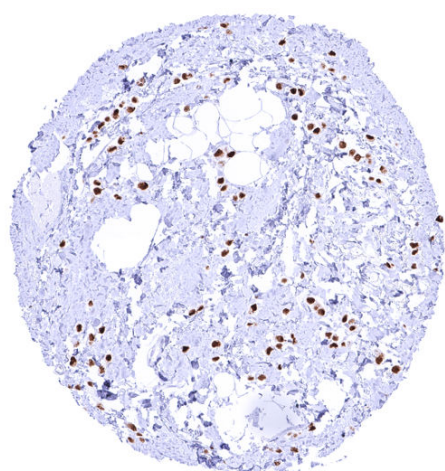


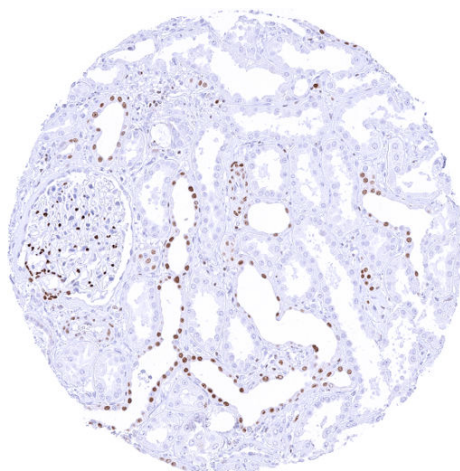
Anti-GATA3 Antibody MSVA-550R / Recombinant Rabbit monoclonal

Human SwissProt	P23771
Human Gene Symbol	GATA3
Synonyms	GATA3; GATA binding protein-3; GATA-binding factor 3; GATA3; HDR; HDRS; Transacting T-cell-specific transcription factor GATA-3
Specificity	GATA3
Immunogen	Recombinant human Gata3 protein
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Nuclear

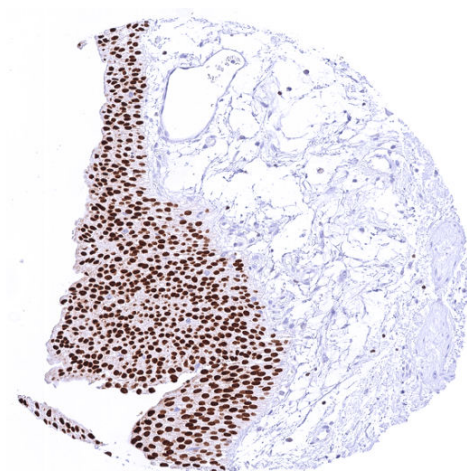
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Kidney: A moderate to strong nuclear staining reaction should be seen in collecting duct cells and podocytes in glomeruli.
Negative Control	Kidney: Staining should be absent in proximal and most distal tubuli as well as in blood vessels.



Invasive lobular breast cancer with strong nuclear GATA3 positivity of tumor cells.



Kidney with moderate to strong, nuclear GATA3 positivity of collecting ducts, some cells of distal tubuli, and of podocytes.



Urinary bladder with strong nuclear GATA3 positivity of all urothelial cells.

Biology

The GATA3 gene at 10p14 consists of 8 exons and codes for the GATA3 transcription factor which is critical for the embryonic development of various tissues including the parathyroid gland and the kidney. It plays a role in the luminal differentiation of breast epithelium, the development of collecting system of the kidney and the urothelium, and in trophoblastic differentiation. In lymphoid cells, GATA3 regulates the expression of a wide range of biologically and clinically important genes. GATA3 is required for the formation of T helper (Th) cells, especially Th2 cells which are critical for the development of allergic and humoral immune responses. In normal tissues, nuclear GATA3 immunostaining is seen in various tissues and cell types. It is most intense in urothelium, squamous epithelium of the skin, parathyroid gland, trophoblastic cells and chorion cells of the placenta, collecting ducts and glomerular podocytes of the kidney, seminal vesicle epithelium, and a fraction of luminal cells. GATA3 also plays a role in cancer biology. It is one of the most commonly mutated genes in breast cancer where it plays a role in estrogen and androgen receptor signaling. Among tumors, GATA3 expression is primarily seen in urothelial and breast cancers but it can also occur in other tumor entities. The antibody MSVA-550R is markedly more sensitive than MSVA-450M for detection of nuclear GATA3 but causes some non-specific cytoplasmic staining in several tissues due to cross-reactivity.

Potential Research Applications

- How does GATA3 regulate immune cell differentiation, particularly in Th2 cells?
- How do different mutations in the GATA3 gene contribute to breast cancer development, progression, and response to hormone therapies?
- Can targeting GATA3 or its downstream pathways be a viable therapeutic strategy in allergic diseases and certain cancers?

Protocol Suggestions

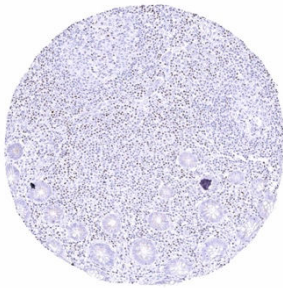
Dilution: 1:150 ; pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

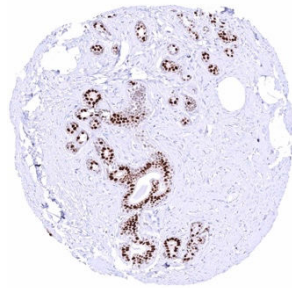
This antibody is available for **research use only** and is not approved for use in diagnostics. Cytoplasmic immunostaining should be disregarded as it is due to an antibody-specific cross-reactivity.

Warranty

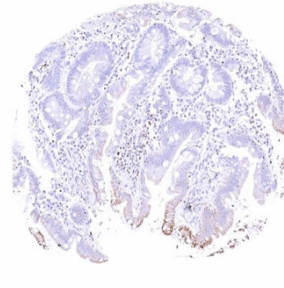
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



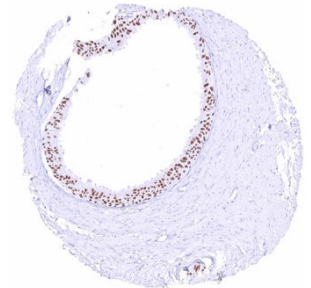
Appendix, mucosa – Nuclear GATA3 positivity of many lymphocytes. Faint cytoplasmic GATA3 staining of some epithelial cells.



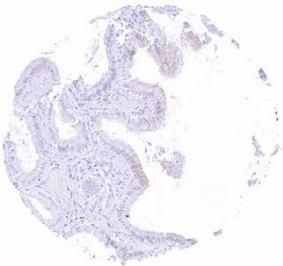
Breast – Moderate to strong GATA3 staining of luminal cells while myoepithelial cells remain GATA3 negative.



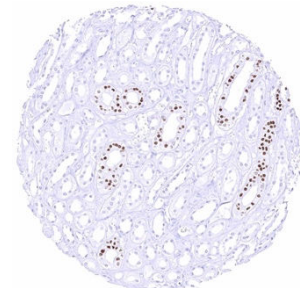
Duodenum, mucosa – Granular cytoplasmic GATA3 staining of endometrial epithelial cells.



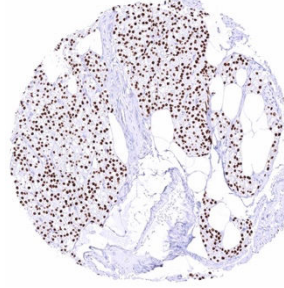
Epididymis (Caput) – Moderate to strong, nuclear GATA3 immunostaining of tall columnar cells and of basal cells.



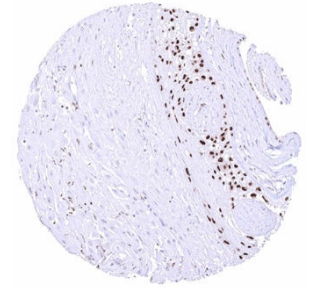
Gallbladder, epithelium – Faint cytoplasmic GATA3 positivity of some epithelial cells.



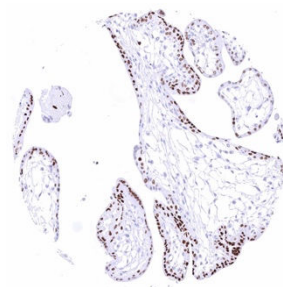
Kidney, medulla – Moderate to strong, nuclear GATA3 positivity of some collecting ducts.



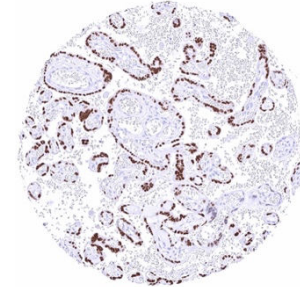
Parathyroid gland – Strong nuclear GATA3 positivity of all epithelial cells.



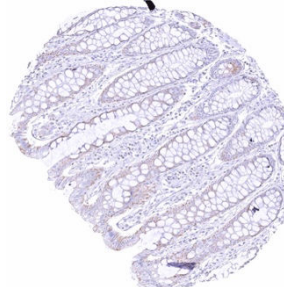
Placenta (amnion and chorion) – Strong nuclear GATA3 staining of chorion cells while amnion cells only show weak positivity.



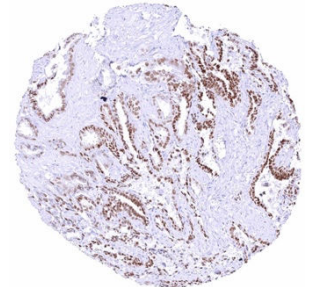
Placenta, early – Strong nuclear GATA3 positivity of trophoblastic cells.



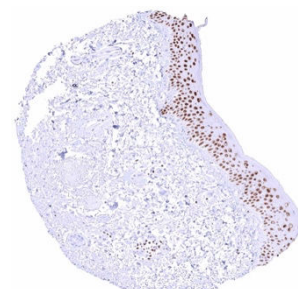
Placenta, mature – Strong nuclear GATA3 positivity of trophoblastic cells.



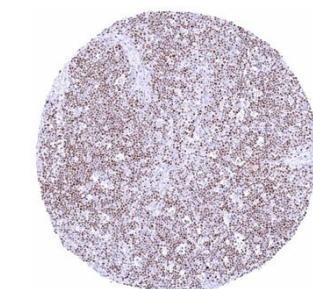
Rectum, mucosa – Nuclear GATA3 positivity of some lymphocytes. Granular cytoplasmic GATA3 staining of epithelial cells.



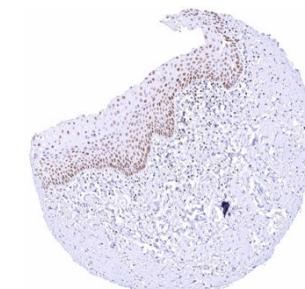
Seminal vesicle – Moderate to strong nuclear GATA3 positivity of epithelial cells.



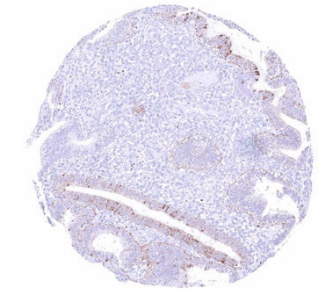
Skin – Strong nuclear GATA3 staining of squamous epithelial cells.



Thymus – Moderate to strong, nuclear GATA3 staining of a large fraction of lymphocytes.



Uterus, ectocervix – Weak to moderate nuclear GATA3 staining of squamous epithelial cells.



Uterus, endometrium (secretion) – Granular cytoplasmic GATA3 positivity of endometrial epithelial cells.