

**CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET**

<b>Product name</b>	ZO-1, alpha-, Human, pAb		
<b>Catalog number</b>	HP9045-20UG		
<b>Lot number</b>	-	<b>Expiry date</b>	-
<b>Volume</b>	200 µl	<b>Amount</b>	20 µg
<b>Formulation</b>	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	<b>Concentration</b>	100 µg/ml
<b>Host Species</b>	Guinea pig Ig	<b>Conjugate</b>	None
<b>Endotoxin</b>	N.A.	<b>Purification</b>	Affinity
<b>Storage</b>	4°C		

**Application notes**

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #								
Yes	•	•	•					•
No								
N.D.				•	•	•	•	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

**General Information**

<b>Description</b>	The polyclonal antibody recognizes human zona occludens 1 (ZO-1), an ~220 kDa tight junction protein belonging to the membrane-associated guanylate kinase (MAGUK) family. Members of this family are involved in epithelial and endothelial intercellular junctions. They each contain at least one PSD95/Dlg/ZO-1 (PDZ) domain, a Src homology 3 (SH3) domain, and an enzymatically inactive guanylate kinase domain. PDZ domains are 90-amino acid protein-protein binding domains that recognize at least a 3-residue peptide motif in the COOH termini of their binding partners. PDZ domain-containing proteins, like ZO-1, typically act as scaffolding proteins that organize membrane receptors and cytosolic proteins into multimeric signaling complexes often at the sites of cell-cell contact. The effectiveness and stability of the epithelial barrier depends on a complex of proteins composing different intercellular junctions, which include tight junctions, adherens junctions, and desmosomes. ZO-1 is a peripheral membrane protein bound on the cytoplasmic surface of junctional contacts and is expressed in all tight junctions regardless of their properties. ZO-1 immunoprecipitates with its family member ZO-2. ZO-1 was shown to undergo tyrosine phosphorylation during tight junction formation and remodeling. Two different isoforms of ZO-1, alpha-minus and alpha-plus, have been described, which result from alternative splicing of an mRNA encoded by a single gene. The ZO-1 alpha-plus contains an 80 amino acids motif called alpha which is not present in ZO-1 alpha-minus. The alpha-containing isoform is found in most epithelial cell junctions. The short isoform (ZO-1 alpha-minus) is found both in endothelial cells and the highly specialized epithelial junctions of renal glomeruli and Sertoli cells of the seminiferous tubules. This difference in distribution provides molecular distinction among tight junctions. The polyclonal antibody is raised against a human peptide antigen corresponding to ten residues at the splice junction and as such recognizes specifically ZO-1 alpha-minus. It cross reacts with mouse, rat and dog ZO-1 alpha-minus.
<b>Immunogen</b>	Human peptide antigen corresponding to ten residues at the splice junction.
<b>Aliases</b>	Zona Occludens 1 alpha-minus, ZO-1-alpha-minus, Tight junction protein 1 (TJP1)
<b>Cross reactivity</b>	Mouse: Yes; Rat: Yes; Dog: Yes.
<b>References</b>	<ol style="list-style-type: none"> <li>Balda, M et al; Two classes of tight junctions are revealed by ZO-1 isoforms. Am J Physiol 1993, 264: C918.</li> <li>Pelletier, R et al; Differential distribution of the tight-junction-associated protein ZO-1 isoforms α-plus and α-minus in guinea pig Sertoli cells: a possible association with F-actin and G-actin. Biol Reprod 1997, 57: 367.</li> <li>Van Itallie, C et al; Epidermal growth factor induces tyrosine phosphorylation and reorganization of the tight junction protein ZO-1 in A431 cells. J Cell Sci 1995, 108: 1735.</li> </ol>
<b>Storage&amp;stability</b>	Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

**Precautions**

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC  
Brenda Teunissen

Date  
31/03/2021

Do you have any questions or comments regarding this product? Please contact us via [support@hycultbiotech.com](mailto:support@hycultbiotech.com).