



Qty: 100 µg/400 µL

Rabbit anti-Occludin (C-term)

Catalog No. 40-4700

Lot No.

Rabbit anti-Occludin (C-term)

FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.467

IMMUNOGEN

Synthetic peptide derived from the C-terminal region of the human occludin protein

SPECIFICITY

This antibody is specific for the human occludin protein. On Western blots, it identifies the target band at ~65 kDa.

REACTIVITY

Reactivity has been confirmed with human Caco-2 and HT29, dog MDCK, mouse TCMK and rat KNRK cell lysates, and mouse kidney, liver and rat liver homogenates by Western blotting, Caco-2 cells by immunofluorescence, and paraffin-embedded human small intestine tissue by immunohistochemistry.

Sample	Western Blotting	Immunofluorescence	Immunohistochemistry (paraffin)**
Human	+++	+++*	+++
Mouse	+++	ND	ND
Rat	+++	ND	ND
Dog	+++	ND	ND

(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.

Western Blotting: 1-3 µg/mL

Immunofluorescence: 1-2 µg/mL

Immunohistochemistry (paraffin):** 6 µg/mL

*For immunofluorescence using Caco-2 cells, fixation w/ cold ethanol is recommended

**For immunohistochemistry in paraffin-embedded tissues, enzyme digestion with pepsin is required prior to staining.

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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PI404700

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BACKGROUND

The 65 kDa occludin protein was first identified in chicken using monoclonal antibodies.^{1,2} The chicken occludin cDNA was subsequently cloned, with the amino acid sequence revealing that the protein is organized into five distinct domains: a short N-terminal cytoplasmic domain (domain A), two extracellular loops (domains B and D) separated by a short intracellular loop (domain C), and a long C-terminal cytoplasmic tail (domain E).^{1,2} The C-terminal tail of occludin is required for both for its localization at tight junctions and for its direct interaction with the ZO-1 protein.² One interesting feature of the occludin protein is that its amino acid sequence has not been highly conserved throughout evolution.³ At the amino acid level, the human, murine, and canine occludin proteins are highly homologous (~ 90% identity); however, the mammalian proteins exhibit a considerable degree of divergence from the rat-kangaroo and chicken proteins.³ Overall structural features of the occludin protein are highly conserved in all the species examined.³ Under-expression of tight junction proteins, including occludin, are key molecular abnormalities responsible for the increased permeability of tumor endothelial tight junctions, which contributes to brain tumor edemas.⁴

REFERENCES

1. Furuse, M. et al. *J Cell Biol* 123:1777-1788, 1993.
2. Furuse, M., et al. *J Cell Biol* 127:1617-1626, 1994.
3. Ando-Akatsuka, Y., et al. *J Cell Biol* 133:43-47, 1996.
4. Papadopoulos MC, et al. *Neuroscience* 129:1011-1020, 2004.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose [®] 4B	10-1041
rec-Protein G	Sepharose [®] 4B	10-1241

Conjugate	ZyMAX[™] Goat x Rabbit IgG (H+L)	ZyMAX[™] Goat x 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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