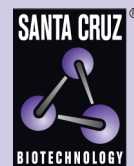


ZO-2 (E-3): sc-515115



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: TJP2 (human) mapping to 9q21.11; Tjp2 (mouse) mapping to 19 B.

SOURCE

ZO-2 (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 789-813 at the C-terminus of ZO-2 of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-515115 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ZO-2 (E-3) is recommended for detection of ZO-2 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ZO-2 (E-3) is also recommended for detection of ZO-2 in additional species, including canine.

Suitable for use as control antibody for ZO-2 siRNA (h): sc-29833, ZO-2 siRNA (m): sc-29926, ZO-2 shRNA Plasmid (h): sc-29833-SH, ZO-2 shRNA Plasmid (m): sc-29926-SH, ZO-2 shRNA (h) Lentiviral Particles: sc-29833-V and ZO-2 shRNA (m) Lentiviral Particles: sc-29926-V.

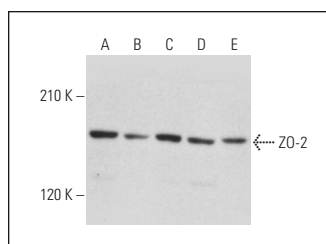
Molecular Weight of ZO-2: 160 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or NIH/3T3 whole cell lysate: sc-2210.

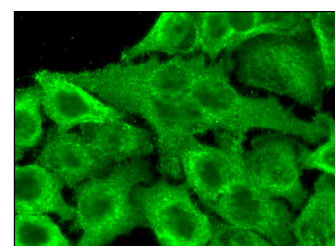
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ZO-2 (E-3): sc-515115. Western blot analysis of ZO-2 expression in HeLa (A), MDCK (B), A-431 (C), NIH/3T3 (D) and PC-12 (E) whole cell lysates.



ZO-2 (E-3): sc-515115. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

- Choi, E.K., et al. 2019. Impact of dietary manganese on experimental colitis in mice. *FASEB J.* 34: 2929-2943.
- Wei, F., et al. 2020. Osteopontin-loaded PLGA nanoparticles enhance the intestinal mucosal barrier and alleviate inflammation via the NFκB signaling pathway. *Colloids Surf. B, Biointerfaces* 190: 110952.
- Hu, W., et al. 2021. Alterations in the gut microbiota and metabolic profiles coincide with intestinal damage in mice with a bloodborne *Candida albicans* infection. *Microb. Pathog.* 154: 104826.
- Srivastava, R.K., et al. 2022. Role of hair follicles in the pathogenesis of arsenical-induced cutaneous damage. *Ann. N.Y. Acad. Sci.* E-published.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.