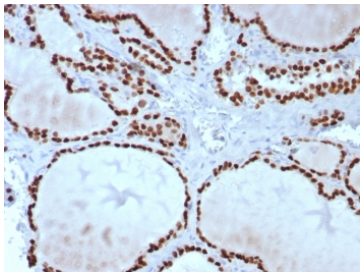
TTF-1 Antibody / Thyroid Epithelial Differentiation Marker Antibody [clone TTF1/8427] (V4343)

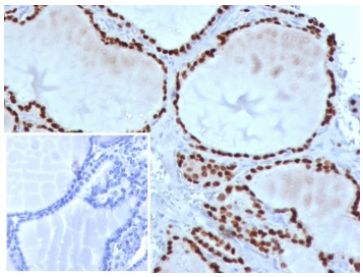
Catalog No.	Formulation	Size
V4343-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4343-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4343SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

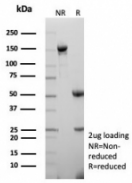
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	TTF1/8427
Purity	Protein A/G affinity
UniProt	P43699
Localization	Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT
Limitations	This TTF-1 antibody is available for research use only.



Immunohistochemistry of TTF-1 Antibody / Thyroid Epithelial Differentiation Marker Antibody in human thyroid tissue. FFPE human thyroid tissue stained using TTF-1 Antibody / Thyroid Epithelial Differentiation Marker Antibody. The mouse monoclonal clone TTF1/8427 antibody demonstrates strong nuclear staining in thyroid follicular epithelial cells lining thyroid follicles, consistent with the nuclear localization of Thyroid transcription factor 1 (NKX2-1). Nuclear immunoreactivity highlights differentiated thyroid follicular epithelial cells and reflects the established role of TTF-1 as a thyroid epithelial differentiation marker used in immunohistochemistry to identify thyroid epithelial lineage and evaluate epithelial differentiation within thyroid tissue. HIER: boil tissue sections in pH9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Immunohistochemistry of TTF-1 Antibody / Thyroid Epithelial Differentiation Marker Antibody in human thyroid tissue. FFPE human thyroid tissue stained using TTF-1 Antibody / Thyroid Epithelial Differentiation Marker Antibody. The mouse monoclonal clone TTF1/8427 antibody demonstrates strong nuclear staining in thyroid follicular epithelial cells lining thyroid follicles, highlighting differentiated thyroid epithelial cells. Nuclear immunoreactivity for Thyroid transcription factor 1 (NKX2-1) marks thyroid follicular epithelial lineage and reflects the established role of TTF-1 as a thyroid epithelial differentiation marker used in immunohistochemistry to identify differentiated thyroid epithelium and evaluate epithelial lineage within thyroid tissue. Inset: PBS used in place of primary antibody (secondary antibody negative control). HIER: boil tissue sections in pH9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free TTF-1 antibody (clone TTF1/8427) 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 thyroid gland, lung, and forebrain. The protein functions as a DNA-binding transcriptional regulator controlling genes required for thyroid follicular epithelial differentiation and endocrine gland development. The TTF-1 Antibody / Thyroid Epithelial Differentiation Marker Antibody targets this lineage-defining transcription factor, which localizes to the nuclei of thyroid follicular epithelial cells and plays a central role in establishing thyroid epithelial lineage identity within the endocrine epithelium.

In endocrine biology and histopathology, TTF-1 antibody staining is widely used as a thyroid epithelial differentiation marker because NKX2-1 expression is tightly associated with thyroid follicular epithelial cells. Nuclear immunoreactivity for Thyroid transcription factor 1 highlights differentiated thyroid epithelial cells lining thyroid follicles and reflects the transcription factor's role in maintaining thyroid epithelial identity. Because of this characteristic nuclear expression pattern, TTF-1 antibody immunohistochemistry is frequently used to evaluate thyroid epithelial differentiation and to identify epithelial lineage in thyroid tissue.

TTF-1 antibody, also referred to as NKX2-1 antibody or Thyroid transcription factor 1 antibody in the literature, recognizes a transcription factor that regulates genes involved in thyroid hormone biosynthesis and endocrine epithelial differentiation. NKX2-1 activates thyroid-specific genes including thyroglobulin and thyroid peroxidase, which are essential for thyroid hormone production and normal thyroid follicular epithelial function. Through these regulatory mechanisms, the transcription factor supports the differentiation, maturation, and functional maintenance of thyroid follicular epithelial cells.

During embryonic development, NKX2-1 is expressed early within the thyroid primordium and plays a critical role in thyroid gland formation and thyroid epithelial lineage specification. This early expression establishes NKX2-1 as a master regulator of thyroid epithelial differentiation. As the thyroid gland matures, the transcription factor remains highly expressed in thyroid follicular epithelial cells, reinforcing its role as a defining marker of thyroid epithelial differentiation within endocrine tissues.

Because NKX2-1 expression remains closely associated with differentiated thyroid epithelium, the protein is widely regarded as a key thyroid epithelial differentiation marker used in immunohistochemistry and endocrine tissue research. A TTF-1 antibody such as clone TTF1/8427 provides a valuable tool for studies investigating thyroid epithelial differentiation, thyroid follicular epithelial biology, and transcriptional regulation of endocrine epithelial lineage identity.

Application Notes

Optimal dilution of the TTF-1 Antibody / Thyroid Epithelial Differentiation Marker Antibody should be determined by the researcher.

Immunogen

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

Storage

Aliquot the TTF-1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

NKX2-1 antibody, Thyroid transcription factor 1 antibody, TTF1 antibody, TITF1 antibody, Thyroid transcription factor antibody