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NKX2-1 Antibody

Catalog # ASC11445

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P43699
Other Accession	P43699, 118766339
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	38596
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	NKX2-1 antibody can be used for detection of NKX2-1 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	7080
Other Names	Homeobox protein Nkx-2.1, Homeobox protein NK-2 homolog A, Thyroid nuclear factor 1, Thyroid transcription factor 1, TTF-1, Thyroid-specific enhancer-binding protein, T/EBP, NKX2-1, NKX2A, TITF1, TTF1
Target/Specificity	NKX2-1; NKX2-1 antibody is predicted to not cross-react with other NK2 homeobox family members. At least three isoforms of NKX2-1 are known to exist; this antibody will detect all three.
Reconstitution & Storage	NKX2-1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	NKX2-1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	NKX2-1 (HGNC:11825)
Synonyms	NKX2A, TITF1, TTF1
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).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:P50220}.
Tissue Location	Thyroid and lung.

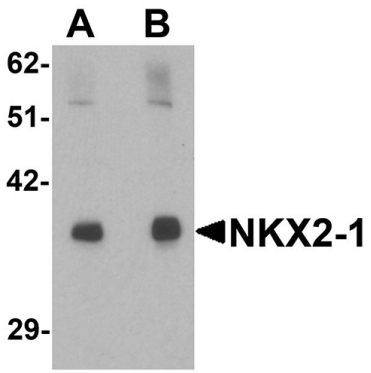
Background

NKX2-1 Antibody: NKX2-1 (NK2 homeobox 1) has been identified as a thyroid-specific transcription factor that binds and activates the promoter of thyroid specific genes such as thyroglobulin and thyrotropin receptor. NKX2-1 is crucial in the maintenance of the thyroid differentiation phenotype and morphogenesis. It contains one homeobox DNA-binding domain. NKX2-1 also may play a role in lung development and surfactant homeostasis. Mutations and deletions in this gene are associated with benign hereditary chorea, congenital hypothyroidism, neonatal respiratory distress, and may be associated with thyroid cancer. NKX2-1 has been suggested to be a candidate suppressor of malignant progression.

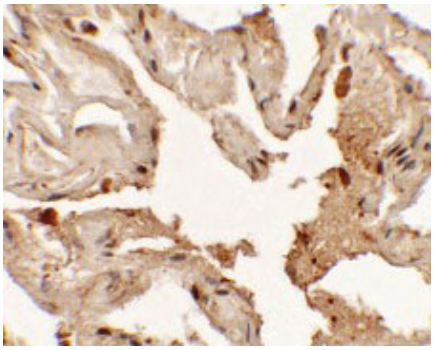
References

Lazzaro D, Price M, Felice MD, et al. The transcription factor TTF-1 is expressed at the onset of thyroid and lung morphogenesis and in restricted regions of the fetal brain. Development 1991; 113:1093-1104.
Guazzi S, Price M, De Felice M, et al. Thyroid nuclear factor 1 (TTF-1) contains a homeodomain and displays a novel DNA binding specificity. EMBO J. 1990; 9:3631-9.
Breedveld GJ, Van Dongen JWF et al. Mutations in TITF-1 are associated with benign hereditary chorea. Hum. Mol. Genet. 2002; 11:9719.
Kondo T, Nakazawa T, Ma D, et al. Epigenetic silencing of TTF-1/NKX2-1 through DNA hypermethylation and histone H3 modulation in thyroid carcinomas. Lab Invest. 2009; 89:791-9.

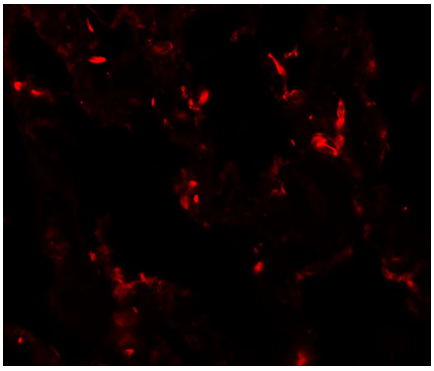
Images



Western blot analysis of NKX2-1 in rat lung tissue lysate with NKX2-1 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of NKX2-1 in human lung tissue with NKX2-1 antibody at 2.5 µg/mL.



Immunofluorescence of NKX2-1 in human lung tissue with NKX2-1 antibody at 20 µg/mL.