abcam

ab242428

Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	SP141
Purification technique	Affinity purification Protein A/G
Concentration	1.026 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS by protein A/G.

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	Perform heat mediated antigen retrieval with 1 mM EDTA buffer pH 8.0 before commencing with IHC staining protocol. Primary antibody incubation for 30 minutes at room temperature.

Species	Rat
Dilution info	-
Notes	Perform heat mediated antigen retrieval with 1 mM EDTA buffer pH 8.0 before commencing with IHC staining protocol. Primary antibody incubation for 30 minutes at room temperature.

Species	Human
Dilution info	-
Notes	Perform heat mediated antigen retrieval with 1 mM EDTA buffer pH 8.0 before commencing with IHC staining protocol. Primary antibody incubation for 30 minutes at room temperature.

ICC/IF

Tested

Species	Human
Dilution info	1/25
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Tested

Species	Rat
Dilution info	1/20
Notes	-

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information NKX2-1

Function	Transcription factor that binds and activates the promoter of thyroid specific genes such as thyroglobulin, thyroperoxidase, and thyrotropin receptor. Crucial in the maintenance of the thyroid differentiation phenotype. May play a role in lung development and surfactant homeostasis. Forms a regulatory loop with GRHL2 that coordinates lung epithelial cell morphogenesis and differentiation. Activates the transcription of GNRHR and plays a role in enhancing the circadian oscillation of its gene expression. Represses the transcription of the circadian transcriptional repressor NR1D1 (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab242428 is the carrier-free version of ab227652.
What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	TTF1 also known as Nkx2-1 is a transcription factor with a molecular mass of approximately 38 kDa. It plays a significant role in regulating gene expression. This target is mainly expressed in tissues such as the thyroid lung and the brain. In the thyroid it activates genes associated with thyroid hormone synthesis while in the lung it regulates genes important for lung development and function. It is also referred to by other alternate names such as anti-TTF1 and NKX2.1.
Biological function summary	TTF1/Nkx2-1 is essential for organ-specific development and maintenance. It is a critical component of transcriptional complexes that modulate the expression of genes during the development of the thyroid and lung tissues. TTF1/Nkx2-1 impacts cellular processes by controlling genes involved in differentiation. Its regulatory functions play an important role in dictating cell fate decisions and maintaining organ identity.
Pathways	The activity of TTF1/Nkx2-1 integrates into the TGF-beta signaling and Wnt pathways. These pathways are imperative for cellular proliferation and

	differentiation. TTF1/Nkx2-1 possesses interactions with proteins like SMADs within the TGF-beta pathway influencing cellular responses. Similarly it interacts with beta-catenin in the Wnt pathway contributing to the modulation of gene expression relevant to developmental processes.
Associated diseases and disorders	TTF1/Nkx2-1 has been associated with conditions like lung cancer and congenital hypothyroidism. Altered expression or mutations in this transcription factor can lead to these disorders. For instance in lung cancer the aberrant expression of TTF1/Nkx2-1 may involve proteins such as EGFR which contributes to tumorigenesis. In congenital hypothyroidism disruptions in TTF1/Nkx2-1 activity can affect thyroid hormone synthesis-related proteins impacting metabolic processes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

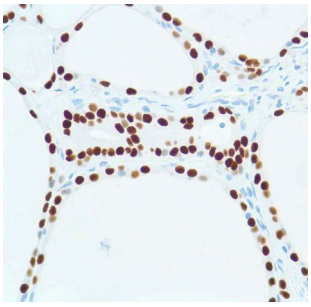
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

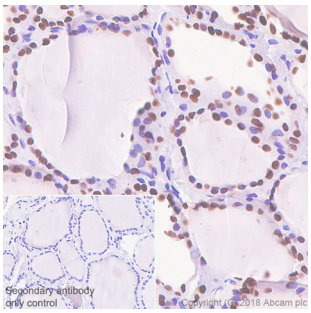
10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

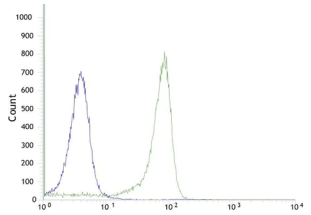
Formalin-fixed, paraffin-embedded human thyroid tissue stained for TTF1/Nkx2-1 using ab227652 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, and sodium azide (ab227652).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

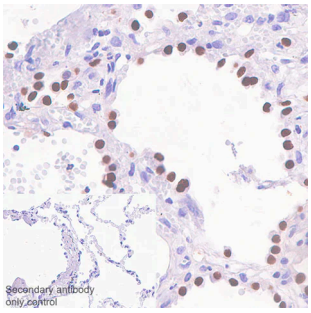
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human thyroid tissue sections labeling TTF1/Nkx2-1 with ab227652 at 1/100 dilution (1.70 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227652).



Flow Cytometry (Intracellular) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Flow Cytometry (Intracellular) staining using rabbit Anti-TTF1/Nkx2-1 antibody

Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cell line labeling TTF1/Nkx2-1 with ab227652 at 1/100 dilution (green) compared with a rabbit IgG negative control (blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, and sodium azide (ab227652).

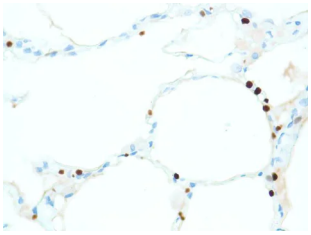


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human lung tissue sections labeling TTF1/Nkx2-1 with ab227652 at 1/100 dilution (1.70 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB

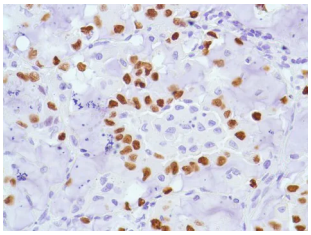
(ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227652).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

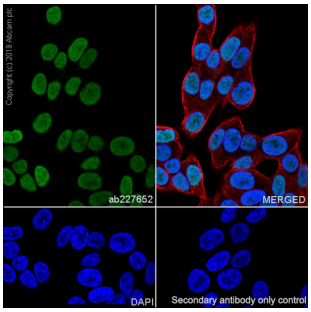
Formalin-fixed, paraffin-embedded human lung tissue stained for TTF1/Nkx2-1 using ab227652 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, and sodium azide (ab227652).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

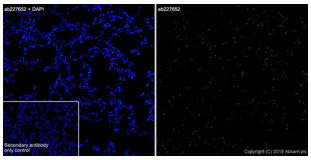
Formalin-fixed, paraffin-embedded human lung adenocarcinoma tissue stained for TTF1/Nkx2-1 using ab227652 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, and sodium azide (ab227652).



Immunocytochemistry/ Immunofluorescence - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TTF1/Nkx2-1 antibody

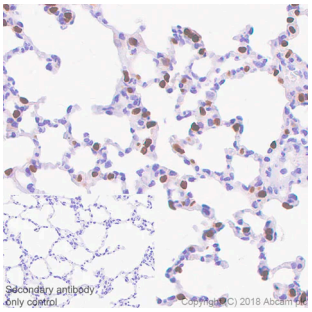
Immunocytochemistry/ Immunofluorescence analysis of TT (Human thyroid carcinoma epithelial cell) cells labeling TTF1/Nkx2-1 with purified ab227652 at 1:25 (6.8 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227652).



Immunohistochemistry (Frozen sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Frozen sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

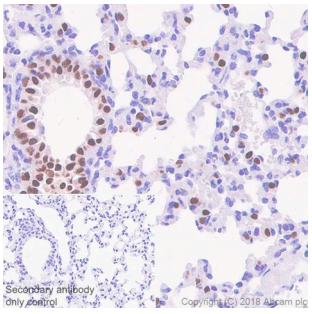
Immunohistochemistry (Frozen sections) analysis of rat lung tissue sections labeling TTF1/Nkx2-1 with purified ab227652 at 1:20 (8.5 µg/ml). Heat mediated antigen retrieval was performed using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20). Fixed with 4% paraformaldehyde and permeabilised using 0.2% Triton X-100. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. DAPI was used as a Nuclear stain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227652).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat lung tissue sections labeling TTF1/Nkx2-1 with ab227652 at 1/100 dilution (1.70 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227652).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TTF1/Nkx2-1 antibody [SP141] - BSA and Azide free (ab242428)

TTF1/Nkx2-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TTF1/Nkx2-1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse lung tissue sections labeling TTF1/Nkx2-1 with ab227652 at 1/100 dilution (1.70 µg/ml). Heat mediated antigen retrieval was performed Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 10 mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab227652).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.