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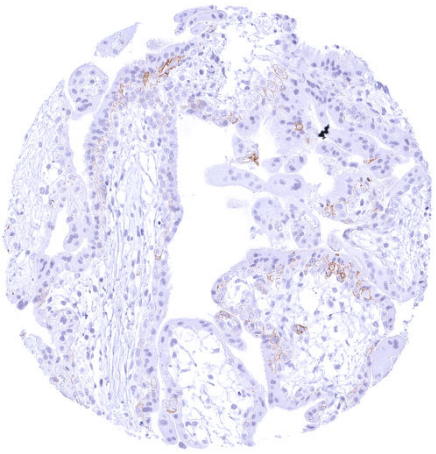
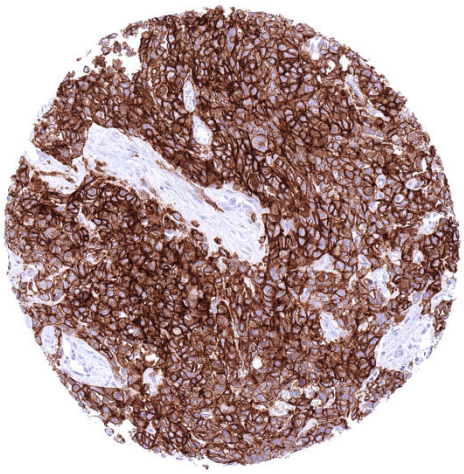
Anti- Claudin 6 Antibody
MSVA-916R / Recombinant Rabbit monoclonal

Human SwissProt	P56747
Human Gene Symbol	CLDN6
Synonyms	Claudin-6, CLDN6
Specificity	Claudin 6
Immunogen	Recombinant human CLDN6 fragment
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Membranous

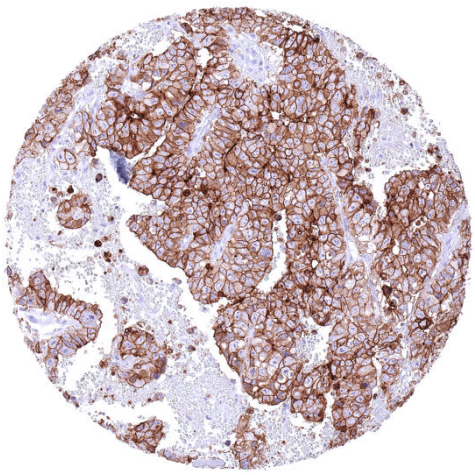
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Placenta (first trimester): A strong membranous CLDN6 staining should be seen in cytotrophoblast cells while other cell types remain CLDN6 negative.
Negative Control	Tonsil: Epithelial and inflammatory cells must not show any CLDN6 staining.



First trimester placenta exhibiting a moderate membranous CLDN6 staining of cytotrophoblast cells.



Ovarian serous high-grade carcinoma with intense CLDN6 positivity of all tumor cells.



Testicular embryonal carcinoma with strong CLDN6 staining of all tumor cells.

Biology

Claudin-6 (CLDN6) is one of 26 members of the claudin family of membrane proteins that are crucial components of tight junctions, regulating paracellular permeability and maintaining cell polarity. It is one of the earliest proteins expressed in embryonic stem cells. CLDN6 is expressed in specific fetal tissues such as the kidney, lung, pancreas, and the stomach, but it is not expressed in the corresponding adult tissues. While CLDN6 expression is largely lacking on normal tissues, it is highly expressed in several cancers. In normal tissues, CLDN6 staining is strongest in cytotrophoblast cells of the first trimester placenta. A weak to moderate membranous CLDN6 can also occur in few chorion cells, few intercalated ducts and/or acinar cells of the pancreas, few epithelial cells of the adenohypophysis, and in few tubular or collecting duct cells of the kidney. Among cancers, CLDN6 expression is particularly frequent in testicular germ cell tumors as well as in ovarian and endometrial cancer but it also occurs in various other tumor entities. Because its expression is largely limited to cancers, CLDN6 is considered a potential therapeutic target. Studies evaluating CLDN6 as a target for monoclonal antibodies, antibody-drug conjugates, bispecific antibodies, and CAR-T cells are underway.

Potential Research Applications

-How does aberrant CLDN6 expression contribute to tumor initiation, progression, and metastasis across different cancer types?
-What is the prevalence of CLDN6 expression in different tumor entities?
-What are the most effective strategies for targeting CLDN6 in cancer therapy?
-Determine the specificity and sensitivity of CLDN6 detection methods, such as IHC for the identification of tumors responding to anti-CLDN6 therapies.
-What are potential resistance mechanisms for CLDN6-targeted therapies?

Protocol Suggestions

Dilution: 1:100 - 1:200; pH 9 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.

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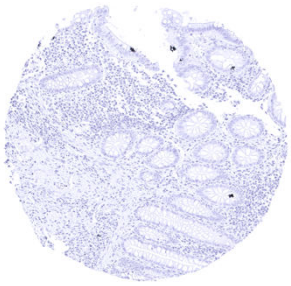
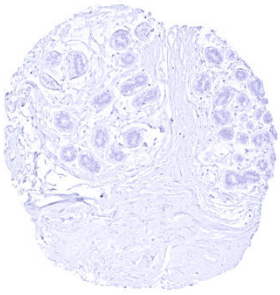
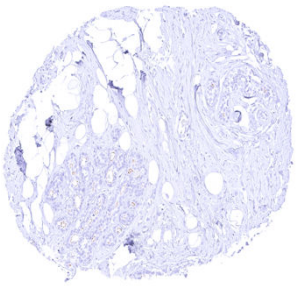


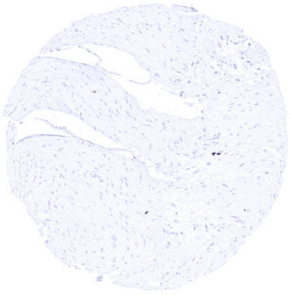
Appendix, mucosa



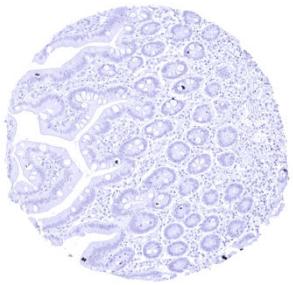
Breast – Absence of CLDN6 staining of epithelial cells in this sample.



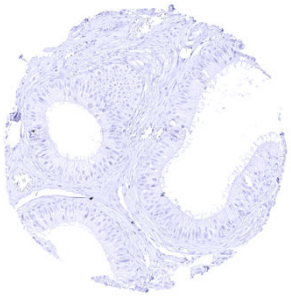
Breast – Faint CLDN6 staining of apical membranes of luminal epithelial cells of breast glands (cross-reactive).



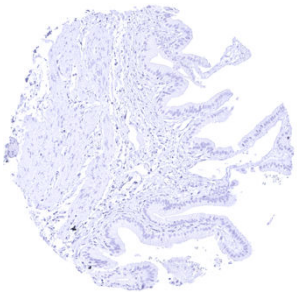
Colon descendens, muscular wall



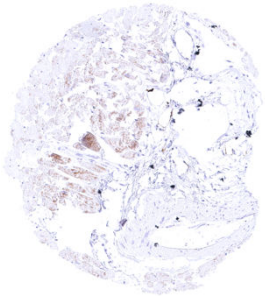
Duodenum, mucosa



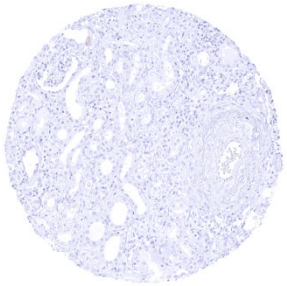
Epididymis, Caput



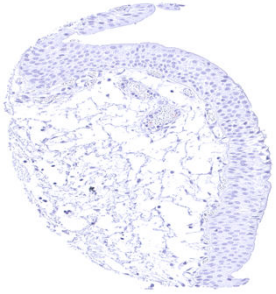
Gallbladder, epithelium



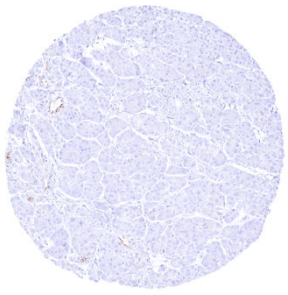
Heart muscle – Weak to moderate cytoplasmic CLDN6 staining of most heart muscle fibers (cross-reactive).



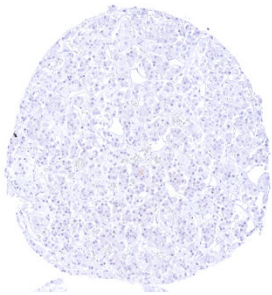
Kidney, cortex – Weak to moderate membranous CLDN6 staining of few cells in a dilated tubular structure (distal tubulus or collection duct).



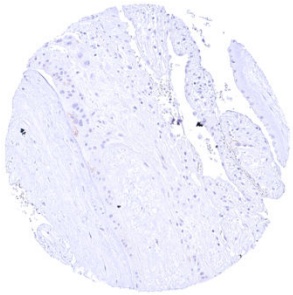
Kidney, pelvis, urothelium



Pancreas – Moderate CLDN6 staining of (mainly apical-luminal) membranes in a fraction of cells (intercalated ducts and-or acinar cells).

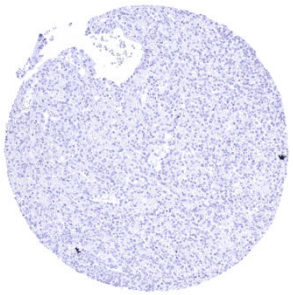


Pituitary gland, anterior lobe – Faint CLDN6 staining some membranes of few epithelial cells.

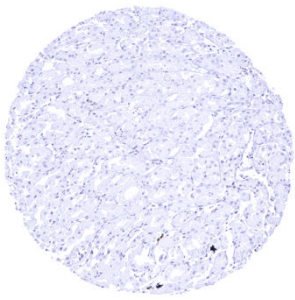


Placenta (amnion and chorion) – Weak to moderate membranous CLDN6 staining of few chorion cells (in this sample).

Skeletal muscle – Weak to moderate cytoplasmic CLDN6 staining of some muscle fibers (cross-reactive).



Spleen



Stomach, corpus