

Nkx-6.2 (C-16): sc-19883

BACKGROUND

Members of the Nkx 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-6.1. Specifically, Nkx-6.1 is responsible for cellular differentiation in the ventral neural tube and spinal meninges in response to Shh. Nkx-6.2 (also known as Nkx6B or Gtx) is also expressed during neural tube development by neural progenitor cells. Like Nkx-6.1, Nkx-6.2 functions as transcription repressor. During development, Nkx-6.2 regulates interneuron fates by repressing the expression of Dbx1, a class I homeodomain transcription repressor. Nkx-6.2 expression is not crucial to murine development, presumably because of some redundancy in function. The gene encoding human Nkx-6.2 maps to chromosome 10q26.3. The Nkx-6.2 gene is a candidate for a tumor suppressor gene because a number of various malignant brain tumors exhibit a homozygous loss of the chromosome 10q26.3 region.

REFERENCES

1. Briscoe, J., et al. 1999. Homeobox gene Nkx-2.2 and specification of neuronal identity by graded Sonic hedgehog signalling. *Nature* 398: 622-627.
2. Cai, J., et al. 1999. Expression and regulation of the chicken Nkx-6.2 homeobox gene suggest its possible involvement in the ventral neural patterning and cell fate specification. *Dev. Dyn.* 216: 459-468.
3. Cai, J., et al. 2000. Evidence for the differential regulation of Nkx-6.1 expression in the ventral spinal cord and foregut by Shh-dependent and -independent mechanisms. *Genesis* 27: 6-11.
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. Pabst, O., et al. 2000. NKX2 gene expression in neuroectoderm but not in mesodermally derived structures depends on sonic hedgehog in mouse embryos. *Dev. Genes Evol.* 210: 47-50.

CHROMOSOMAL LOCATION

Genetic locus: NKX6-2 (human) mapping to 10q26.3; Nkx6-2 (mouse) mapping to 7 F4.

SOURCE

Nkx-6.2 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Nkx-6.2 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.

Blocking peptide available for competition studies, sc-19883 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-19883 X, 200 µg/0.1 ml.

APPLICATIONS

Nkx-6.2 (C-16) is recommended for detection of Nkx-6.2 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-6.2 (C-16) is also recommended for detection of Nkx-6.2 in additional species, including avian.

Suitable for use as control antibody for Nkx-6.2 siRNA (h): sc-38733, Nkx-6.2 siRNA (m): sc-38734, Nkx-6.2 shRNA Plasmid (h): sc-38733-SH, Nkx-6.2 shRNA Plasmid (m): sc-38734-SH, Nkx-6.2 shRNA (h) Lentiviral Particles: sc-38733-V and Nkx-6.2 shRNA (m) Lentiviral Particles: sc-38734-V.

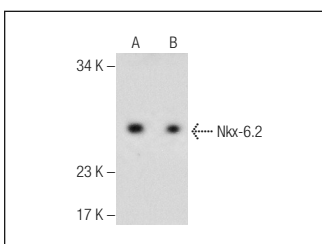
Nkx-6.2 (C-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Nkx-6.2 (C-16): sc-19883. Western blot analysis of Nkx-6.2 expression in HeLa (A) and IMR-32 (B) 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.