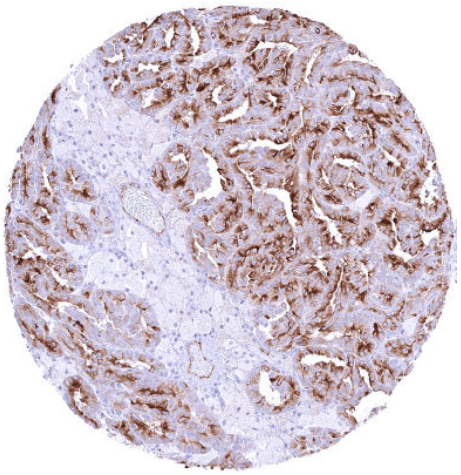
MS Validated Antibodies GmbH
Bergstedter Chaussee 62a
22395 Hamburg, Germany
Tel: +49 (0) 40 89 72 55 81
E-Mail: info@ms-validatedantibodies.com
Website: ms-validatedantibodies.com
Revision 4.0

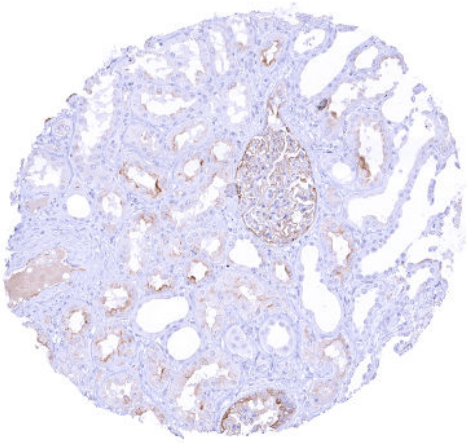
Anti- NPR-C Antibody
HMV4274 / Recombinant Rabbit monoclonal

Human SwissProt	P17342
Human Gene Symbol	NPR3
Synonyms	natriuretic peptide receptor 3 , ANP-C , ANPR-C , ANPRC , C5orf23 , GUCY2B , NPR-C , NPRC
Specificity	NPR-C
Immunogen	Recombinant human NPR3fragment
Isotype	Rabbit / IgG (IgG)
Species Reactivity	Human
Localization	Membranous

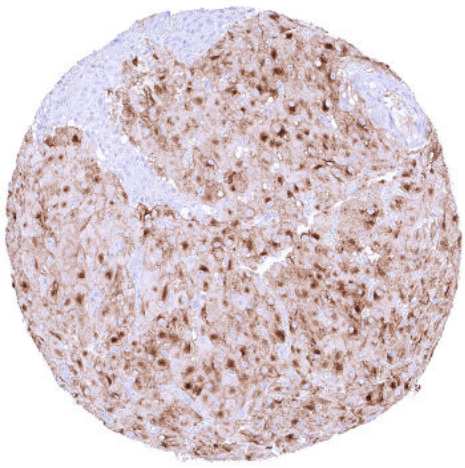
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Kidney: The required staining pattern includes a distinct membranous NPR-C staining at the luminal cell border of a subset of tubuli, the parietal layer of the Bowman capsule, and in glomerular endothelial cells while collecting ducts are NPR-C negative.
Negative Control	Colon: All epithelial and mesenchymal cell types should be NPR-C negative (except endothelial cells, which may show positive staining).



Kidney – Papillary renal cell carcinoma with strong NPR-C staining at the apical-luminal membrane of all tumor cells.



Kidney with a distinct membranous NPR-C staining at the luminal cell border of a subset of tubuli, the parietal membrane of the Bowman capsule, and in glomerular endothelial cells.



Ovary with a distinct membranous and perinuclear cytoplasmic NPR-C staining of corpus luteum cells.

Biology

The natriuretic peptide receptor-C (NPR-C) is coded by the NPR3 gene at chromosome 5p13.3. Because it lacks seven transmembrane domains of typical G-protein-coupled receptors (GPCRs) it is considered an atypical GPCR. Together with NPR-A and NPR-B it regulates the biological actions of natriuretic peptides (NPs) which comprise a family of at least four structurally related peptide hormones named Atrial Natriuretic Peptide (ANP), Brain Natriuretic Peptide (BNP), C-type Natriuretic Peptide (CNP), and Urodilatin (URO). NPs play a critical role in regulation of plasma volume and blood pressure (). While NPR-A and NPR-B are receptor proteins that mediate the physiological roles of NPs in diverse organs, NPR-C has initially been identified as a clearence factor required for the removal of NPs from the circulating blood. However, NPR-C also plays a role in intracellular signalling and interacts with multiple pathways. NPR-C has been suggested to play a role in various diseases including for example pulmonary fibrosis, arteriosclerosis, heart disease, and preeclampsia. Among normal tissues, NPR-C staining was predominantly seen in the kidney, the ovary (corpus luteum, granulosa cells), as well as in decidua and endothelial cells. Among cancers, NPR-C staining is preferentially seen in renal cell carcinomas, but It can also occur in other tumor types. NPR-C expression can also be found in the endothelium of tumor associated blood vessels and in the tumor stroma (fibroblasts?).

Potential Research Applications

-The physiologic role of NPR-C is not fully clarified.
-The role of NPR-C in human disease is not fully understood.
-The role of NPR-C in cancer is not yet explored.
-The effects and possible applications of NPR-C inhibitors should be evaluated.

Protocol Suggestions

Dilution: 1:50-1:100; 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).

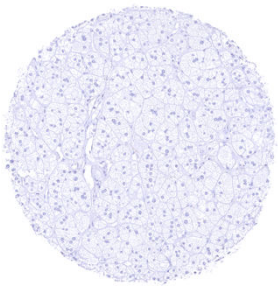
Limitations

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

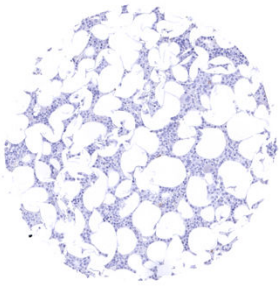
Warranty

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.

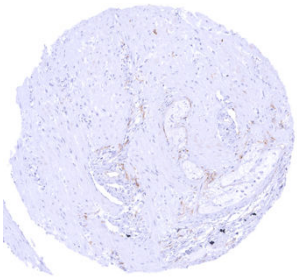
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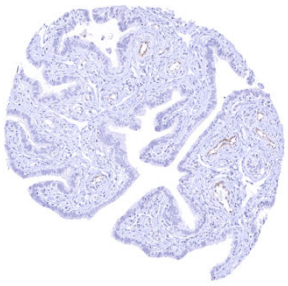
Adrenal gland



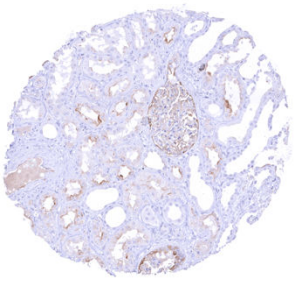
Bone marrow



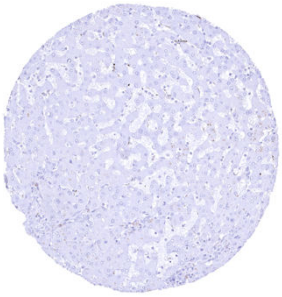
Colon descendens, muscular wall – Weak NPR-C staining of endothelial cells.



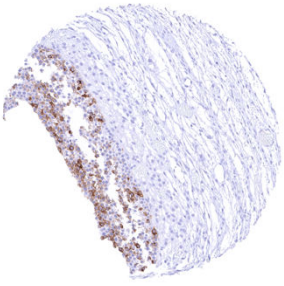
Fallopian tube, mucosa – Weak membranous NPR-C staining at the luminal cell border of endothelial cells of small blood vessels.



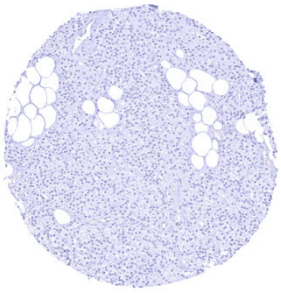
Kidney, cortex – Distinct membranous NPR-C staining at the luminal cell border of a subset of tubuli, the parietal membrane of the Bowman capsule, and in glomerular endothelial cells.



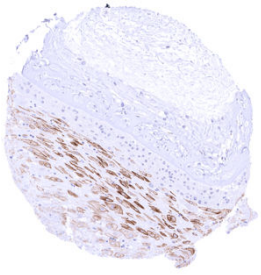
Liver



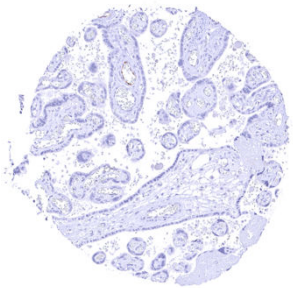
Ovary, follicular cyst – Strong membranous NPR-C staining of a subset of granulosa cells.



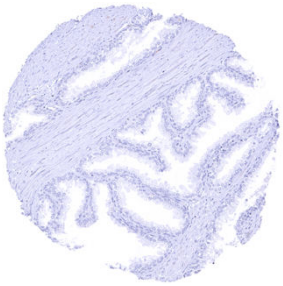
Parathyroid gland – Weak NPR-C staining of few endothelial cells.



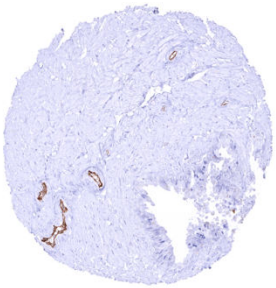
Placenta (chorion) – Distinct membranous and cytoplasmic NPR-C staining of decidua cells.



Placenta, mature – Weak NPR-C staining of few endothelial cells.



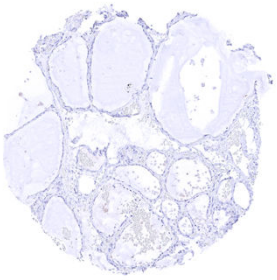
Prostate



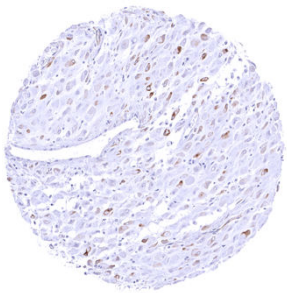
Seminal vesicle – Intense membranous NPR-C staining at the luminal cell border of endothelial cells of small blood vessels.



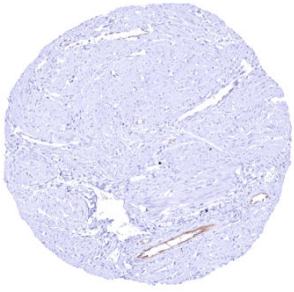
Spleen



Thyroid gland



Uterus, endometrium (pregnancy) – Distinct membranous and cytoplasmic NPR-C staining of a subset of decidua cells.



Uterus, myometrium – Distinct NPR-C staining of endothelial cells in some but not all blood vessels.