Occludin, Mouse Monoclonal Antibody - Alexa Fluor 488

Catalog no. 331588

(See product label for lot information)

Catalog No.	Conjugation	EX (nm)	EM (nm)
331500	Un-conjugated	- -	- -
331511	FITC	494	520
331588	Alexa 488®	495	519
331594	Alexa 594®	590	617

Product Description

100 µg monoclonal antibody conjugated to Alexa Fluor 488.

Clone/PAD: OC-3F10
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 for protocols

Immunofluorescence: 2.5-5 µg/mL
ELISA (Un-conjugated): 0.1-1.0 µg/mL
Western Blotting (Un-conjugated): 0.1-1.0 µg/mL

Reactivity

Reactivity of this antibody with the occludin protein has been confirmed by immunofluorescence and Western blotting (Un-conjugated). Tissues/lysates Tested: T84 cell line (human intestinal epithelium), MDCK cells (canine kidney), Caco-2 cells (human colon adenocarcinoma), MTE7B (Mouse) and rat liver

Specificity

This antibody reacts specifically with mammalian occludin.

Immunogen

GST fusion protein consisting of the C-terminal (150 a.a.) of human occludin fused to GST.

Storage

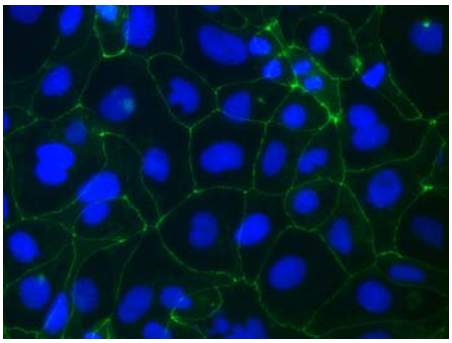
Store reagents at 2-8°C. Light exposure should be avoided.

Expiration Date

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

Background

The 65 kDa occludin protein was first identified in chicken using monoclonal antibodies(1, 2). The chicken occludin cDNA was subsequently cloned and sequenced, and the amino acid sequence revealed that the occludin protein is organized into five distinct domains: a short amino terminal cytoplasmic domain (domain A), two extracellular loops (domains B and D) separated by a short intracellular loop (domain C), and a long carboxy-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). This fact made isolating the mammalian homologues of chicken occludin a rather difficult task. Recently, however, the sequences of the full length cDNAs encoding occludin of rat-kangaroo, human, mouse, and dog were reported(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). Nevertheless, the overall structural features of the occludin protein are highly conserved in all the species examined(3). The recent identification and cloning of the mammalian occludin protein will undoubtedly facilitate the further study of TJ organization and function.



Immunofluorescence: Occludin, Mouse Monoclonal Antibody - Alexa Fluor 488: Catalog No. 331588

Human Caco-2 cells stained with Occludin, Mouse Monoclonal Antibody - Alexa Fluor 488 (Cat.No. 331588). DNA is counter stained with blue Hoechst 33258 (Cat. No H3569). For high resolution colored figure, please visit the product page online.

References

1. Furuse, M. et al. (1993) J. Cell Biol. 123:1777-1788.
2. Furuse, M., et al. (1994) J. Cell. Biol. 127:1617-1626.
3. Ando-Akatsuka, Y., et al. (1996) J. Cell. Biol. 133:43-47.

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

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