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; Tjp1 (mouse) mapping to 7C.

SOURCE

ZO-1 (H-300) is a rabbit polyclonal antibody raised against amino acids 1437-1736 of ZO-1 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.

APPLICATIONS

ZO-1 (H-300) 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 (H-300) is also recommended for detection of ZO-1 in additional species, including equine, canine, bovine and porcine.

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 ZO-1 (h): 283T Lysate: sc-178194.

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

![Western blot analysis of ZO-1 expression in non-transfected: sc-117752 (A) and human ZO-1 transfected: sc-178194 (B) 293T whole cell lysates.](image1)

![Western blot analysis of ZO-1 expression in non-transfected: sc-117752 (A) and human ZO-1 transfected: sc-178194 (B) 293T whole cell lysates.](image2)

SELECT PRODUCT CITATIONS


Try ZO-1 (R40.76): sc-33725, our highly recommended monoclonal alternative to ZO-1 (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see ZO-1 (R40.76): sc-33725.