Datasheet for ABIN675024

anti-TJP1 antibody (AA 1551-1702)

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Overview

Quantity:	100 µL
Target:	TJP1
Binding Specificity:	AA 1551-1702
Reactivity:	Human, Mouse, Rat, Pig, Cow
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This TJP1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Flow Cytometry (FACS), Immunohistochemistry (Paraffin-embedded Sections) (IHC (p)), Immunofluorescence (Paraffin-embedded Sections) (IF (p)), Immunofluorescence (Cultured Cells) (IF (cc)), Immunohistochemistry (Frozen Sections) (IHC (fro))

Product Details

Immunogen:	KLH conjugated synthetic peptide derived from human ZO-1
Isotype:	IgG
Cross-Reactivity:	Cow, Human, Mouse, Pig, Rat
Predicted Reactivity:	Dog,Cow,Chicken,Rabbit,Guinea Pig
Purification:	Purified by Protein A.

Target Details

Target:	TJP1

Target Details

Alternative Name:	ZO-1 (TJP1 Products)
Background:	Synonyms: ZO-1, Tight junction protein ZO-1, Tight junction protein 1, Zona occludens protein 1, Zonula occludens protein 1, TJP1, ZO1 Background: The N-terminal may be involved in transducing a signal required for tight junction assembly, while the C-terminal may have specific properties of tight junctions. The alpha domain might be involved in stabilizing junctions. Plays a role in the regulation of cell migration by targeting CDC42BPB to the leading edge of migrating cells.
Gene ID:	7082
UniProt:	Q07157
Pathways:	Carbohydrate Homeostasis, Cell-Cell Junction Organization

Application Details

Application Notes:	WB 1:300-5000
	ELISA 1:500-1000
	FCM 1:20-100
	IHC-P 1:200-400
	IHC-F 1:100-500
	IF(IHC-P) 1:50-200
	IF(IHC-F) 1:50-200
	IF(ICC) 1:50-200

Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1 μg/μL
Buffer:	0.01M TBS(pH 7.4) with 1 % BSA, 0.02 % Proclin300 and 50 % Glycerol.
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Handling

Expiry Date:	12 months

Publications

Product cited in:

Zhuang, Zhong, Bian, Fan, Chen, Liu, Liu: "Rhein ameliorates lipopolysaccharide-induced intestinal barrier injury via modulation of Nrf2 and MAPKs." in: **Life sciences**, Vol. 216, pp. 168-175, (2019) (PubMed).

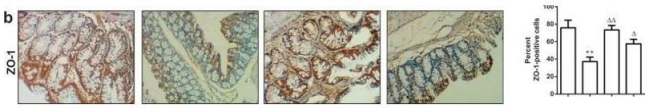
Kulhankova, Kinney, Stach, Gourronc, Grumbach, Klingelhutz, Salgado-Pabón: "The Superantigen Toxic Shock Syndrome Toxin-1 Alters Human Aortic Endothelial Cell Function." in: **Infection and immunity**, (2018) (PubMed).

Zou, Lin, Li, Wu, He, Huang, Wang, Ye, Cheng, Ding, Zheng, Chi: "Huangqin-tang ameliorates dextran sodium sulphate-induced colitis by regulating intestinal epithelial cell homeostasis, inflammation and immune response." in: **Scientific reports**, Vol. 6, pp. 39299, (2018) (PubMed).

Zhao, Qin, Han, Wang, Zhang, Liu: "?-Conglycinin reduces the tight junction occludin and ZO-1 expression in IPEC-J2." in: **International journal of molecular sciences**, Vol. 15, Issue 2, pp. 1915-26, (2014) (PubMed).

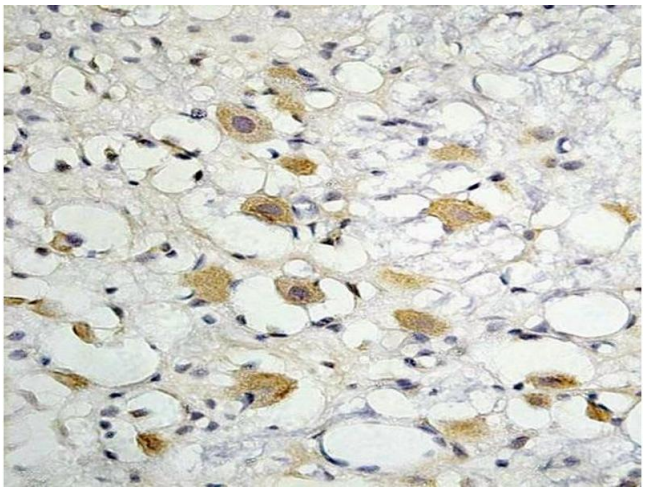
Ruan, Liu, Zhou, Mi, Liu, Wu, Yao, Assaad, Deng, Hou, Wu, Yin: "Chlorogenic acid decreases intestinal permeability and increases expression of intestinal tight junction proteins in weaned rats challenged with LPS." in: **PLoS ONE**, Vol. 9, Issue 6, pp. e97815, (2014) (PubMed).

There are more publications referencing this product on: Product page



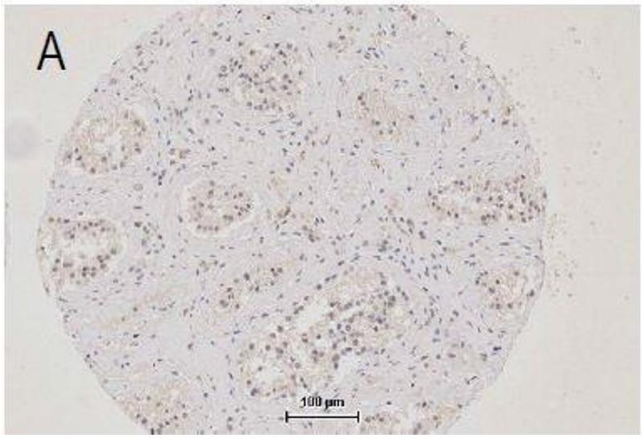
Immunohistochemistry (Paraffin-embedded Sections)

Image 1. HQT regulates epithelial proliferation in the colonic mucosa of mice with DSS-induced acute and chronic colitis.Mice were administered regular water (control) or 3.5 % DSS for 7 days followed by treatment with HQT for 7 days. (a-c) Immunohistochemical analysis of tight junction proteins occluding, ZO-1 and proliferating cells detected based on Ki67 in colon sections in DSS-induced acute colitis mice. (magnification, x200). Graphical representation of the percentage of occluding, ZO-1 and Ki67-positive cells in the mid-colon. Results are expressed as means±SD of three independent experiments, n=8 mice per group. *p<0.05, **p<0.001 vs. the control group, p<0.05, p<0.001 vs. DSS-treated mice. Mice received three cycles of DSS treatment (2.5 %), each cycle consisting of 7 days of water containing DSS followed by 14 days of tap water, followed by treatment with HQT for 7 days. (d) Immunohistochemical analysis of proliferating cells detected based on Ki67 in colon sections in mice with DSS-induced chronic colitis (magnification, x200). Graphical representation of the percentage of Ki67-positive cells in the mid-colon. Results are expressed as means±SD of three independent experiments, n=8 mice per group. *p<0.05, **p<0.001 vs. the control group, p<0.05, p<0.001 vs. DSS-treated mice. - figure provided by CiteAb. Source: PMID27982094



Immunohistochemistry

Image 2. Formalin-fixed and paraffin embedded rat brain labeled with Anti- ZO-1 Polyclonal Antibody, Unconjugated (ABIN675024) followed by conjugation to the secondary antibody and DAB staining



Immunohistochemistry

Image 3. Image kindly submitted by Kamlesh Gupta as part of the free sample program. Caco-2 cell lysate and mouse kidney lysate probed with ZO-1 primary antibody (ABIN675024) at 1:500 overnight at 4 °C. Followed by incubation with anti-rabbit HRP-conjugated secondary antibody at 1:5000 dilution for 1h at 25 °C. Predicted and observed band size: ~200kDa.

Please check the product details page for more images. Overall 7 images are available for ABIN675024.

Successfully validated (Immunohistochemistry (IHC))

by Immunohistochemistry Core, NYU Langone

Report Number: 029577

Date: Jan 18 2014

Lot Number:	130913
Method validated:	Immunohistochemistry (IHC)
Positive Control:	Testis
Negative Control:	See Controls section for negative controls
Notes:	Signal was detected in positive control tissue, and not detected in a tissue expected to express very low levels of the target antigen.
Primary Antibody:	- Antibody: human Tight Junction Protein 1 (Zona Occludens 1) (TJP1) - Catalog number: ABIN675024 - Supplier: Bioss - Supplier number: bs-1329r - Lot number: 130913
Secondary Antibody:	- Antibody: Biotinylated goat anti-rabbit/anti-mouse (Kit) - Catalog number: 760-091 - Supplier: Ventana Medical Systems - Lot number: D05923BA
Isotype:	- Antibody: Rabbit IgG isotype control - Catalog number: 790-4795 - Supplier: Ventana Medical Systems - Lot number: C11487
Controls:	• Tissues stained came from a human formalin-fixed paraffin embedded (FFPE) tissue microarray (12-003d): • Positive control (specimen known to contain the target protein): human testis, which is expected to express high levels of the antigen. • Negative Control (specimen known to not contain the target protein): Indeterminate; protein located on cytoplasmic membrane surface of intercellular tight junctions. The protein may be involved in signal transduction at cell-cell junctions. Expression is expected to be widespread. Thymus, expected to express much lower levels of the antigen as compared to testis, is shown to demonstrate a tissue with no detectable expression. • Primary antibody isotype control: Testis (specimen known to contain the target protein) treated with primary antibody isotype control instead of the primary antibody. • Secondary antibody only control: Testis (specimen known to contain the target protein) treated with secondary antibody only (no primary antibody).
Protocol:	• Immunohistochemistry was performed on a Ventana NexES automated platform, instrument manufacturer specific reagents are italicized. • 1. Slides were preheated in convection oven at 60°C for 30 minutes

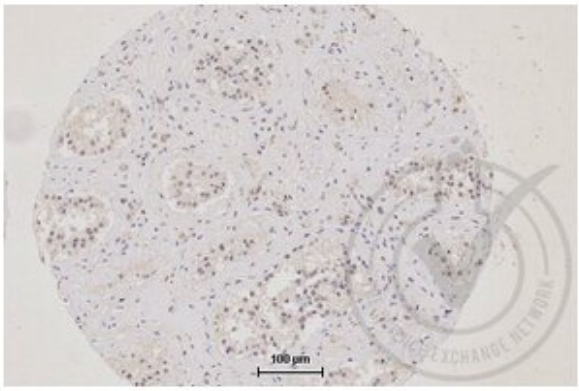
- 2. Deparaffinization procedure: - 3 changes of Xylene, 5 minutes each - 3 changes of 100% Ethanol, 3 minutes each - 3 changes of 95% Ethanol, 3 minutes each - Rinsed in distilled water, 3 changes
- 1. Heat retrieval procedure - Slides retrieved in 10.0 mM Citrate, pH6.0 in a 1000W microwave oven (~100°C) for 15 minutes. - Slides were allowed to cool (in citrate) for 30 minutes. - Slides were washed x 3 in Distilled water
- 1. NexES instrument procedure, iVIEW DAB paraffin protocol (*abridged*): - Slide chamber warmed to 37°C
- 1. Slides rinsed with *reaction buffer* x 3
- 1. *iVIEW Inhibitor (H2O2)* applied and incubated for 4 minutes
- 1. Slides rinsed with *reaction buffer*
- 1. Antibody Application - Primary antibody diluted 1:250 in PBS (100 microliters applied/slide) - Ventana Isotype control applied neat - Slides incubated overnight at room temperature (~12 hours ~25°C)
- 1. Slides rinsed with *reaction buffer* x3
- 1. *iVIEW Biotinylated IgG* applied and incubated for 8 minutes
- 1. Slides rinsed with *reaction buffer*
- 1. *iVIEW Streptavidin-Horseradish Peroxidase* applied and incubated for 8 minutes
- 1. Slides rinsed with *reaction buffer*
- 1. *iVIEW DAB/H2O2* applied and incubated for 8 minutes
- 1. Slides rinsed with *reaction buffer*
- 1. *iVIEW Copper* applied and incubated for 4 minutes
- 1. Slides rinsed with *reaction buffer*
- 1. Slides washed in Dawn Detergent/tap water
- 1. Counterstain Procedure - Hematoxylin (Leica 560 MX) 30 seconds - Slides washed in tap water, 1 minute - Decolorized (10% Acetic Acid in 70% ethanol), 1 minute - Slides washed in tap water, 1 minute - Bluing (Austin Clear Ammonia), 1 minute - Slides washed in tap water, 1 minute
- 1. Dehydration/coverslipping procedure: - 3 changes of 95% Ethanol, 3 minutes each - 3 changes of 100% Ethanol, 3 minutes each - 3 changes of Xylene, 5 minutes each - Mounted with Permount
- 1. Imaging: Leica SCN 400F Whole Slide Scanner with Digital Image Hub and Leica Slidepath software

Experimental Notes:

- Deviations from protocol/procedure supplied by manufacturer (attached).
- Step 1: Heated tissue 60°C for 30 minutes; manufacturer heats for 45 minutes.
- Step 2: No ethanol wash was performed during deparaffinization; manufacturer includes 1 wash of 80% ethanol for 3 minutes.
- Step 3.1: Slides were heated for 15 minutes; manufacturer provides a range of 15-20 minutes.
- Step 3.2: Slides were cooled for 30 minutes; manufacturer cools for 20 minutes.
- Step 4: Italicized reagents and incubation time are fixed instrument parameters.
- Step 5: Secondary species-specific serum block not used; manufacturer blocks with 5% normal goat serum for 2 hours.

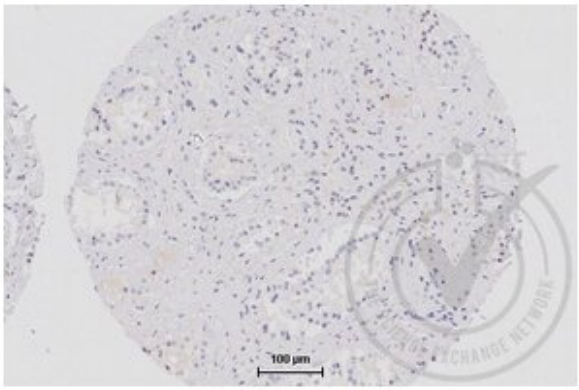
- Step 8.1: Antibody diluted in PBS at 1:250; manufacture did not recommend diluent or dilution.
- Step 8.2.1: Primary antibody incubated at room temperature overnight; manufacturer incubates overnight 4°C with agitation.
- Tissue Interpretation (limited): - TJP1: Under the staining parameters described above, testis stained weakly (ducts) positive (Figure 1). Substantial signal detected in limited number of other tissues, including: breast, normal (NOS); pancreatic cancer (NOS), and stomach, normal (NOS). Most tissues showed low level of specific signal. Thymus did not have any detectable signal (Figure 4).
- I-NC (Isotype negative control): No signal detected
- B-NC (Blank negative control): No signal detected
- Signal Localization: - Signal to noise was adequate with cytoplasmic, nuclear subcellular localization observed. Rare inner-membrane and no distinct membrane signal observed.

Images for Validation report #029577



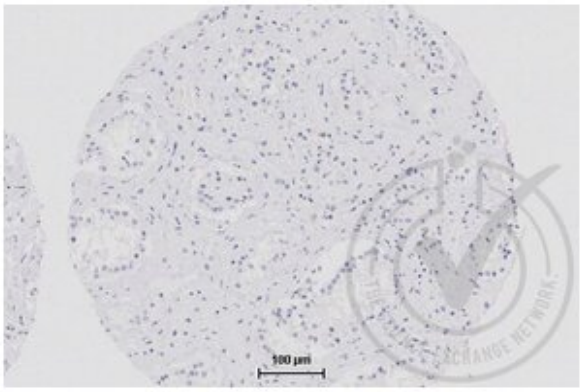
Validation image no. 1 for anti-Tight Junction Protein 1 (TJP1) (AA 1551-1702) antibody (ABIN675024)

Figure 1: TJP1 immunostaining of human testis (brown). Counterstain in blue.



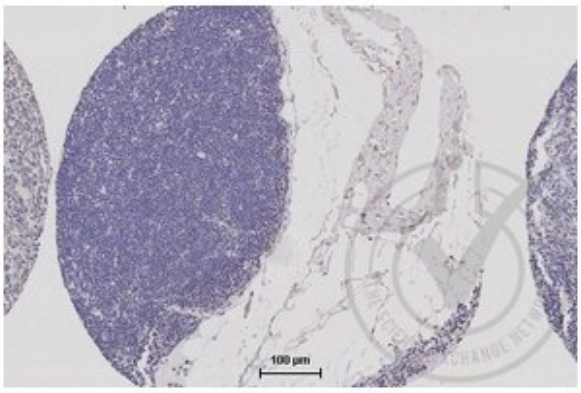
Validation image no. 2 for anti-Tight Junction Protein 1 (TJP1) (AA 1551-1702) antibody (ABIN675024)

Figure 2: Isotype control immunostaining of human testis (brown). Counterstain in blue.



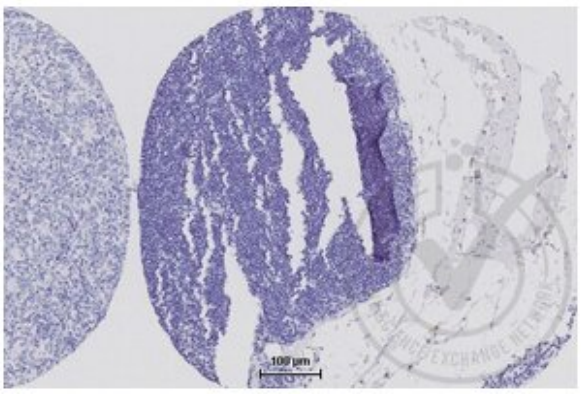
Validation image no. 3 for anti-Tight Junction Protein 1 (TJP1) (AA 1551-1702) antibody (ABIN675024)

Figure 3: Secondary only control immunostaining of human testis (brown). Counterstain in blue.



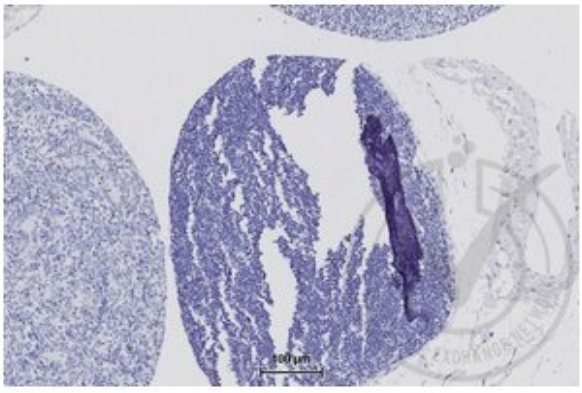
Validation image no. 4 for anti-Tight Junction Protein 1 (TJP1) (AA 1551-1702) antibody (ABIN675024)

Figure 4: TJP1 immunostaining of human thymus (brown). Counterstain in blue.



Validation image no. 5 for anti-Tight Junction Protein 1 (TJP1) (AA 1551-1702) antibody (ABIN675024)

Figure 4: Isotype control immunostaining of human thymus (brown). Counterstain in blue.



Validation image no. 6 for anti-Tight Junction Protein 1 (TJP1) (AA 1551-1702) antibody (ABIN675024)

Figure 6: Secondary only immunostaining of human thymus (brown). Counterstain in blue.