Nkx-3.1 (A-3): sc-393190

**BACKGROUND**

The homeobox gene Nkx-3.1 is the human homolog of *Drosophila* bagpipe, which, in conjunction with tinman, determines cell fate in the dorsal mesoderm. In mammalian species, Nkx-3.1 is predominantly expressed in prostate, and it regulates prostate development in response to sonic hedgehog (Shh) signaling by exerting growth-suppressive and differentiating effects on prostatic epithelium. Nkx-3.1 is also expressed at lower levels in other tissues, including the heart and gut, in a Shh independent manner, where it plays a role in regulating proliferation of glandular epithelium and in the formation of ducts in prostate and minor salivary glands. Nkx-3.1 preferentially binds the TAAGTA sequence, which has not been reported for any other NK class homeoprotein. The human Nkx-3.1 gene is located on chromosome 8p21.2, which frequently undergoes a loss of heterozygosity, and although Nkx-3.1 is not a tumor suppressor gene, it may be a useful marker for benign and malignant prostate epithelium.

**REFERENCES**

4. Steadman, D.J., et al. 2000. DNA-binding sequence of the human prostate-derm. In mammalian species, Nkx-3.1 is predominantly expressed in prostate, static epithelium. Nkx-3.1 is also expressed at lower levels in other tissues, including the heart and gut, in a Shh independent manner, where it plays a role in regulating proliferation of glandular epithelium and in the formation of ducts in prostate and minor salivary glands.

**CHROMOSOMAL LOCATION**

Genetic locus: NKX3-1 (human) mapping to 8p21.2; Nkx-3.1 (mouse) mapping to 14 D2.

**SOURCE**

Nkx-3.1 (A-3) is a mouse monoclonal antibody raised against amino acids 1-50 mapping at the N-terminus of Nkx-3.1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG κ 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-393190 X, 200 µg/0.1 ml.

Nkx-3.1 (A-3) is available conjugated to agarose (sc-393190 AC), 500 µg/0.25 ml agarose in 1 ml; for IP, to HRP (sc-393190 HRP), 200 µg/ml, for WB, IHCIP and ELISA; to either phycoerythrin (sc-393190 PE), fluorescent (sc-393190 FITC), Alexa Fluor® 488 (sc-393190 AF488), Alexa Fluor® 546 (sc-393190 AF546), Alexa Fluor® 594 (sc-393190 AF594) or Alexa Fluor® 647 (sc-393190 AF647), 200 µg/ml, for WB (RGB), IF, IHCIP and FCM; and to either Alexa Fluor® 680 (sc-393190 AF680) or Alexa Fluor® 790 (sc-393190 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

Nkx-3.1 (A-3) is recommended for detection of Nkx-3.1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Nkx-3.1 siRNA (h): sc-36077, Nkx-3.1 siRNA (m): sc-36078, Nkx-3.1 shRNA Plasmid (h): sc-36077-SH, Nkx-3.1 shRNA Plasmid (m): sc-36078-SH, Nkx-3.1 shRNA (h) Lentiviral Particles: sc-36077-V and Nkx-3.1 shRNA (m) Lentiviral Particles: sc-36078-V.

Nkx-3.1 (A-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Nkx-3.1: 35 kDa.

Positive Controls: LNCaP cell lysate: sc-2231, NTERA-2 cl.D1 whole cell lysate: sc-364181 or human colon extract: sc-363757.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting LuminoL Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**DATA**

Nkx-3.1 (A-3): sc-393190. Western blot analysis of Nkx-3.1 expression in LNCaP (A) and NTERA-2 cl.D1 (B) whole cell lysates and human colon tissue extract (C).

Nkx-3.1 (A-3): sc-393190. Western blot analysis of Nkx-3.1 expression in NTERA-2 cl.D1 (A), MCF7 (B) and CO-RE-GM (C) whole cell lysates.

**STORAGE**

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

**RESEARCH USE**

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