

ZO-1 (C-19): sc-8146



The Power to Question

BACKGROUND

Tight junctions are complexes of proteins that create intercellular boundaries between the plasma membrane domains of epithelial and endothelial cells. Many of the tight junction-associated proteins are members of the membrane-associated guanylate kinase (MAGUK) family and include occludin, ZO-1, ZO-2 and ZO-3. These proteins are thought to have both structural and signaling roles, and are characteristically defined by three protein-protein interaction modules: the PDZ domain, the SH3 domain and the guanylate kinase (GuK) domain. ZO-1 forms complexes with either ZO-2 or ZO-3. In addition, these proteins can also associate with claudin, occludin and F-actin, at tight junction stands, where they provide a linkage between the actin cytoskeleton and the tight junction. ZO-1 expression is significantly reduced in many breast cancer lines. ZO-2 and ZO-3 are ubiquitously expressed within epithelial tight junctions, and unlike ZO-1, which is also expressed at cell junctions of cardiac myocytes, ZO-2 is not expressed in nonepithelial tissue.

CHROMOSOMAL LOCATION

Genetic locus: TJP1 (human) mapping to 15q13.1; Tjp1 (mouse) mapping to 7 C.

SOURCE

ZO-1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ZO-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8146 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ZO-1 (C-19) is recommended for detection of ZO-1 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).

ZO-1 (C-19) is also recommended for detection of ZO-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ZO-1 siRNA (h): sc-29829, ZO-1 siRNA (m): sc-29832, ZO-1 shRNA Plasmid (h): sc-29829-SH, ZO-1 shRNA Plasmid (m): sc-29832-SH, ZO-1 shRNA (h) Lentiviral Particles: sc-29829-V and ZO-1 shRNA (m) Lentiviral Particles: sc-29832-V.

Molecular Weight of ZO-1: 220 kDa.

Positive Controls: rat testis extract: sc-2400 or rat liver extract: sc-2395.

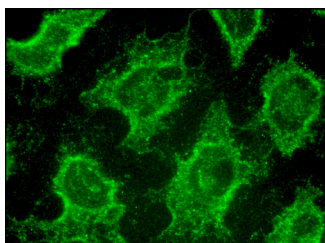
STORAGE

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



ZO-1 (C-19): sc-8146. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Wen, H., et al. 2004. Selective decrease in paracellular conductance of tight junctions: role of the first extracellular domain of claudin-5. *Mol. Cell. Biol.* 24: 8408-8417.
2. Penes, M.C., et al. 2005. Expression of zonula occludens-1 (ZO-1) and the transcription factor ZO-1-associated nucleic acid-binding protein (ZONAB)-MsY3 in glial cells and colocalization at oligodendrocyte and astrocyte gap junctions in mouse brain. *Eur. J. Neurosci.* 22: 404-418.
3. 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.
4. Germann, B., et al. 2008. Applying blood-brain barrier *in vitro* models to study the influence of drugs on endothelial cells—effects of selected COX-inhibitors. *Pharmazie* 63: 303-307.
5. Park, C.J., et al. 2010. Postnatal changes in the expression of claudin-11 in the testes and excurrent ducts of the domestic rabbit (*Oryctolagus cuniculus domesticus*). *J. Androl.* 32: 295-306.
6. Udo, K., et al. 2010. Adipose tissue explants and MDCK cells reciprocally regulate their morphogenesis in coculture. *Kidney Int.* 78: 60-68.
7. Gye, M.C., et al. 2011. Expression of coxsackievirus and adenovirus receptor isoforms in developing mouse bladder uroepithelium. *Urology* 77: 1009.e9-1009.e18.
8. Daane, J.M., et al. 2011. Mesothelium of the murine allantois exhibits distinct regional properties. *J. Morphol.* 272: 536-556.
9. Awsare, N.S., et al. 2011. Claudin-11 decreases the invasiveness of bladder cancer cells. *Oncol. Rep.* 25: 1503-1509.

MONOS
Satisfaction
Guaranteed

Try **α-actinin (H-2): sc-17829** or **α-actinin (B-12): sc-166524**, our highly recommended monoclonal alternatives to α-actinin (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **α-actinin (H-2): sc-17829**.