SANTA CRUZ BIOTECHNOLOGY, INC.

TTF-1 (8G7G3/1): sc-53136

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TTF-1 (thyroid transcription factor-1, BCH, BHC, NK-2, Nkx2.1, Nkx2A, TEBP, TTF1) is a member of the Nkx2 family of homeodomain-containing transcription factors and regulates the transcriptional activity of thyroid-specific genes. TTF-1 influences organogenisis and the maintenance of the differentiated phenotypes of various tissues including thyroid, lung and brain. TTF-1, which is present in the epithelium of the lung, regulates transcription of the surfactant proteins (SP) A, B and C and is essential for lung morphogenesis. In the thyroid, TTF-1 elevates the expression of thyroid specific markers, thyroglobulin, thyroperoxidase and thyrotropin receptors. TTF-1 interacts with SRC-1 and CBP *in vitro*.

CHROMOSOMAL LOCATION

Genetic locus: NKX2-1 (human) mapping to 14q13.3; Nkx2-1 (mouse) mapping to 12 C1.

SOURCE

TTF-1 (8G7G3/1) is a mouse monoclonal antibody raised against full length recombinant TTF-1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-53136 X, 200 µg/0.1 ml.

TTF-1 (8G7G3/1) is available conjugated to agarose (sc-53136 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53136 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53136 PE), fluorescein (sc-53136 FITC), Alexa Fluor® 488 (sc-53136 AF488), Alexa Fluor® 546 (sc-53136 AF546), Alexa Fluor® 594 (sc-53136 AF594) or Alexa Fluor® 647 (sc-53136 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53136 AF680) or Alexa Fluor® 790 (sc-53136 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TTF-1 (8G7G3/1) is recommended for detection of TTF-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TTF-1 siRNA (h): sc-36756, TTF-1 siRNA (m): sc-36757, TTF-1 shRNA Plasmid (h): sc-36756-SH, TTF-1 shRNA Plasmid (m): sc-36757-SH, TTF-1 shRNA (h) Lentiviral Particles: sc-36756-V and TTF-1 shRNA (m) Lentiviral Particles: sc-36757-V.

TTF-1 (8G7G3/1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

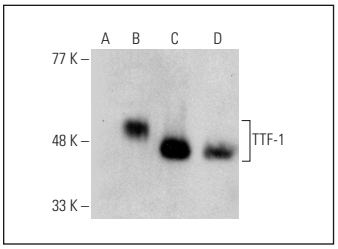
Molecular Weight of TTF-1: 38 kDa.

Positive Controls: SHP-77 whole cell lysate: sc-364258, TTF-1 (h2): 293T Lysate: sc-159187 or TT whole cell lysate: sc-364195.

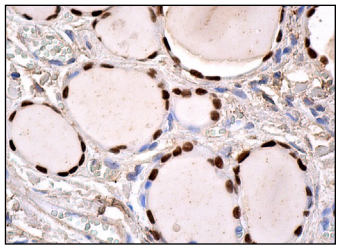
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



TTF-1 (8G7G3/1) HRP: sc-53136 HRP. Direct western blot analysis of TTF-1 expression in non-transfected 293T: sc-117752 (**A**), human TTF-1 transfected 293T: sc-159187 (**B**), TT (**C**) and SHP-77 (**D**) whole cell lysates.



TTF-1 (8G7G3/1): sc-53136. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Mueller, J.K., et al. 2012. Transcription of the human EAP1 gene is regulated by upstream components of a puberty-controlling tumor suppressor gene network. Mol. Cell. Endocrinol. 351: 184-198.
2. Rice, S.J., et al. 2013. MicroRNA-33a mediates the regulation of high mobility group AT-hook 2 gene (HMGA2) by thyroid transcription factor 1 (TTF-1/NKX2-1). J. Biol. Chem. 288: 16348-16360.
3. McIntyre, B.A., et al. 2014. Expansive generation of functional airway epithelium from human embryonic stem cells. Stem Cells Transl. Med. 3: 7-17.
4. Chen, P.M., et al. 2015. NKX2-1-mediated p53 expression modulates lung adenocarcinoma progression via modulating IKKβ/NFκB activation. Oncotarget 6: 14274-14289.
5. Mc Laughlin, D., et al. 2016. Notochord manipulation does not impact oesophageal and tracheal formation from isolated foregut in 3D explant culture. Pediatr. Surg. Int. 32: 29-35.
6. Huang, T.W., et al. 2017. The role of thyroid transcription factor-1 and tumor differentiation in resected lung adenocarcinoma. Sci. Rep. 7: 14222.
7. Jin, H., et al. 2018. Surfactant protein C dampens inflammation by decreasing JAK/Stat activation during lung repair. Am. J. Physiol. Lung Cell. Mol. Physiol. 314: L882-L892.
8. Li, X., et al. 2020. Clinicopathological characteristics and genetic analysis of pulmonary carcinoid tumors: a single-center retrospective cohort study and literature review. Oncol. Lett. 19: 2446-2456.
9. Di Stefano, A., et al. 2020. Extracorporeal shock waves increase markers of cellular proliferation in bronchial epithelium and in primary bronchial fibroblasts of COPD patients. Can. Respir. J. 2020: 1524716.

RESEARCH USE

For research use only, not for use in diagnostic procedures.