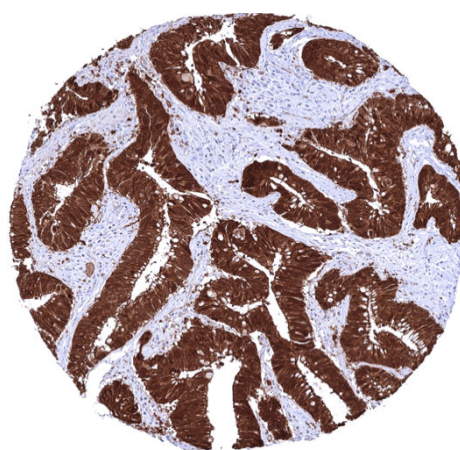


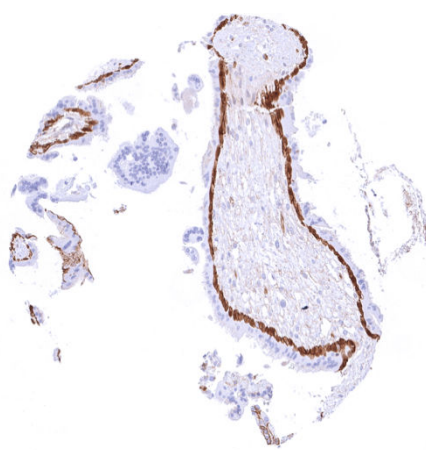
Anti- Beta-Catenin Antibody MSVA-578R/ Recombinant Rabbit monoclonal

Human SwissProt	P35222
Human Gene Symbol	CTNNB1
Synonyms	Catenin beta-1, Beta-catenin, Cadherin associated protein, beta 1 88kDa, Catenin beta-1, CATNB, CHBCAT, CTNNB1
Specificity	CTNNB1
Immunogen	Recombinant human CTNNB1 fragment
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Predominantly cell membrane under normal conditions.

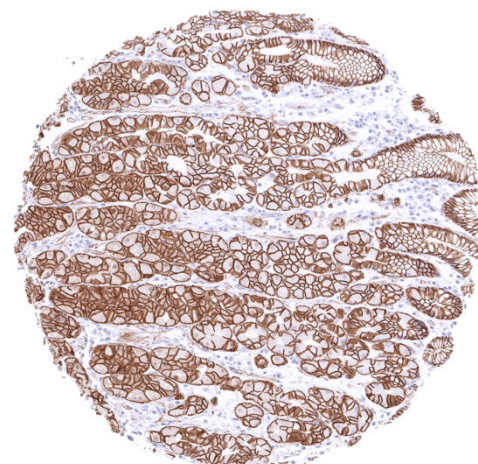
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Caput epididymis: A strong membranous β -Catenin staining should be seen in all epithelial cell types. In a fraction of the cells, an additional distinct nuclear staining must be seen.
Negative Control	Placenta (mature): β -Catenin staining should be absent in the cells of the syncytiotrophoblast while it is strong in cells of the cytotrophoblast.



Colorectal adenocarcinoma with intense membranous, cytoplasmic, and nuclear beta catenin positivity of all tumor cells



Cytotrophoblast cells of the first trimester placenta with a strong membranous beta catenin staining, accompanied by a nuclear and cytoplasmic positivity in many cells. The syncytiotrophoblast is beta catenin negative



Gastric corpus mucosa with a strong membranous beta catenin staining of all epithelial cells

Biology

β -Catenin is a dual function protein with relevant roles in cell–cell adhesion and gene transcription. At the cell membrane, β -catenin associates with other proteins to regulate cell adhesion. β -Catenin acts as the terminal intracellular signal transducer in the Wnt signaling pathway. β -Catenin is expressed in most epithelial cells, endothelial cells, intercalated discs of heart muscle cells, along nerve fibers as well as few other non-epithelial cell types. In cardiac muscle, it is a main component of the intercalated disc. In case of active Wnt signaling, β -Catenin accumulates in the cytoplasm and subsequently translocates to the nucleus where it acts as a transcriptional co-activator and binds to multiple transcription factors. Nuclear β -Catenin translocation and subsequent activation of β -Catenin regulated genes can also be caused by loss of function mutations of proteins of the beta-catenin destruction complex (APC, axin1/2, others) or gain of function mutations of CTNNB1. Such mutations commonly occur in several cancer types. Wnt signaling and β -catenin dependent gene expression play a critical role during the formation of different body regions in the early embryo, maintenance of pluripotency, epithelial-to-mesenchymal transition, and cardiac physiology. Alterations of Wnt signaling and beta catenin function play a role in various diseases including mental illness (depression), arteriosclerosis, cardiac disease, and cancer. Most epithelial tumors express β -Catenin on their cell membranes. Aberrant β -Catenin expression including an additional cytoplasmic and nuclear β -Catenin staining as well as a reduced or absent membranous β -Catenin staining occurs in a fraction of cancers.

Potential Research Applications

- The clinical significance of different Wnt/ β -Catenin pathway alterations are not fully understood.
- The prevalence of β -Catenin alterations in different cancers is not fully clarified.
- Drugs targeting the Wnt/ β -Catenin pathway are under development.
- The exact functions of β -Catenin and its interactions in the nucleus are unknown.

Protocol Suggestions

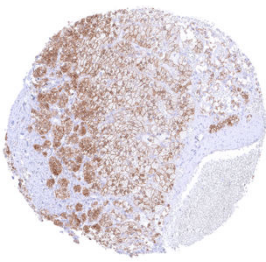
Dilution: 1:150. pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

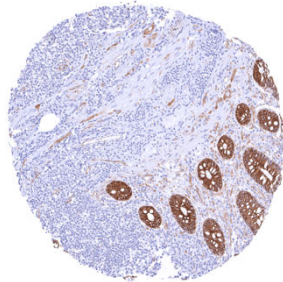
This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

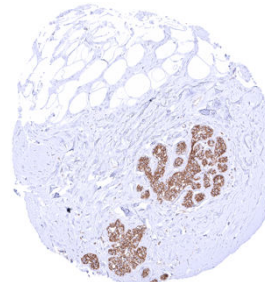
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product



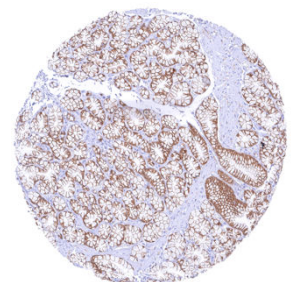
Adrenal gland – Moderate membranous beta catenin staining of adrenocortical cells, in a fraction of cells accompanied by a nuclear and cytoplasmic positivity.



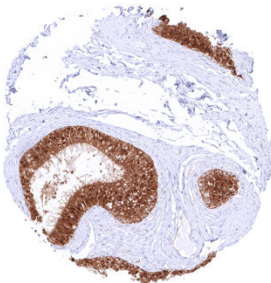
Appendix, mucosa – Strong membranous beta catenin staining of all epithelial cells while staining is weak to moderate in endothelial cells.



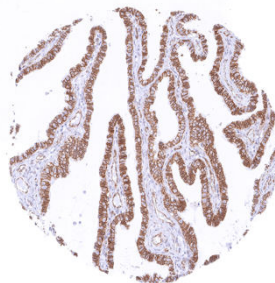
Breast – Strong membranous beta catenin staining of epithelial cells.



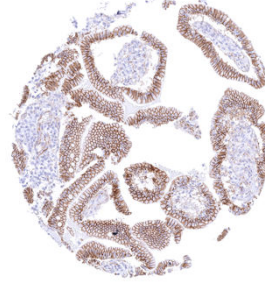
Duodenum, Brunner gland – Distinct membranous beta catenin staining of glandular cells



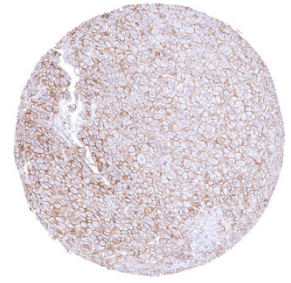
Epididymis (Caput) – Strong membranous beta catenin staining of all epithelial cells with an additional strong nuclear staining in the tall columnar cells of the caput.



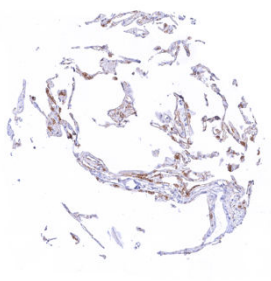
Fallopian tube, mucosa – Strong membranous beta catenin staining of epithelial cells.



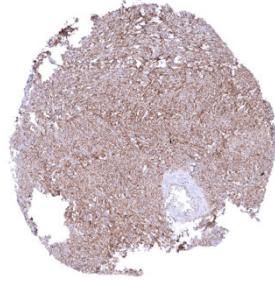
Ileum, mucosa – Strong membranous beta catenin staining of all epithelial cells.



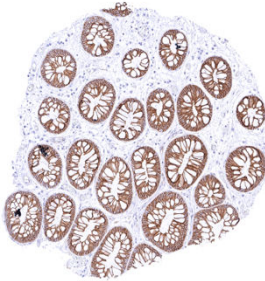
Liver – Moderate to strong membranous beta catenin staining of hepatocytes.



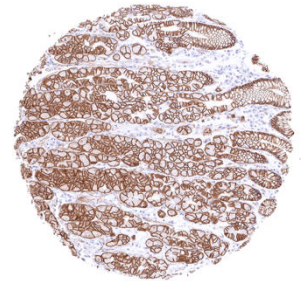
Lung – Strong membranous beta catenin staining of pneumocytes.



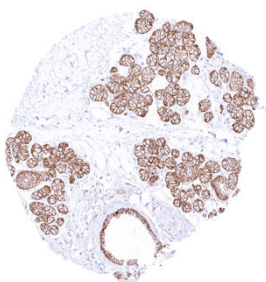
Ovary, stroma – Distinct membranous beta catenin staining of stroma cells.



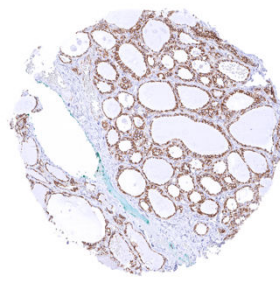
Rectum, mucosa – Strong membranous beta catenin staining of all epithelial cells.



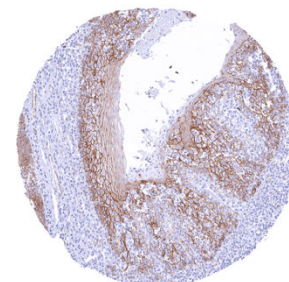
Stomach, corpus – Strong membranous beta catenin staining of all gastric epithelial cells.



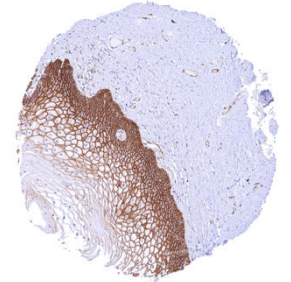
Submandibular gland – Distinct membranous beta catenin staining of epithelial cells.



Thyroid gland – Strong membranous beta catenin staining of epithelial cells.



Tonsil, surface epithelium – Strong membranous beta catenin staining of squamous epithelial cells with decreasing staining intensity from the basal towards the superficial cell layers.



Uterus, ectocervix – Strong membranous beta catenin staining of squamous epithelial cells with decreasing staining intensity from the basal towards the superficial cell layers. Top cell layers are beta catenin negative.