	Cat. No.
Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

Conjugato	ZyMAX™ Goat x Rabbit IgG	ZyMAX™ Goat x Mouse IgG			
Conjugate	(N+L)	(11+L)			
Purified	81-6100	81-6500			
FITC	81-6111	81-6511			
TRITC	81-6114	81-6514			
Су™З	81-6115	81-6515			
Cy™5	81-6116	81-6516			
HRP	81-6120	81-6520			
AP	81-6122	81-6522			
Biotin	81-6140	81-6540			

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