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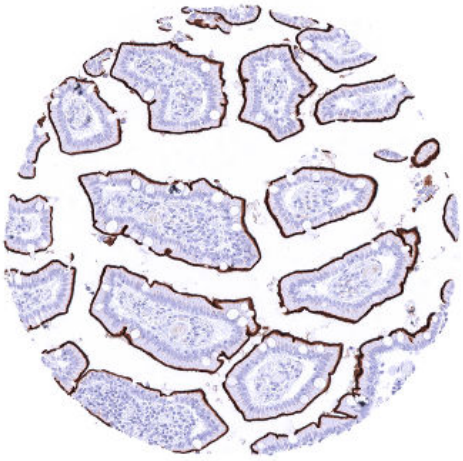
Revision 4.0

Anti- GPRC5A Antibody
HMV4717/ Recombinant Rabbit monoclonal

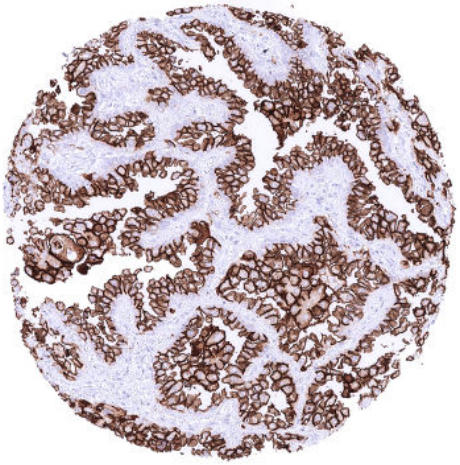
Human SwissProt	9052
Human Gene Symbol	Q8NFJ5
Synonyms	G protein-coupled receptor class C group 5 member A , GPCR5A , PEIG-1 , RAI3 , RAIG1 , TIG1
Specificity	GPRC5A
Immunogen	Recombinant human GPRC5A fragment
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Membranous

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	Kidney: GRRC5A staining must be intense in glomeruli, strong at the surface membranes of a fraction of tubuli, and moderate at the parietal layer of the Bowman's capsule while GPRC5A is absent in another subset of tubuli.
Negative Control	Tonsil: GRRC5A staining should be completely absent in lymphocytes while it is seen in a subset of epithelial cells.



Duodenum with a strong membranous GPRC5A staining of the luminal membranes.

Lung with strong membranous GPRC5A staining of alveolar pneumocytes.



Pulmonary adenocarcinoma with strong GPRC5A staining of apical and lateral membranes of all tumor cells.

Biology

G Protein-coupled receptor class C group 5 member A (GPRC5A) is a member of the GPCR superfamily, which constitutes one of the largest potentially druggable family of membrane proteins. Its molecular function is not well known. GPRC5A knock-out mice have altered lung morphology and suffer from increased susceptibility to tumor formation, especially in the lung. In normal tissues, GPRC5A expression predominates in epithelial cell types where it often occurs at lumina/apical surfaces. GPRC5A expression is strong in renal glomeruli, chorion cells of the placenta, and alveolar pneumocytes. It is also seen in mesothelial cells.

Altered function of GPRC5A has been linked to several disease types such as diabetic nephropathy, endotoxin-induced acute lung injury, and chronic airway inflammation, but most of the current interest in GPRC5A comes from studies implicating a role in cancer. The GPRC5A promoter region contains binding sites for several important cancer genes such as p53, MYC, and BRCA1. Moreover, GPRC5A expression has been suggested to promote BRCA1 expression and to inhibit NF-κB, Gsα, MCM2 and CCND1 expression. Both reduced expression and upregulation of GPRC5A have been described in several cancer types and have often been linked to cancer aggressiveness and chemoresistance. Because of its membranous location, GPRC5A constitutes a potential drug target.

Potential Research Applications

-Comprehensive data on prevalence of GRRC5A expression in cancer and its clinical significance are lacking.
-What is the predictive role of GRRC5A expression for response to chemotherapy in cancer?
-What are the molecular mechanisms underlying GPRC5A's role in tumor suppression and promotion?
-Are there potential approaches to therapeutically target GPRC5A?

Protocol Suggestions

Dilution: 1:100 – 1:200 ; 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.

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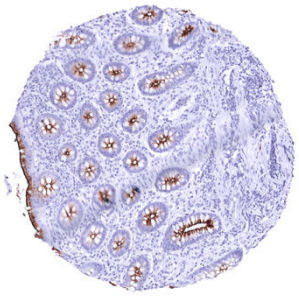
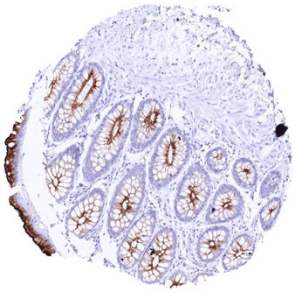
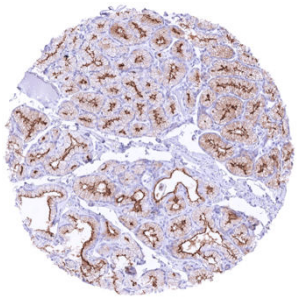


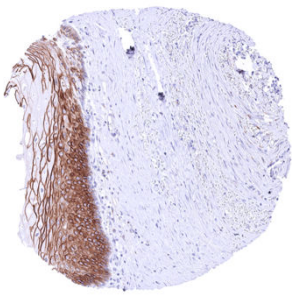
Appendix, mucosa – Strong GPRC5A membranous staining, largely limited to the luminal membranes. The staining intensity slightly decreases from the surface to the glands.



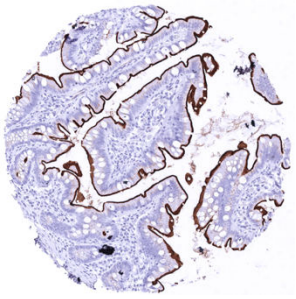
Colon descendens, mucosa – Strong GPRC5A membranous staining, largely limited to the luminal membranes. The staining intensity slightly decreases from the surface to the glands.



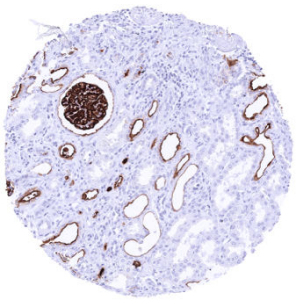
Duodenum, Brunner gland – Strong GPRC5A staining, predominantly at



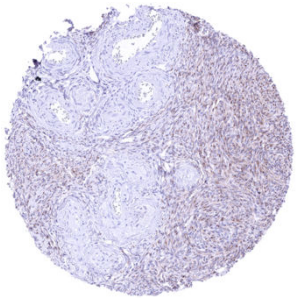
Esophagus, squamous epithelium – Strong, predominantly membranous GPRC5A staining all layers of the squamous epithelium.



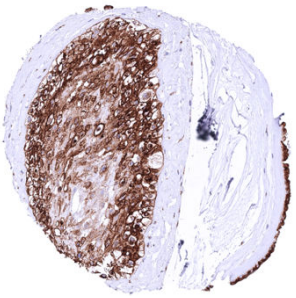
Ileum, mucosa – Strong GPRC5A membranous staining, largely limited to the luminal membranes.



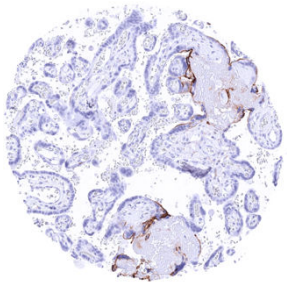
Kidney, cortex – Strong GPRC5A staining of podocytes and membranes of the Bowman capsule. Moderate to strong luminal membranous GPRC5A staining of a fraction of tubuli (predominantly distal) and collecting ducts



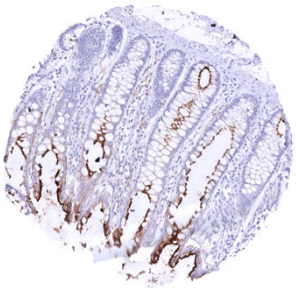
Ovary, stroma – Moderate to strong perinuclear “dot-like” GPRC5A staining and faint membranous GPRC5A staining of subsets of stroma cells.



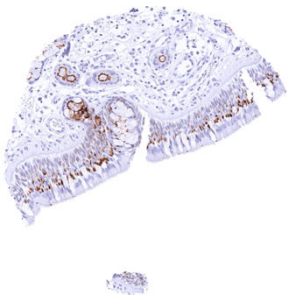
Placenta (amnion and chorion)



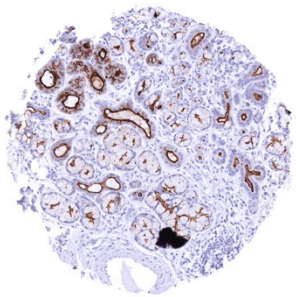
Placenta, mature – Distinct membranous staining of the luminal membrane of syncytiotrophoblast cells in areas of placenta tissue damage.



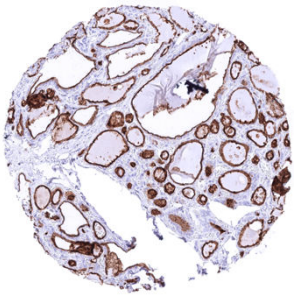
Rectum, mucosa – Strong GPRC5A membranous staining, largely limited to the luminal membranes. The staining intensity slightly decreases from the surface to the glands.



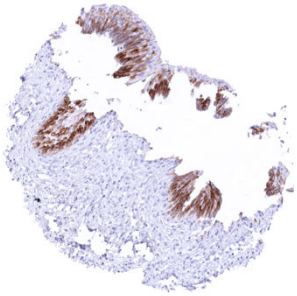
Sinus paranasales



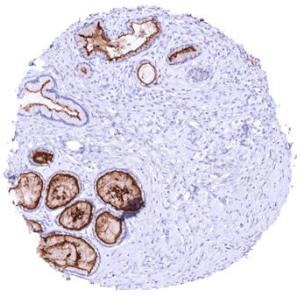
Sublingual gland – Intense GPRC5A staining of luminal membranes of excretory duct cells. GPRC5A staining is less intensive in glands.



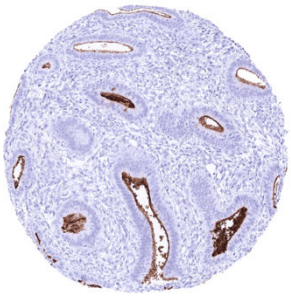
Thyroid gland



Urinary bladder, urothelium (2)



Uterus, endocervix – Strong GPRC5A staining of (predominantly) apical membranes of endocervical cells.



Uterus, endometrium (proliferation) – Strong GPRC5A staining of apical membranes of endometrium gland cells.