

# Claudin-1, Mouse Monoclonal Antibody - Alexa Fluor 488

Catalog no. 374988

(See product label for lot information)

## Product Description

100 µg monoclonal antibody conjugated to Alexa Fluor 488.

**Clone/PAD:** 2H10D10  
**Isotype:** Mouse IgG1, k  
**Qty:** 100 µg  
**Volume:** 200 µL

## Formulation

Supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide, and 4.5 mg/mL BSA.

## Purification Method

This monoclonal antibody is highly purified from mouse ascites by protein A chromatography, before conjugation.

## Validation

See [www.invitrogen.com/antibodies](http://www.invitrogen.com/antibodies) for protocols

**ELISA** (Un-conjugated): **0.1 – 1.0 µg/mL**

**Western Blotting** (Un-conjugated): **1-3 µg/mL**

**Immunofluorescence:** **1-5 µg/mL**

**Immunoprecipitation** (Un-conjugated): **10 µg/test**

**Immunohistochemistry (frozen):** **5-10 µg/mL**

## 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.

## Specificity

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

## Immunogen

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

## Storage

Store reagents at 2-8°C. Light exposure should be avoided.

## Expiration Date

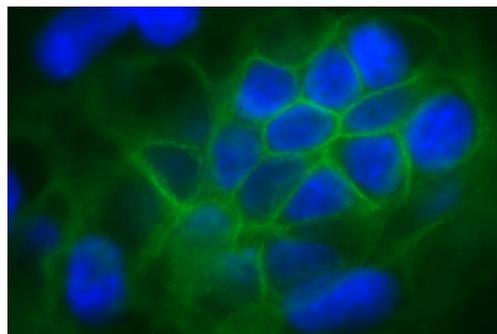
Expires one year from date of receipt when stored as instructed.

<u>Catalog No.</u>	<u>Conjugation</u>	<u>EX (nm)</u>	<u>EM (nm)</u>
374900	Un-conjugated	--	--
374988	Alexa 488®	495	519

## 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.1 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.2 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.



**Immunofluorescence:**  
**Claudin-1, Mouse Monoclonal Antibody - Alexa Fluor 488:**  
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Human Caco-2 cells stained with Claudin-1, Mouse Monoclonal Antibody - Alexa Fluor 488 (Cat.No. 374988). DNA is counter stained with blue Hoechst 33258 (Cat. No H3569). For high resolution colored figure, please visit the product page online.

## 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.

**This product is for research use only. Not for use in diagnostic procedures.**

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