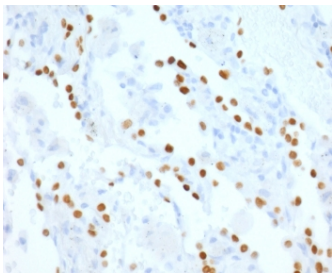
NKX2.1 Antibody / Thyroid Transcription Factor Antibody [clone HBNK2-2R] (V3732)

Catalog No.	Formulation	Size
V3732-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3732-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3732SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3732IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

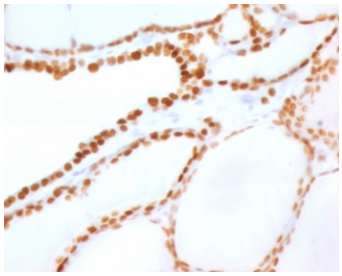
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	HBNK2-2R
Purity	Protein A affinity chromatography
UniProt	P43699
Localization	Nuclear
Applications	Immunohistochemistry (FFPE) : 0.5-1ug/ml for 30 min at RT Prediluted IHC Only Format : incubate for 30 min at RT (1)
Limitations	This recombinant NKX2.1 antibody is available for research use only.



NKX2.1 Antibody / Thyroid Transcription Factor Antibody (clone HBNK2-2R). Immunohistochemistry analysis of human lung adenocarcinoma tissue. FFPE human lung adenocarcinoma sections demonstrate strong HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with expression of the NKX2.1 thyroid transcription factor within pulmonary tumor cells. Positive nuclei are distributed throughout the carcinoma cell population, reflecting activation of NKX2.1-regulated epithelial transcriptional programs that are characteristic of this lineage transcription factor. The nuclear staining pattern highlights the role of NKX2.1 as a transcription factor that regulates epithelial gene expression programs associated with thyroid lineage transcriptional control. Surrounding stromal cells and non-epithelial elements show minimal staining. Required HIER: boil tissue sections in pH6, 10mM citrate buffer, for 10-20 minutes followed by cooling at room temperature for 20 minutes prior to antibody incubation.



NKX2.1 Antibody / Thyroid Transcription Factor Antibody (clone HBNK2-2R). Immunohistochemistry analysis of human thyroid tissue. FFPE human thyroid sections demonstrate strong HRP-DAB brown nuclear staining in thyroid follicular epithelial cells lining the thyroid follicles, consistent with expression of the NKX2.1 thyroid lineage transcription factor within differentiated thyroid epithelium. The nuclear staining pattern highlights NKX2.1 as a key thyroid transcription factor regulating gene expression programs that control thyroid epithelial differentiation and thyroid hormone biosynthesis. Positive nuclei are distributed throughout follicular epithelial cells surrounding colloid-filled follicles, reflecting the role of NKX2.1 in maintaining transcriptional regulation of thyroid-specific genes within thyroid follicular cells. Surrounding stromal cells and non-epithelial elements show minimal staining. Required HIER: boil tissue sections in pH6, 10mM citrate buffer, for 10-20 minutes followed by cooling at room temperature for 20 minutes prior to antibody incubation.

Description

NKX2.1 (NK2 homeobox 1) is a homeobox transcription factor that functions as a master regulator of thyroid epithelial differentiation and endocrine gene expression within the thyroid gland. NKX2.1 Antibody / Thyroid Transcription Factor Antibody (clone HBNK2-2R) recognizes this nuclear transcription factor, which is essential for establishing and maintaining thyroid follicular epithelial cell identity. NKX2.1 is also widely known as Thyroid transcription factor 1 (TTF-1), and NKX2.1 antibody reagents are commonly used to investigate transcriptional regulation in thyroid epithelial cells and endocrine tissues.

Within the thyroid gland, NKX2.1 acts as a thyroid lineage transcription factor controlling gene expression programs that define thyroid follicular epithelial cell function. NKX2.1 directly regulates transcription of genes required for thyroid hormone biosynthesis, including thyroglobulin and thyroid peroxidase, which are essential components of thyroid endocrine physiology. Through these transcriptional regulatory functions, NKX2.1 coordinates molecular pathways responsible for thyroid epithelial differentiation and maintenance of thyroid-specific gene expression.

Expression of NKX2.1 is strongly associated with differentiated thyroid follicular epithelial cells, where it functions as a nuclear transcriptional regulator supporting endocrine gene expression programs. The transcription factor binds regulatory regions of thyroid-specific genes and helps maintain the specialized phenotype of thyroid epithelial cells. Because NKX2.1 expression reflects activation of thyroid lineage transcriptional programs, detection of NKX2.1 protein provides an effective approach for studying transcription factor activity within thyroid epithelial cells.

NKX2.1 antibody reagents are therefore widely used in research examining thyroid epithelial differentiation, endocrine transcriptional regulation, and molecular mechanisms governing thyroid lineage specification. Detection of NKX2.1 protein allows investigators to study transcriptional control of thyroid-specific genes and to identify cells maintaining thyroid epithelial identity.

Because NKX2.1 functions as a central transcriptional regulator of thyroid epithelial lineage programs, detection of this transcription factor provides a valuable molecular indicator of thyroid epithelial differentiation and endocrine gene regulation within the thyroid gland.

Application Notes

The stated application concentrations are suggested starting points. Titration of the NKX2.1 Antibody / Thyroid Transcription Factor Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

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 NKX2.1 antibody.

Storage

Store the recombinant NKX2.1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

TTF-1 antibody, Thyroid transcription factor 1 antibody, NKX2.1 transcription factor antibody, Thyroid epithelial transcription factor antibody