

#5406 Store at -20C

ZO-1 Antibody

Cell Signaling
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H Mk	Endogenous	220	Rabbit	#Q07157	7082

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

ZO-1 Antibody detects endogenous levels of total ZO-1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human ZO-1 protein.

Background

Tight junctions, or zona occludens (ZO), form a continuous barrier to fluids across the epithelium and endothelium. They function in regulation of paracellular permeability and in the maintenance of cell polarity, blocking the movement of transmembrane proteins between the apical and the basolateral cell surfaces (reviewed in 1). ZO-1, -2, and -3 (also known as TJP1, 2, and 3) are peripheral membrane adaptor proteins that link junctional transmembrane proteins, such as occludin and claudin, to the actin cytoskeleton (reviewed in 2). ZO-1 and ZO-2 are required for tight junction formation and function (3,4). In subconfluent proliferating cells, ZO-1 and ZO-2 have been shown to colocalize to the nucleus and play a role in transcriptional regulation, possibly through facilitating nuclear import/export of transcriptional regulators (5-7). The ZO-2 gene is transcribed from two promoters, generating the ZO-2A and ZO-2C isoforms. ZO-2C lacks a 23 amino acid amino-terminal sequence found in other ZO-2 isoforms. While both isoforms appear to be widely expressed, abnormal regulation of the ZO-2 gene may be correlated with development of ductal cancer (8).

Background References

1. Shin, K. et al. (2006) *Annu Rev Cell Dev Biol* 22, 207-35.
2. Matter, K. and Balda, M.S. (2007) *J Cell Sci* 120, 1505-11.
3. Hernandez, S. et al. (2007) *Exp Cell Res* 313, 1533-47.
4. Umeda, K. et al. (2006) *Cell* 126, 741-54.
5. Betanzos, A. et al. (2004) *Exp Cell Res* 292, 51-66.
6. Traweger, A. et al. (2003) *J Biol Chem* 278, 2692-700.
7. Huerta, M. et al. (2007) *Mol Biol Cell* 18, 4826-36.
8. Chlenski, A. et al. (2000) *Biochim Biophys Acta* 1493, 319-24.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster
X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse
GP: Guinea Pig Rab: rabbit All: all species expected

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