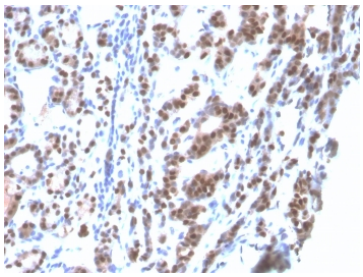
TTF-1 Antibody / Lung Adenocarcinoma Marker Antibody [clone rNX2.1/690] (V3654)

Catalog No.	Formulation	Size
V3654-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3654-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3654SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3654IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

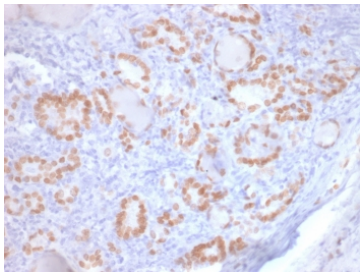
Recombinant MOUSE MONOCLONAL

Bulk quote request

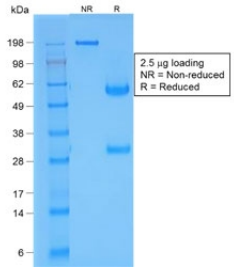
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rNX2.1/690
Purity	Protein G affinity chromatography
UniProt	P43699
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 0.5-1ug/ml for 30 min at RT
Limitations	This TTF-1 antibody is available for research use only.



TF-1 Antibody Human Thyroid Tissue IHC. Formalin-fixed, paraffin-embedded human thyroid tissue stained using TTF-1 Antibody. The recombinant mouse monoclonal clone rNX2.1/690 antibody demonstrates strong nuclear staining in thyroid follicular epithelial cells, consistent with the nuclear localization of Thyroid transcription factor 1 (NKX2-1). NKX2-1 is a lineage-associated transcription factor expressed in thyroid follicular epithelium and pulmonary epithelial cells, and thyroid tissue therefore provides a well-established positive epithelial lineage control for TTF-1 antibody staining. In diagnostic immunohistochemistry, nuclear TTF-1 expression is widely used as a marker of pulmonary adenocarcinoma and other tumors derived from NKX2-1 expressing epithelial lineages. Required HIER: boil tissue sections in pH6 10mM citrate buffer for 10-20 min followed by cooling at RT for 20 min.



Immunohistochemistry of TTF-1 Antibody / Lung Adenocarcinoma Marker Antibody in human lung adenocarcinoma. Formalin-fixed, paraffin-embedded human lung adenocarcinoma tissue stained using TTF-1 Antibody / Lung Adenocarcinoma Marker Antibody. The recombinant mouse monoclonal clone rNX2.1/690 antibody shows strong nuclear immunoreactivity in malignant pulmonary epithelial cells, highlighting tumor cells of pulmonary origin. Nuclear staining of Thyroid transcription factor 1 (NKX2-1) is a well-established diagnostic feature of pulmonary adenocarcinoma and is widely used in immunohistochemistry panels to distinguish primary lung adenocarcinoma from metastatic carcinomas involving the lung. This staining pattern supports the role of TTF-1 as a lineage-defining pulmonary tumor marker and a key immunohistochemical marker for lung adenocarcinoma identification in surgical pathology. Required HIER: boil tissue sections in pH6 10mM citrate buffer for 10-20 min followed by cooling at RT for 20 min.



SDS-PAGE analysis of purified, BSA-free recombinant TTF-1 antibody (clone rNX2.1/690) as confirmation of integrity and purity.

Description

Thyroid transcription factor 1 (NKX2-1) is a nuclear homeobox transcription factor that regulates epithelial lineage development in the lung, thyroid, and forebrain. The protein belongs to the NKX2 family of transcriptional regulators and functions as a DNA-binding factor controlling genes involved in pulmonary epithelial differentiation and lung development. The TTF-1 Antibody / Lung Adenocarcinoma Marker Antibody targets this lineage-defining nuclear transcription factor, which is normally expressed in alveolar epithelial cells and bronchiolar epithelium of the respiratory tract.

In diagnostic pathology, TTF-1 antibody staining is strongly associated with pulmonary epithelial lineage and is widely used as a lung adenocarcinoma marker in immunohistochemistry. Nuclear TTF-1 expression is frequently observed in primary pulmonary adenocarcinoma and small cell lung carcinoma, while many non-pulmonary tumors lack expression. Because of this pattern, TTF-1 antibody staining is routinely used to identify lung tumor origin and to distinguish primary pulmonary adenocarcinoma from metastatic carcinomas involving the lung. Clone rNX2.1/690 antibody is a recombinant mouse monoclonal antibody designed to detect nuclear NKX2-1 protein in pulmonary epithelial cells and lung tumors.

TTF-1 antibody, also referred to as NKX2-1 antibody or Thyroid transcription factor 1 antibody in the literature, recognizes a transcription factor that controls pulmonary epithelial gene expression and respiratory lineage identity. NKX2-1 regulates several lung-specific genes, including surfactant proteins and other molecules required for respiratory epithelial function. During embryonic development the transcription factor plays a central role in lung bud formation and respiratory

epithelial differentiation, establishing NKX2-1 as a key regulator of pulmonary epithelial lineage.

In surgical pathology laboratories, TTF-1 antibody is commonly incorporated into immunohistochemical tumor panels used for lung cancer classification. Strong nuclear staining in tumor cells supports pulmonary adenocarcinoma origin and assists pathologists in differentiating lung tumors from metastatic carcinomas arising from organs such as the gastrointestinal tract, breast, or kidney. For this reason, TTF-1 antibody is frequently used together with markers such as Napsin A, cytokeratins, and other epithelial lineage markers to improve diagnostic accuracy when evaluating lung carcinoma specimens.

Because of its consistent nuclear localization in pulmonary epithelial cells, NKX2-1 remains one of the most widely used transcription factor markers in lung cancer immunohistochemistry. A TTF-1 antibody such as clone rNX2.1/690 supports research focused on pulmonary epithelial biology, lung adenocarcinoma development, and transcriptional control of respiratory epithelial differentiation. The antibody therefore provides a valuable tool for studies investigating lung tumor pathology, pulmonary lineage determination, and molecular mechanisms governing lung epithelial identity.

Learn more about TTF-1 / NKX2.1 biology, diagnostic applications, and additional validated products on our TTF-1 Antibody page.

Application Notes

Optimal dilution of the TTF-1 Antibody / Lung Adenocarcinoma Marker Antibody should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant protein was used as the immunogen for the recombinant TTF-1 antibody.

Storage

Store the TTF-1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

NKX2-1 antibody, Thyroid transcription factor 1 antibody, TTF1 antibody, TTF1 lung marker antibody, Thyroid transcription factor antibody

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