Qty: 80 µg (Total)
Claudin Antibody
Sampler Pack
Catalog No. 90-0900
Lot No. See product label

Claudin Antibody Sampler Pack

FORM
All antibodies are supplied in phosphate buffered saline, pH 7.4, containing 0.1% sodium azide. The monoclonal antibodies are protein A-purified from mouse ascites and the polyclonal antibodies are antigen affinity-purified from rabbit antiserum.

ANTIBODY DESCRIPTION

Catalog Number	**51-9000**	**51-6100**	**34-1700**	**32-9400**	**34-1600**	**35-2500**
Specificity	Claudin-1	Claudin-2	Claudin-3	Claudin-4	Claudin-5	Claudin-5
Host/Type	Rb/Poly	Rb/Poly	Rb/Poly	Ms/Mono	Rb/Poly	Ms/Mono
Clone/PAD	JAY.8	MH44	Z23.JM	3E2C1	Z43.JK	4C3C2
Isotype	--	--	--	IgG_1	--	IgG_1
Quantity	10 µg	10 µg	10 µg	20 µg	10 µg	20 µg
Concentration	0.25 mg/ml	0.25 mg/ml	0.25 mg/ml	0.5 mg/ml	0.25 mg/ml	0.5 mg/ml
USAGE						
ELISA	Yes	Yes	Yes	ND	Yes	Yes
Immunoprecipitation	ND	ND	ND	ND	ND	ND
Immunofluorescence	Yes	Yes	ND	Yes	ND	ND
Tissue Staining	ND	Yes*	Yes**	Yes**	ND	Yes*
Western blots	Yes	Yes	Yes	Yes	Yes	Yes
Recommended starting concentrations: ELISA (0.1-1 µg/ml), Immunofluorescence (1-3 µg/ml), Western blot (0.5-3 µg/ml), Immunohistochemistry (5-10 µg/ml)						
SPECIES REACTIVITY						
Human	Yes	Yes	Yes	Yes	Yes	ND
Mouse	ND	ND	Yes	ND	Yes	Yes
Rat	Yes	Yes	ND	Yes	ND	Yes
Dog	Yes	Yes	ND	Yes	ND	ND
POSITIVE CONTROL	Rat Kidney	Rat Kidney	Mouse Lung	Rat kidney	Mouse lung	Mouse lung
ND = Not Determined						

For immunohistochemistry with formalin-fixed, paraffin-embedded (FFPE) tissue sections:
*** Perform heat induced epitope retrieval (HIER) with EDTA, pH 8.0, prior to staining to achieve optimal staining results.**
**** Perform HIER with citrate buffer, pH 6.0, prior to staining to achieve optimal staining results.**
Contact Invitrogen's Technical Service department (tech_support@invitrogen.com or 800-955-6288) for further details on HIER procedures.

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)

BACKGROUND

Tight junctions are specialized regions of cell-cell contact that are particularly abundant in luminal epithelial cell sheets. In freeze-fracture electron micrographs, tight junctions are visualized as belt-like bands of anastomosing sealing strands (TJ strands) that completely encircle the lateral surfaces of each cell. TJ strands on adjacent cells are presumed to interact with each other to form a sort of "molecular gasket" that prevents ions, water and other molecules from leaking between cells and thus, from one side of the sheet to the other. In addition to this so-called "barrier" function, the "fence" function of tight junctions plays an important role in maintaining epithelial cell-polarity by blocking the diffusion of membrane proteins between apical (luminal) and basolateral cell surfaces. Confinement of the glucose symport to apical surfaces allows glucose to be transported vectorially from the lumen, through the cell, and into the bloodstream.

Several peripheral membrane proteins are associated with tight junctions including ZO-1, ZO-2, ZO-3 (members of membrane-associated guanylate-kinase family), cingulin, the 7H6 antigen, Rab-3b, symplekin (for reviews see refs. 1-6). While their precise functions are not known, roles for these proteins have been suggested in tight junction assembly and maintenance; signal transduction; and the regulation of tight junction permeability. Furthermore, a growing body of evidence suggests that actin filaments play a major role in regulating tight junction permeability.

Until recently, the only transmembrane protein identified in association with tight junctions was occludin, a ~65 kDa protein with four transmembrane domains. Despite widespread expectation, a critical structural role for occludin in TJ strands was ruled out by the observation of apparently normal tight junctions formed between cells disrupted at both occludin alleles. Fortunately, a closer examination of isolated tight junctions uncovered two related ~22 kDa, four-transmembrane domain proteins, claudin-1 and claudin-2, with no similarity to occludin. In contrast to occludin, which induces only a small number of short strands at cell-cell contact sites when introduced into fibroblasts lacking tight junctions, claudin-1 and -2 induce networks of strands characteristic of true tight junctions.[8,9] Though inconclusive, these findings suggest that claudin-1 and -2 are major structural components of TJ strands and that occludin plays some other accessory role. Interest in the tight junction field continues to rise following the discovery of claudins -3, -4, -5, -6, -7, -8, -15, and –16, and experimental results suggesting that tight junctions in different tissues are comprised of distinct sets of claudin family proteins.[10]

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RELATED PRODUCTS

Primary antibodies	Clone or PAD*	Cat. No.
Ms anti-ZO-1	ZO1-1A12	33-9100
FITC-Ms anti-ZO-1	ZO1-1A12	33-9111
Rb anti-ZO-1	Z-R1	61-7300
Rb anti-ZO-2	--	71-1400
Ms anti-Occludin	OC-3F10	33-1500
HRP-Ms anti-Occludin	OC-3F10	33-1520
FITC-Ms anti-Occludin	OC-3F10	33-1511
Rb anti-Occludin	Z-T22	71-1500
Rb anti-Occludin	--	71-1600
Cadherins & Catenins:	please visit www.Invitrogen.com	

*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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