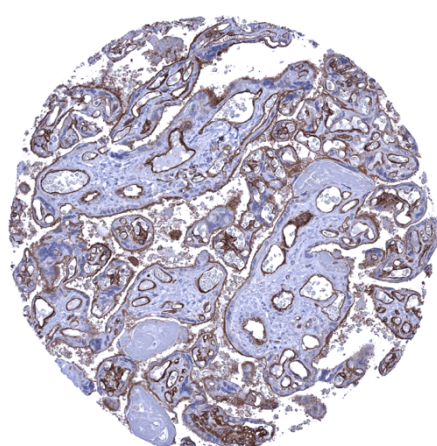


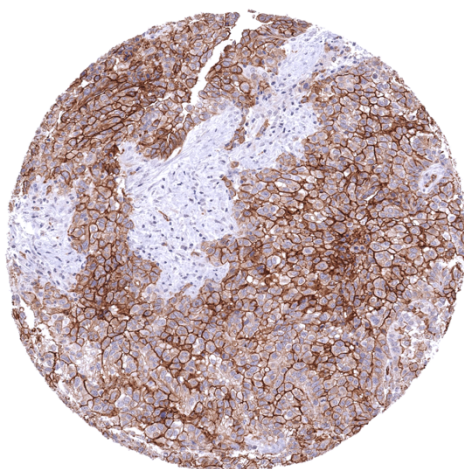
Anti- CD141 Antibody MSVA-141M / Recombinant Mouse monoclonal

Human SwissProt	P07204
Human Gene Symbol	THBD
Synonyms	AHUS6; BDCA3; CD141; Fetomodulin; Thbd; THPH12; THRM; Thrombomodulin (TM)
Specificity	CD141
Immunogen	Recombinant human THBD fragment
Isotype	Mouse / IgG1 kappa
Species Reactivity	Human

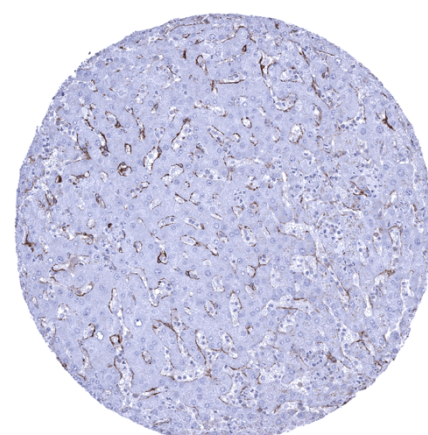
Localization	Cell Surface; Cytoplasmic
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Lung: A strong staining should be seen in endothelial cells, and at least a weak to moderate membranous CD141 staining should be seen in alveolar macrophages.
Negative Control	Colon: Kidney: Epithelial cells should not stain for CD141.



In the placenta, a strong CD141 staining occurs in the surface cell layer of the cytotrophoblast and in endothelial cells.



Malignant mesothelioma showing a strong CD141 staining of tumor cells.



Moderate CD141 staining of sinusoidal cells of the liver.

Biology

Thrombomodulin (CD141) is a of 74kDa membrane bound glycoprotein coded by the THBD gene on chromosome 20p11.22. Thrombomodulin is expressed on endothelial cells and acts as a cofactor in the thrombin-induced activation of protein C in the anticoagulant pathway. By forming a complex with thrombin, it increases the speed of protein C activation by a factor of 1000 and thus reduces blood coagulation. Thrombomodulin-bound thrombin also inhibits fibrinolysis by cleaving thrombin-activatable fibrinolysis inhibitor into its active form and impacts the function C3b inactivation by factor I. Thrombomodulin also occurs on a very rare (0.02%) subset of human dendritic cells called MDC2. Mutations in the thrombomodulin gene (THBD) have also been reported to be associated with atypical hemolytic-uremic syndrome (aHUS). In normal tissues, CD141 expression preferably occurs in blood vessels although the expression levels appear to vary. CD141 staining of endothelial cell is most significant in the placenta, intestine and the liver. In addition, a membranous CD141 staining is seen in basolateral membranes of the surface epithelium of the stomach, about 80% of islet cells of pancreas+++, endocervical epithelium, squamous epithelium, some endometrial glands, the adenohypophyses (not in all samples), and in the placenta (surface cell layer of the syncytiotrophoblast, amnion and chorion cells). CD141 immunostaining can be found in tumors from various entities including squamous cell carcinomas, urothelial cancer, ovarian carcinomas, mesotheliomas and others.

Potential Research Applications

- The clinical/biological significance of CD141 expression in a small subset of dendritic cells needs to be further investigated.
- The biological and clinical significance of CD141 expression in cancer cells needs to be evaluated.
- The diagnostic role of CD141 immunohistochemistry in the classification of tumors need to be evaluated.

Protocol Suggestions

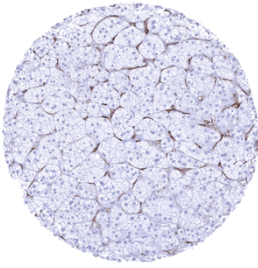
Dilution: 1:50. pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

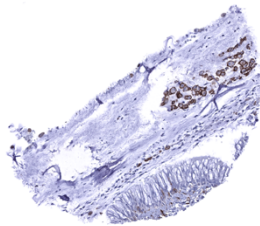
This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

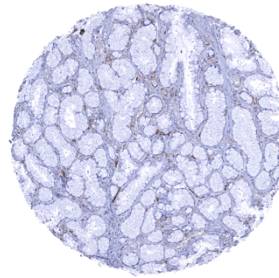
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



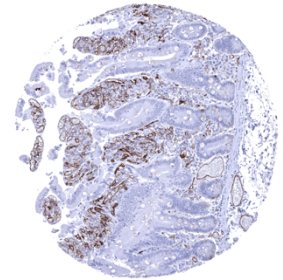
Adrenal gland



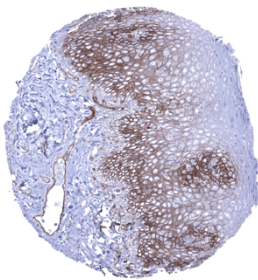
Bronchus, glands - Few basal cells of respiratory epithelium show a distinct CD141 staining. In addition, strong membranous CD141 positivity is seen in a group of alveolar macrophages



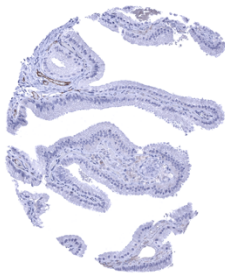
Duodenum, Brunner gland



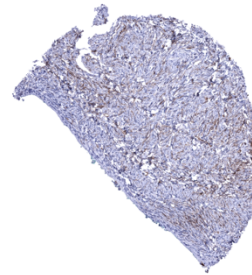
Duodenum, mucosa - Strong CD141 staining of endothelial cells



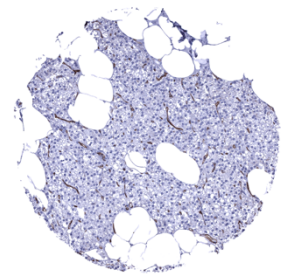
Esophagus, squamous epithelium - Strong membranous CD141 staining of suprabasal epithelial cells



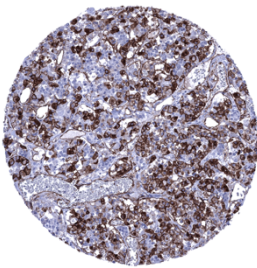
Gallbladder, epithelium



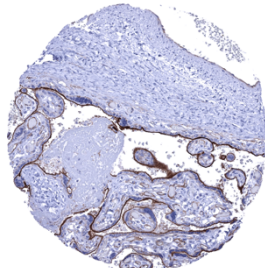
Ovary, stroma - Weak CD141 staining of stromal cells



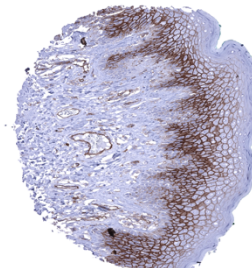
Parathyroid gland



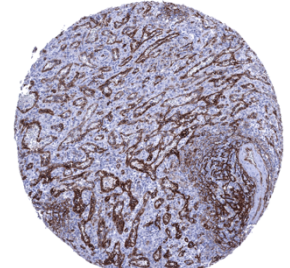
Pituitary gland, posterior lobe - In this sample, a strong membranous CD141 staining occurs in a large fraction of epithelial cells



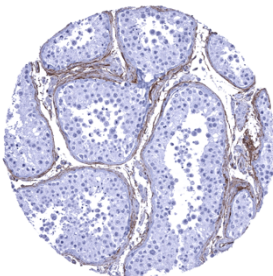
Placenta, mature - Strong CD141 staining of the surface cell layer of the cytotrophoblast



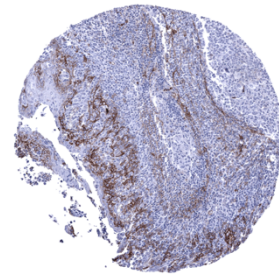
Skin - Strong membranous CD141 staining of suprabasal epithelial cells



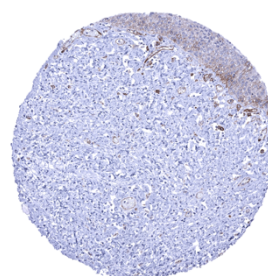
Spleen - Strong CD141 positivity of littoral cells in the spleen



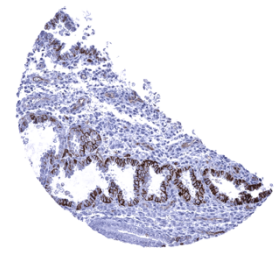
Testis - Distinct CD141 staining along muscular sheaths of testicular tubules



Tonsil - CD141 positivity occurs in squamous epithelial cells and in endothelial cells



Urinary bladder, urothelium - Faint membranous CD141 staining of urothelial cells in the lower half of the urothelium



Uterus, endometrium (secretion) - Predominantly basolateral membranous CD141 staining of endometrial glands