

Technical Data Sheet

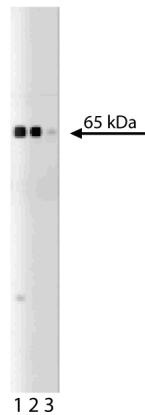
Purified Mouse Anti-Occludin**Product Information**

Material Number:	611091
Size:	150 µg
Concentration:	250 µg/ml
Clone:	19/Occludin
Immunogen:	Mouse Occludin aa. 396-507
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in development: Dog, Human, Mouse, Rat
Target MW:	65 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Tight junctions (zonulae occludens) are critical to the maintenance of cell polarity and intercellular barriers between epithelial and endothelial cells. Among the barriers formed by the tight junctions is the critical blood-brain barrier. Protein components of the tight junctions include actin filaments, symplekin, occludin, Rab3B, AF-6, 7H6, ZO-1 and ZO-2. The human occludin protein is 522 amino acids with four transmembrane domains in the first half of the protein. Two glycine/tyrosine-rich extracellular loops are involved in cell-cell interactions. In the cytoplasm, occludin interacts with ZO-1 through its intracellular C-terminus. A possible function of ZO-1 may be to link the adherens components, like occludin, to the submembraneous actin cytoskeleton. Experimental breakdown of the tight junctions at the blood-brain barrier results in redistribution of vinculin and loss of ZO-1 and Occludin. Taken together, these data indicate that occludin and ZO-1 are critical elements in the formation of tight junctions and may also serve an important role in signaling and tumor suppression.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of occludin on rat brain lysate.
Lane 1: 1:250, Lane 2: 1:500, Lane 3: 1:1000 dilution of anti-occludin antibody.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Store undiluted at -20° C.

Application Notes**Application**

Western blot	Routinely Tested
Immunofluorescence	Not Recommended

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Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
611463	Rat Cerebrum Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

- Ando-Akatsuka Y, Saitou M, Hirase T, et al. Interspecies diversity of the occludin sequence: cDNA cloning of human, mouse, dog, and rat-kangaroo homologues. *J Cell Biol.* 1996; 133(1):43-47.(Biology)
- Bolton SJ, Anthony DC, Perry VH. Loss of the tight junction proteins occludin and zonula occludens-1 from cerebral vascular endothelium during neutrophil-induced blood-brain barrier breakdown in vivo. *Neuroscience.* 1998; 86(4):1245-1257.(Biology)
- Fanning AS, Jameson BJ, Jesaitis LA, Anderson JM. The tight junction protein ZO-1 establishes a link between the transmembrane protein occludin and the actin cytoskeleton. *J Biol Chem.* 1998; 273(45):29745-29753.(Biology)