abcam

ab314173

Anti-Claudin18 antibody [25E3] - Human IgG1 (Chimeric)

Recombinant | Advanced Validation

Key facts

Isotype	IgG1
Host species	Human
Storage buffer	pH: 7.4 Preservative: 0.03% Proclin 300 Constituents: PBS, 50% Glycerol (glycerin, glycerine)
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human CLDN18. Database link P56856
Clone number	25E3
Purification technique	Affinity purification
Specificity	We only have data for transfected human samples, we currently have no endogenous data.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Transfected cell line - Human

Dilution info	1/50 - 1/200
Notes	-

Predicted

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

FuncS

Tested

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Predicted

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Target data

See full target information CLDN18

Function	Involved in alveolar fluid homeostasis via regulation of alveolar epithelial tight junction composition and therefore ion transport and solute permeability, potentially via downstream regulation of the actin cytoskeleton organization and beta-2-adrenergic signaling (By similarity). Required for lung alveolarization and maintenance of the paracellular alveolar epithelial barrier (By similarity). Acts to maintain epithelial progenitor cell proliferation and organ size, via regulation of YAP1 localization away from the nucleus and thereby restriction of YAP1 target gene transcription (By similarity). Acts as a negative regulator of RANKL-induced osteoclast differentiation, potentially via relocation of TJP2/ZO-2 away from the nucleus, subsequently involved in bone resorption in response to calcium deficiency (By similarity). Mediates the osteoprotective effects of estrogen, potentially via acting downstream of estrogen signaling independently of RANKL signaling pathways (By similarity). Isoform A1. Involved in the maintenance of homeostasis of the alveolar microenvironment via regulation of pH and subsequent T-cell activation in the alveolar space, is therefore indirectly involved in limiting C.neoformans infection. Isoform A2. Required for the formation of the gastric paracellular barrier via its role in tight junction formation, thereby involved in the response to gastric acidification.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Claudin-18 often noted as Claudin18 or CLDN18 is a tight junction protein belonging to the Claudin family. The protein comes in different isoforms including Claudin 18.2 each having a distinct function and expression pattern. With an estimated molecular mass of approximately 24 kDa it is mainly expressed in epithelial cells of the stomach and specific lung epithelia. Researchers utilize it frequently in immunohistochemistry (IHC) studies often referred to as CLDN18 IHC for its role in maintaining cell-to-cell adhesion in these tissues.
Biological function summary	Claudin-18.2 integrates itself into a tight junction complex contributing to the selective permeability barrier in epithelial tissues. This barrier is essential for maintaining tissue homeostasis and protecting underlying tissue from various external factors. It plays a significant role in ion selectivity and barrier assurance of the epithelial cells-gastrointestinal site especially. The regulated expression and function of Claudin 18 are critical for effective epithelial barrier function.
Pathways	Claudin-18 is involved in pathways concerning epithelial morphogenesis and integrity. It aligns with occludins and other claudins to control paracellular transport and cellular integrity within these pathways. Through its association with proteins such as ZO-1 Claudin-18 ensures proper cell signaling and tight junction formation. Its regulation in epithelial cells contributes significantly to pathways that sustain cell structure and prevent uncontrolled leakage of solutes.
Associated diseases and disorders	The altered expression of Claudin-18.2 is closely linked to gastric and lung cancers. Abnormal levels can disrupt the epithelial barrier contributing to tumor progression and metastasis. In gastric cancer altered Claudin-18 couples with overexpression of other proteins such as HER2 playing a role in the disease's aggressiveness. Researchers consider it a potential target for therapeutic interventions making Claudin-18.2 purchase or acquisition relevant for studies oriented toward cancer diagnostics and treatment.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

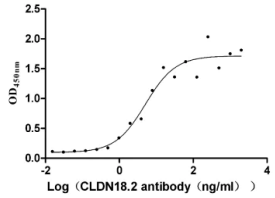
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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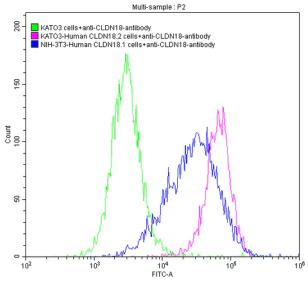
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2 product images



Functional Studies - Anti-Claudin18 antibody [25E3] - Human IgG1 (Chimeric) (ab314173)

The binding activity of human CLDN18.2 with ab314173. Activity: Measured by its binding ability in a functional ELISA. Immobilized human CLDN18.2 at 5 μg/mL can bind ab314173, the EC50 is 2.947-8.782 ng/mL.



Flow Cytometry - Anti-Claudin18 antibody [25E3] - Human IgG1 (Chimeric) (ab314173)

Untransfected KATO3 cells (green line), transfected human CLDN18.2 KATO3 stable cells (pink line) and transfected human CLDN18.1 NIH-3T3 stable cells (blue line) were stained with ab314173 (2μg/1x106 cells), washed and then followed by FITC-conjugated Goat Anti-Human IgG, Fcγ antibody and analyzed with flow cytometry.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.