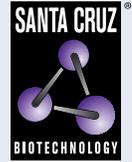


ZO-1 (R40.76): sc-33725



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 strands, 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 (R40.76) is a rat monoclonal antibody raised against DOC-insoluble junctional ribbons isolated from liver of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ZO-1 (R40.76) is available conjugated to agarose (sc-33725 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33725 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33725 PE), fluorescein (sc-33725 FITC), Alexa Fluor® 488 (sc-33725 AF488), Alexa Fluor® 546 (sc-33725 AF546), Alexa Fluor® 594 (sc-33725 AF594) or Alexa Fluor® 647 (sc-33725 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33725 AF680) or Alexa Fluor® 790 (sc-33725 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ZO-1 (R40.76) is recommended for detection of ZO-1 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

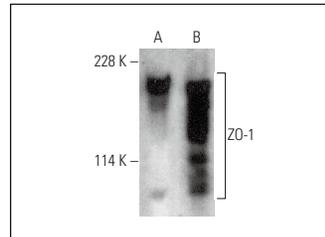
Molecular Weight of ZO-1: 220 kDa.

Positive Controls: mouse lung extract: sc-2390 or Caco-2 cell lysate: sc-2262.

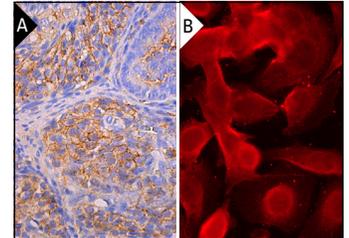
STORAGE

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

DATA



ZO-1 (R40.76) HRP: sc-33725 HRP. Direct western blot analysis of ZO-1 expression in Caco-2 (A) and mouse lung (B) whole cell lysates.



ZO-1 (R40.76): sc-33725. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat ovary tissue showing membrane staining of follicle cells (A). ZO-1 (R40.76) PE: sc-33725 PE. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

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- Su, Y., et al. 2015. Physical and functional links between anion exchanger-1 and sodium pump. *J. Am. Soc. Nephrol.* 26: 400-409.
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RESEARCH USE

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