SANTA CRUZ BIOTECHNOLOGY, INC.

Occludin (F-11): sc-133255

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. Up-regulation 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.

SOURCE

Occludin (F-11) is a mouse monoclonal antibody raised against amino acids 132-411 mapping within an internal region of Occludin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Occludin (F-11) is available conjugated to agarose (sc-133255 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-133255 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133255 PE), fluorescein (sc-133255 FITC), Alexa Fluor® 488 (sc-133255 AF488), Alexa Fluor® 546 (sc-133255 AF546), Alexa Fluor® 594 (sc-133255 AF594) or Alexa Fluor® 647 (sc-133255 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133255 AF680) or Alexa Fluor® 790 (sc-133255 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Occludin (F-11) is recommended for detection of Occludin of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

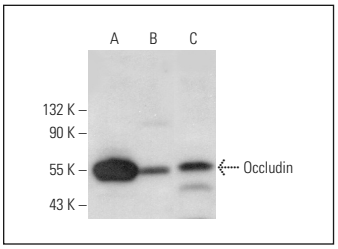
Molecular Weight of Occludin: 60-82 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, COLO 205 whole cell lysate: sc-364177 or HUV-EC-C whole cell lysate: sc-364180.

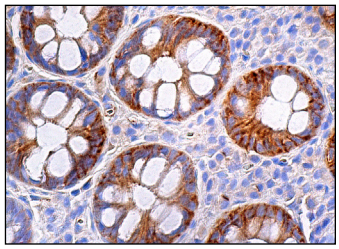
STORAGE

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

DATA



Occludin (F-11): sc-133255. Western blot analysis of Occludin expression in Caco-2 (**A**), COLO 205 (**B**) and HUV-EC-C (**C**) whole cell lysates.



Occludin (F-11): sc-133255. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Boyer-Di Ponio, J., et al. 2014. Instruction of circulating endothelial progenitors *in vitro* towards specialized blood-brain barrier and arterial phenotypes. PLoS ONE 9: e84179.
2. Azizi, P.M., et al. 2015. Clathrin-dependent entry and vesicle-mediated exocytosis define Insulin transcytosis across microvascular endothelial cells. Mol. Biol. Cell 26: 740-750.
3. Stremmel, W., et al. 2016. Phosphatidylcholine passes through lateral tight junctions for paracellular transport to the apical side of the polarized intestinal tumor cell-line Caco-2. Biochim. Biophys. Acta 1861: 1161-1169.
4. Almansour, K., et al. 2018. Mechanistic studies of a cell-permeant peptide designed to enhance Myosin light chain phosphorylation in polarized intestinal epithelia. J. Control. Release 279: 208-219.
5. Sato, F., et al. 2019. Differential expression of claudin-4, Occludin, SOX2 and proliferating cell nuclear antigen between basaloid squamous cell carcinoma and squamous cell carcinoma. Mol. Med. Rep. 20: 1977-1985.
6. Ruan, T., et al. 2020. H1N1 influenza virus cross-activates Gli1 to disrupt the intercellular junctions of alveolar epithelial cells. Cell Rep. 31: 107801.
7. Antonuccio, P., et al. 2021. The nutraceutical N-palmitoylethanolamide (PEA) reveals widespread molecular effects unmasking new therapeutic targets in murine varicocele. Nutrients 13: 734.
8. Xu, Q., et al. 2021. Dietary bioactive peptide alanyl-glutamine attenuates dextran sodium sulfate-induced colitis by modulating gut microbiota. Oxid. Med. Cell. Longev. 2021: 5543003.
9. Manfrevola, F., et al. 2021. Ankrd31 in sperm and epididymal integrity. Front. Cell Dev. Biol. 9: 741975.

RESEARCH USE

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