

# Claudin 1 (polyclonal)

For In Vitro Diagnostic Use (IVD)

English: Instructions For Use

## Presentation

Anti-Claudin 1 is a rabbit polyclonal antibody, diluted in tris buffered saline, pH 7.3-7.7, with protein base, and preserved with sodium azide.

## Applications

The claudins are a family of over twenty proteins which are components of tight junction. Tight junctions are specialized regions of cell to cell contact; made up of network of strands to act as a molecular gasket for preventing the leakage of ions, water etc. between cells. They are abundant in luminal epithelial sheets where they maintain epithelial cell polarity. The claudins constitute a variable component, with specific claudins being associated with specific tissues.

The immunoreactivity for anti-claudin 1 is membranous and is found in nearly all carcinomas. The staining is much stronger in the carcinoma cells than in normal tissues. Anti-claudin 1 in a panel of immunostains with EMA (positive), S-100 (negative), and GLUT1 can be utilized as a robust marker in diagnosis of perineurioma and neurofibroma. Recently studies showed anti-claudin seems to be a specific marker for meningiomas. Therefore, anti-claudin with anti-EMA, anti-S-100 protein, anti-CD34, and anti-glial fibrillary acidic protein may be helpful in the diagnosis of meningiomas from histologic mimics.

<b>Reactivity</b>	Paraffin, frozen
<b>Control</b>	Skin, colon, small intestine, perineurioma, neurofibroma
<b>Visualization</b>	Membranous
<b>Stability</b>	Up to 36 months; store at 2-8°C

**The immunoglobulin concentration of the reagent appears on the product label.**

*Antibody color does not affect performance*

Description	Cat. No.	Dilution/Comments
0.1 ml, concentrate	359A-14	1:25 - 1:100*
0.5 ml, concentrate	359A-15	1:25 - 1:100*
1 ml, concentrate	359A-16	1:25 - 1:100*
1 ml, prediluted	359A-17	Ready to use
7 ml, prediluted	359A-18	Ready to use
Positive control slides	359S	5 slides/pack

- prediluted  
 concentrate

## Preparation and Pretreatment

- Cut 3-4 µm section of formalin-fixed paraffin-embedded tissue and place on positively charged slides; dry overnight at 58°C.
- Deparaffinize, rehydrate, and epitope retrieve; the preferred method is the use of Heat Induced Epitope Retrieval (HIER) techniques using Cell Marque's Trilogy™ in conjunction with a pressure cooker. The preferred method allows for simultaneous deparaffinization, rehydration, and epitope retrieval. Upon completion, rinse with 5 changes of distilled or deionized water.
- If using HRP detection system, place slides in peroxide block for 10 minutes; rinse. If using AP detection system, omit this step.

## Recommended Protocol for Staining at Room Temperature Using CytoScan™ BSA Detection System

- Apply the antibody and incubate for 30 - 60 minutes; rinse.
- Apply the link and incubate for 10 minutes; rinse.
- Apply the label and incubate for 10 minutes; rinse.
- Apply ample amount of chromogen and incubate for 1 - 10 minutes; rinse.
- Dehydrate and coverslip.

## Recommended Protocol for Staining at Room Temperature Using PolyScan™ Polymer Detection System

- Apply the antibody and incubate for 30 - 60 minutes; rinse.
- Apply the PolyScan™ Polymer Rabbit/Mouse Detection System for 30 minutes; rinse.
- Apply ample amount of chromogen and incubate for 1 - 10 minutes; rinse.
- Dehydrate and coverslip.

## References

- Folpe, A.L., Billings, S.D., et al., Expression of claudin-1, a recently described tight junction-associated protein, distinguishes soft tissue perineurioma from potential mimics. *Am J Surg Pathol.* 2002;26:1620-6.
- Hornick JL, Fletcher CD. Soft tissue perineurioma: clinicopathologic analysis of 81 cases including those with atypical features. *Am J Surg Pathol* 2005; 29:845-58.
- Y Soini Expression of claudins 1, 2, 3, 4, 5, and 7 in various types of tumors. *Histopathology* 2005; 47:551-560.
- M E F Smith, R Awasthi, et al., Evaluation of perineurial differentiation in epithelioid sarcoma. *Histopathology.* 2005; 47:575-581.
- Liu Y, Sun W, et al., Identification of genes differentially expressed in human primary lung squamous cell carcinoma. *Lung Cancer.* 2007 56 (3):307-17.
- Macarenco RS, Ellinger F, et al., Perineurioma: a distinctive and underrecognized peripheral nerve sheath neoplasm. *Arch Pathol Lab Med.* 2007 Apr; 131(4):625-36.

\*The dilutions set forth above are estimates; actual results may differ because of variability in methods and protocols. Validation of antibody performance/protocol is the responsibility of the end user.