SANTA CRUZ BIOTECHNOLOGY, INC.

Nkx-2.2 (L-25): sc-133825

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the NK-2 family of homeodomain proteins are key regulators of growth and development in several tissues, including brain, heart and pancreas. During neural development, Sonic hedgehog (Shh) is known to control cell fate and mitogenesis, which is correlated with Shh dose-dependent expression of several genes, including Nkx-2.1, Nkx-2.2 and Nkx-2.9. Specifically, the Nkx-2.2 protein is responsible for directing ventral neuronal patterning in response to graded Shh signaling. In the pancreas, Nkx-2.2 is expressed in α, β and pancreatic polypeptide (PP) cells, but not in δ cells. Nkx-2.2 expression is required for differentiation of pancreatic β cells, which produce Insulin. Homozygous null mutations of the Nkx-2.2 gene in mice lead to severe hyperglycemia and death shortly after birth, which suggests that Nkx-2.2 may be an important therapeutic target for pancreatic diseases, including diabetes and cancer.

REFERENCES

1. Sussel, L., et al. 1998. Mice lacking the homeodomain transcription factor Nkx-2.2 have diabetes due to arrested differentiation of pancreatic β cells. Development 125: 2213-2221.
2. Briscoe, J., et al. 1999. Homeobox gene Nkx-2.2 and specification of neuronal identity by graded Sonic hedgehog signalling. Nature 398: 622-627.
3. St-Onge, L., et al. 1999. Pancreas development and diabetes. Curr. Opin. Genet. Dev. 9: 295-300.
4. Hessabi, B., et al. 2000. The homeodomain of Nkx-2.2 carries two cooperatively acting nuclear localization signals. Biochem. Biophys. Res. Commun. 270: 695-700.
5. Hynes, M., et al. 2000. The seven-transmembrane receptor smoothened cell-autonomously induces multiple ventral cell types. Nat. Neurosci. 3: 41-46.
6. Pabst, O., et al. 2000. NKX2 gene expression in neuroectoderm but not in mesendodermally derived structures depends on Sonic hedgehog in mouse embryos. Dev. Genes. Evol. 210: 47-50.

CHROMOSOMAL LOCATION

Genetic locus: Nkx2-2 (mouse) mapping to 2 G2.

SOURCE

Nkx-2.2 (L-25) is an affinity purified rabbit polyclonal antibody raised against synthetic Nkx-2.2 peptide of mouse origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

Nkx-2.2 (L-25) is recommended for detection of Nkx-2.2 of mouse and rat 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Nkx-2.2 siRNA (m): sc-38724, Nkx-2.2 shRNA Plasmid (m): sc-38724-SH and Nkx-2.2 shRNA (m) Lentiviral Particles: sc-38724-V.

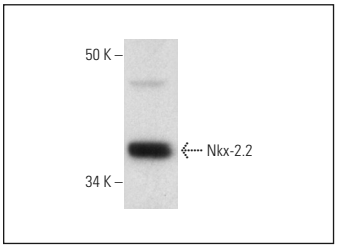
Molecular Weight of Nkx-2.2: 30 kDa.

Positive Controls: SP2/0 whole cell lysate: sc-364795, mouse brain extract: sc-2253 or RAW 264.7 nuclear extract: sc-24961.

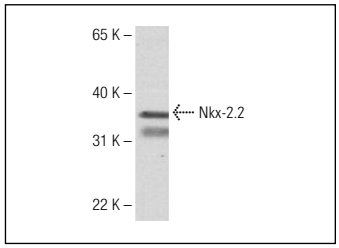
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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-2.2 (L-25): sc-133825. Western blot analysis of Nkx-2.2 expression in mouse brain tissue extract.



Nkx-2.2 (L-25): sc-133825. Western blot analysis of Nkx-2.2 expression in SP2/0 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS Satisfaction Guaranteed

Try **Nkx-2.2 (D-4): sc-398951** or **Nkx-2.2 (F-2): sc-514161**, our highly recommended monoclonal alternatives to Nkx-2.2 (L-25).