



Qty: 100 µg/200 µL

Mouse anti-Claudin-2

Catalog No. 32-5600

Lot No.

Mouse anti-Claudin-2

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 chromatography.

CLONE: 12H12

ISOTYPE: Mouse IgG_{2b}

IMMUNOGEN

Synthetic peptide corresponding to a 26 amino acid sequence at the C-terminus of mouse Claudin-2

SPECIFICITY

This antibody reacts specifically with the ~22-23 kDa Claudin-2 protein.

REACTIVITY

Reactivity has been confirmed with human, mouse, rat, and dog liver and kidney homogenates, as well MDCK and Caco-2 cell lysates, by Western blotting and immunofluorescence. Reactivity has also been confirmed with formalin-fixed, paraffin-embedded (FFPE) human normal colon, spleen, and thyroid, and colon and breast cancer tissues by immunohistochemistry.

Sample	Western blotting	Immuno-fluorescence	Immuno-histochemistry (FFPE)*
Human	++	NT	+++
Mouse	+++	NT	NT
Rat	+++	+++	NT
Dog	+++	NT	NT
Immunogen	NT	NT	NT

(Excellent +++, Good++, Poor +, No reactivity 0, Not tested NT)

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.

Immunofluorescence: 1-3 µg/mL
Western Blotting:** 1-3 µg/mL
Immunohistochemistry*: 1-2 µg/mL

* For best results in immunohistochemistry with formalin-fixed, paraffin-embedded (FFPE) tissues, heat induced epitope retrieval (HIER) with EDTA buffer, pH 8.0, is required prior to staining.

** Non-specific band at 27 kDa is observed in some lysates. In Caco-2 cells this band appears stronger than the correct band at 22 kDa. An alternative product, rabbit anti-Claudin-2 (#51-6100) may be used for western blotting of these lysates.

STORAGE

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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BACKGROUND¹⁻¹³

Tight junctions (TJs) are specialized membrane domains that seal the intercellular spaces in epithelia and endothelia and thus contribute to the permeability barrier between luminal and interstitial compartments. Tight junctions not only separate distinct physiological compartments, but they also confer selectivity to the transepithelial flux of molecules and ions through the intercellular spaces between the epithelial cells, the so-called paracellular pathway. In addition, tight junctions limit the diffusion of lipids between the apical and basolateral plasma membrane domain. Claudin and Occludin, the two types of four-transmembrane domain proteins, are the major integral membrane components of the mammalian tight junction. So far, 20 distinct claudins have been identified.

Mouse Claudin-2 was discovered in 1998¹³ as a 230 amino acid, integral membrane protein localizing at tight junctions with an approximate molecular weight of 22.9 kDa. Claudin-1 and Claudin-2 are structurally related, and are 38% identical at the amino acid sequence level.¹¹ The expression of Claudin-2 is restricted to the liver and kidney, with small amounts also found in the brain.

REFERENCES

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11. Van Itallie CM, et al. *J Clin Invest* 107(10):1319-1327, 2001.
12. Furuse M et al. *J Cell Biol* 141(7):1539-1550, 1998.
13. Lippoldt A, et al. *Neuroreport* 11(7):1427-1431, 2000.

RELATED PRODUCTS

Product	Clone or PAD*	Cat. No.
Rb anti-Claudin-1	JAY.8	51-9000
Rb anti-Claudin-2	MH44	51-6100
Rb anti-Claudin-3	Z23.JM	34-1700
Ms anti-Claudin-4	3E2C1	32-9400
Ms anti-Claudin-5	4C3C2	35-2500
Rb anti-Claudin-5	Z43.JK	34-1600
Ms anti-Claudin-15	4C12C5	35-9800
Claudin Sampler Pack	--	90-0900
Ms anti-ZO-1	ZO1-1A12	33-9100
Rb anti-ZO-1	Z-R1	61-7300
Rb anti-ZO-2	--	71-1400
Ms anti-Occludin	OC-3F10	33-1500
Rb anti-Occludin	Z-T22	71-1500

PAD: Polyclonal Antibody Designation

Conjugate	ZyMAX™ Goat anti-Rabbit IgG (H+L)	ZyMAX™ Goat anti-Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	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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