SANTA CRUZ BIOTECHNOLOGY, INC.

Occludin (N-19): sc-8145

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Occludin is an integral membrane protein closely associated with the tight junctions of epithelial and endothelial cells. Occludin is a tetraspan integral membrane protein in epithelial and endothelial tight junction (TJ) structures that can contain two extracellular loops. The protein exists in a variety of phosphorylated forms. Phosphorylation is involved in regulating both the localization and the function of occludin. Expression of occludin is upregulated by polyunsaturated fatty acids, increasing transendothelial cell resistance and reducing cellular permeability to large molecules. The level of occludin varies greatly depending on tissue; in brain tissue, occludin is highly expressed at cell-cell contact sites. Non-neural tissues show lower expression and discontinuous distribution. Upregulation of epithelial occludin may play a role in enhancing paracellular permeability and be related to the damage to the tight junction.

CHROMOSOMAL LOCATION

Genetic locus: OCLN (human) mapping to 5q13.2; Ocln (mouse) mapping to 13 D1.

SOURCE

Occludin (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Occludin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8145 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Occludin (N-19) is recommended for detection of Occludin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Occludin (N-19) is also recommended for detection of Occludin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Occludin siRNA (h): sc-36117, Occludin siRNA (m): sc-36118, Occludin shRNA Plasmid (h): sc-36117-SH, Occludin shRNA Plasmid (m): sc-36118-SH, Occludin shRNA (h) Lentiviral Particles: sc-36117-V and Occludin shRNA (m) Lentiviral Particles: sc-36118-V.

Molecular Weight of Occludin: 60-82 kDa.

Positive Controls: Occludin (h): 293T Lysate: sc-114467, COLO 320DM cell lysate: sc-2226 or ECV304 cell lysate: sc-2269.

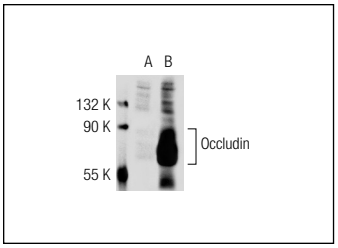
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

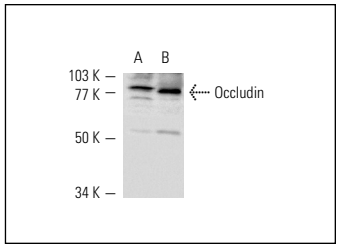
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Occludin (N-19): sc-8145. Western blot analysis of Occludin expression in non-transfected: sc-117752 (**A**) and human Occludin transfected: sc-114467 (**B**) 293T whole cell lysates.



Occludin (N-19): sc-8145. Western blot analysis of Occludin expression in COLO 320DM (**A**) and ECV304 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ye, L., et al. 2003. Biphasic effects of 17-β-estradiol on expression of occludin and transendothelial resistance and paracellular permeability in human vascular endothelial cells. J. Cell. Physiol. 196: 362-369.
2. Neuhaus, W., et al. 2008. Validation of *in vitro* cell culture models of the blood-brain barrier: tightness characterization of two promising cell lines. J. Pharm. Sci. 97: 5158-5175.
3. Martin, T.A., et al. 2010. Loss of occludin leads to the progression of human breast cancer. Int. J. Mol. Med. 26: 723-734.
4. Chen, C.H., et al. 2010. Hydrogen gas reduced acute hyperglycemia-enhanced hemorrhagic transformation in a focal ischemia rat model. Neuroscience 169: 402-414.
5. Alibardi, L. 2010. Gap and tight junctions in the formation of feather branches: a descriptive ultrastructural study. Ann. Anat. 192: 251-258.
6. Martin, T.A., et al. 2011. HAVcR-1 reduces the integrity of human endothelial tight junctions. Anticancer Res. 31: 467-473.
7. Ikeda-Matsuo, Y., et al. 2011. Inhibition of prostaglandin E2 EP3 receptors improves stroke injury via anti-inflammatory and anti-apoptotic mechanisms. J. Neuroimmunol. 238: 34-43.
8. Yahagi, S., et al. 2011. Lysophospholipids improve skin moisturization by modulating of calcium-dependent cell differentiation pathway. Int. J. Cosmet. Sci. 33: 251-256.
9. Rodríguez-Tirado, C., et al. 2012. Neisseria gonorrhoeae induced disruption of cell junction complexes in epithelial cells of the human genital tract. Microbes Infect. 14: 290-300.