



Qty: 100 µg/400 µL

Rabbit anti-Occludin (C-term GST)

Catalog No. 42-2400

Lot No.

## Rabbit anti-Occludin (C-term GST)

### 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.544

### IMMUNOGEN

GST-fusion protein containing the C-terminal region of human occludin protein, which is 92% homologous to dog, 90% homologous to cow, 88% homologous to mouse, and 87% homologous to rat

### SPECIFICITY

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

### REACTIVITY

Reactivity has been confirmed with human Caco-2 and dog MDCK cell lysates. Based on amino acid sequence homology, reactivity with cow, mouse, and rat is expected.

Sample	Immuno-fluorescence	Western Blotting
Human	+++	+++
Dog	ND	+++
Bovine	ND	ND
Mouse	ND	ND
Rat	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.

**Immunofluorescence:** 5 µg/mL

**Western Blotting:** 2 µg/mL

### 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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**BACKGROUND**

The 65 kDa occludin protein, one of two identified components of the tight junction filament, was first identified in chicken using monoclonal antibodies.<sup>1,2</sup> 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).<sup>1,2</sup> 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.<sup>2</sup> One interesting feature of the occludin protein is that its amino acid sequence has not been highly conserved throughout evolution.<sup>3</sup> 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.<sup>3</sup> Overall structural features of the occludin protein are highly conserved in all the species examined.<sup>3</sup> Occludin is expressed in epithelial and endothelial tissues, neurons, and astrocytes.<sup>4</sup> 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.<sup>5</sup>

**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. Banner H, et al. *Exp Cell Res* 250:434-438, 1999.
5. Papadopoulos MC, et al. *Neuroscience* 129:1011-1020, 2004.

**RELATED PRODUCTS**

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

<b>Conjugate</b>	<b>ZyMAX<sup>™</sup> Goat x Rabbit IgG (H+L)</b>	<b>ZyMAX<sup>™</sup> Goat x Mouse IgG (H+L)</b>
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy <sup>™</sup> 3	81-6115	81-6515
Cy <sup>™</sup> 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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