SANTA CRUZ BIOTECHNOLOGY, INC.

Nkx-2.2 (P-20): sc-15015

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.

CHROMOSOMAL LOCATION

Genetic locus: NKX2-2 (human) mapping to 20p11.22; Nkx2-2 (mouse) mapping to 2 G2.

SOURCE

Nkx-2.2 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Nkx-2.2 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-15015 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-15015 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nkx-2.2 (P-20) is recommended for detection of Nkx-2.2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Nkx-2.2 (P-20) is also recommended for detection of Nkx-2.2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Nkx-2.2 siRNA (h): sc-38723, Nkx-2.2 siRNA (m): sc-38724, Nkx-2.2 shRNA Plasmid (h): sc-38723-SH, Nkx-2.2 shRNA Plasmid (m): sc-38724-SH, Nkx-2.2 shRNA (h) Lentiviral Particles: sc-38723-V and Nkx-2.2 shRNA (m) Lentiviral Particles: sc-38724-V.

Nkx-2.2 (P-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

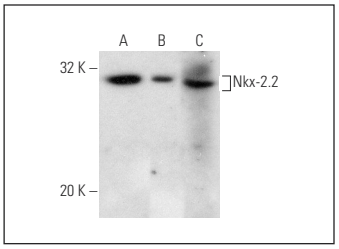
Molecular Weight of Nkx-2.2: 30 kDa.

Positive Controls: mouse brain extract: sc-2253, Nkx-2.2 (h): 293T Lysate: sc-369812 or NIH/3T3 nuclear extract: sc-2138.

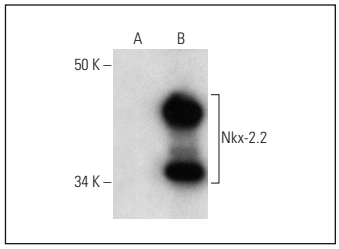
STORAGE

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

DATA



Nkx-2.2 (P-20): sc-15015. Western blot analysis of Nkx-2.2 expression in RAW 264.7 (**A**) and NIH/3T3 (**B**) nuclear extracts and mouse brain tissue extract (**C**).



Nkx-2.2 (P-20): sc-15015. Western blot analysis of Nkx-2.2 expression in non-transfected: sc-117752 (**A**) and human Nkx-2.2 transfected: sc-369812 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ess, K.C., et al. 2004. Expression profiling in tuberous sclerosis complex (TSC) knockout mouse astrocytes to characterize human TSC brain pathology. Glia 46: 28-40.
2. Wei, Q., et al. 2005. Stage-specific expression of myelin basic protein in oligodendrocytes involves Nkx2.2-mediated repression that is relieved by the Sp1 transcription factor. J. Biol. Chem. 280: 16284-16294.
3. Vincent, R., et al. 2006. Generation and characterization of novel tetracycline-inducible pancreatic transcription factor-expressing murine embryonic stem cell lines. Stem Cells Dev. 15: 953-962.
4. Owen, L.A., et al. 2008. EWS/FLI mediates transcriptional repression via NKX2.2 during oncogenic transformation in Ewing's sarcoma. PLoS ONE 3: e1965.
5. Gao, X., et al. 2008. Transplantation of bone marrow derived cells promotes pancreatic islet repair in diabetic mice. Biochem. Biophys. Res. Commun. 371: 132-137.
6. Sankar, S., et al. 2012. Mechanism and relevance of EWS/FLI-mediated transcriptional repression in Ewing sarcoma. Oncogene 32: 5089-5100.

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 (P-20).