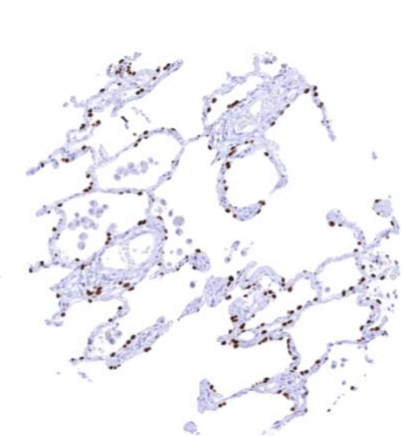


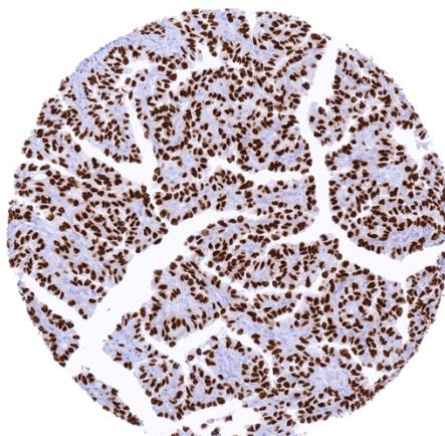
Anti- TTF-1 / Thyroid Transcription Factor1 / NKX2-1 Antibody MSVA-312R / Recombinant Rabbit monoclonal

Human SwissProt	P43699
Human Gene Symbol	NKX2-1
Synonyms	BCH, Benign chorea, BHC, Homeobox protein Nkx2.1, NK2 homeobox 1, NKX2.1, NKX2A, TEBP, Thyroid nuclear factor-1, Thyroid specific enhancer binding protein, Thyroid transcription factor-1 (TTF-1), Tin man, TITF1, TTF-1
Specificity	TTF-1
Immunogen	Recombinant human TTF-1 protein
Isotype	Rabbit / IgG
Species Reactivity	Human

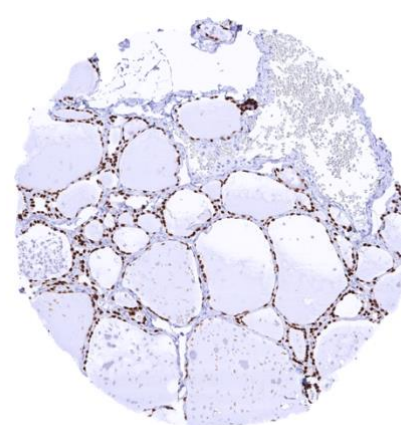
Localization	Nucleus
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Lung: Nuclear TTF1 staining should be strong in pneumocytes and in basal cells of the terminal bronchioles while a weaker, still moderate to strong staining should be seen in columnar epithelial cells of the terminal bronchioles (low expressor control).
Negative Control	Liver: TTF1 staining must not be seen in any cells.



Intense TTF1 positivity of pneumocytes.



Pulmonary adenocarcinoma with strong TTF1 staining of all tumor cells.



Thyroid gland with strong TTF1 staining of follicular epithelial cells.

Biology

Thyroid transcription factor-1 (TTF1), also termed NK2 homeobox 1 (NKX2-1) is a 38 kDa nuclear protein encoded by the NKX2-1 gene at chromosome 14q13. TTF1 has a critical role in morphogenesis of the thyroid, the lung and the diencephalon where it acts as a tissue-specific transcription promoter. Blocking TTF1 gene expression results in developmental defects of thyroid, lung and brain. In the thyroid gland, TTF1 induces the expression of thyroglobulin, thyroperoxidase and thyrotropin receptor. In the lung, TTF1 promotes the transcription of the surfactant proteins A to D, and the Clara cell secretory protein. Among normal tissues, TTF1 expression is restricted to the respiratory system, thyroid, pituitary gland, and the thalamus. Among cancers, TTF1 expression is particularly common in thyroid cancer, pulmonary adenocarcinoma, pulmonary small cell carcinomas, as well as in small cell carcinomas from other sites of origin. Less commonly, TTF1 positivity is also seen in other tumor entities including colorectal, endometrial and stomach cancers.

Potential Research Applications

-Distinction of lung adenocarcinoma (usually positive) from metastasis to the lung (usually negative) and pleural mesothelioma (negative).

-Distinction of Merkel cell carcinoma (usually negative) from metastatic small cell carcinoma of the lung (mostly positive)

Protocol Suggestions

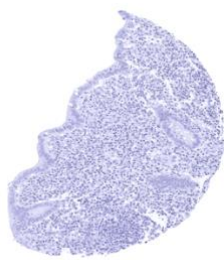
Dilution: 1:150. pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

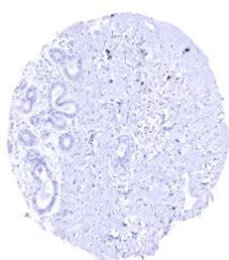
This antibody is available for **research use only** and is not approved for use in diagnostics.

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.



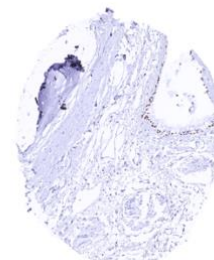
Appendix, mucosa



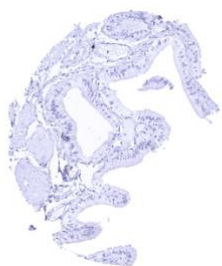
Breast



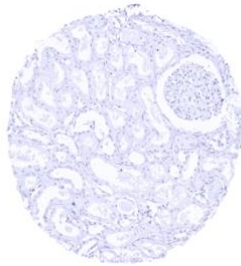
Bronchus, mucosa – Intense TTF1 staining of respiratory epithelial cells, especially of basal cell layers



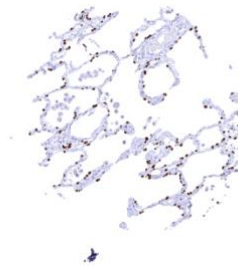
Bronchus, mucosa – Strong TTF1 staining of respiratory epithelial cells, especially of basal cells



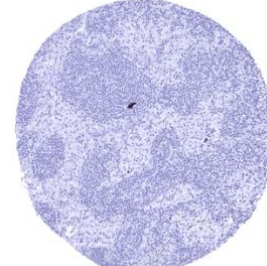
Gallbladder, epithelium



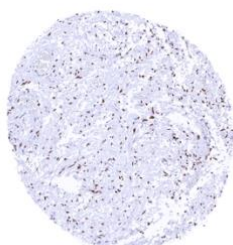
Kidney, cortex



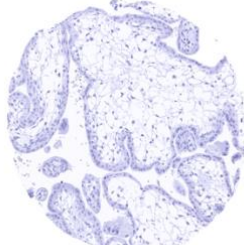
Lung – Strong TTF1 staining of pneumocytes



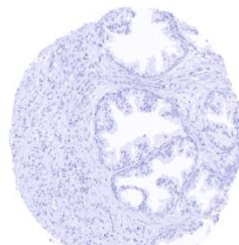
Lymph node



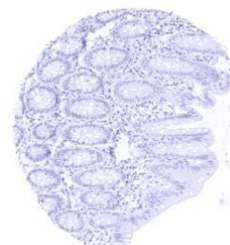
Pituitary, posterior lobe – Intense TTF1 staining of pituicytes



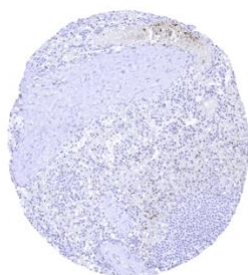
Placenta, early



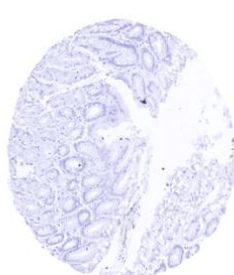
Prostate



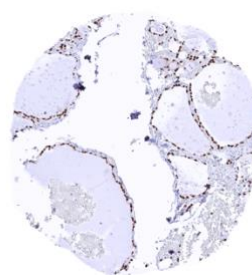
Rectum, mucosa



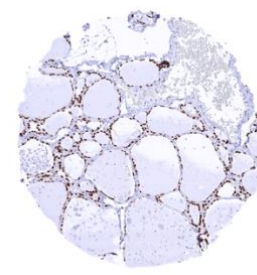
Spleen



Stomach, corpus



Thyroid gland – Strong TTF1 staining of all follicular cells



Thyroid gland – Strong TTF1 staining of all follicular epithelial cells