

Nkx-2.5 (A-16): sc-12514

BACKGROUND

Nkx-2.5, which is also designated cardiac specific homeobox protein (Csx), is a homeodomain-containing nuclear transcription protein of the Nkx-2 gene family. These transcriptional activators, which include thyroid transcription factor-1 (TTF-1), regulate the expression of tissue specific genes and are required for maintaining the differentiated phenotypes of various lineages. Nkx-2.5 is a homolog to the tinman protein expressed in *Drosophila*, and is essential for normal cardiovascular development. Expression of Nkx-2.5 during cardiomyogenesis is required for cardiac septation, in which a single atrium and ventricle are separated into four chambers. During embryonic development, Nkx-2.5 is also expressed in the foregut, thyroid, spleen and stomach, while in the adult expression is predominantly restricted to the heart. Mutations that disrupt Nkx-2.5 can result in atrial-septal defects, embryonic lethality and congenital heart disease.

CHROMOSOMAL LOCATION

Genetic locus: NKX2-5 (human) mapping to 5q35.1; Nkx2-5 (mouse) mapping to 17 A3.3.

SOURCE

Nkx-2.5 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Nkx-2.5 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-12514 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-12514 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nkx-2.5 (A-16) is recommended for detection of Nkx-2.5 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).

Suitable for use as control antibody for Nkx-2.5 siRNA (h): sc-36075, Nkx-2.5 siRNA (m): sc-36076, Nkx-2.5 shRNA Plasmid (h): sc-36075-SH, Nkx-2.5 shRNA Plasmid (m): sc-36076-SH, Nkx-2.5 shRNA (h) Lentiviral Particles: sc-36075-V and Nkx-2.5 shRNA (m) Lentiviral Particles: sc-36076-V.

Nkx-2.5 (A-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Nkx-2.5: 40 kDa.

Positive Controls: Nkx-2.5 (h): 293T Lysate: sc-114181, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

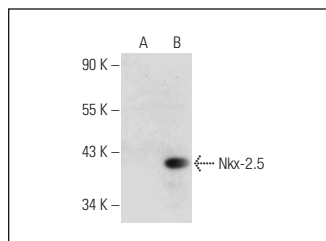
RESEARCH USE

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

STORAGE

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

DATA



Nkx-2.5 (A-16): sc-12514. Western blot analysis of Nkx-2.5 expression in non-transfected: sc-117752 (A) and human Nkx-2.5 transfected: sc-114181 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Schroeder, T., et al. 2003. Recombination signal sequence-binding protein J κ alters mesodermal cell fate decisions by suppressing cardiomyogenesis. *Proc. Natl. Acad. Sci. USA* 100: 4018-4023.
- Chang, D.F., et al. 2007. LIM-only protein, CRP2, switched on smooth muscle gene activity in adult cardiac myocytes. *Proc. Natl. Acad. Sci. USA* 104: 157-162.
- Croquelois, A., et al. 2008. Control of the adaptive response of the heart to stress via the Notch1 receptor pathway. *J. Exp. Med.* 205: 3173-3185.
- Koss, M., et al. 2012. Congenital asplenia in mice and humans with mutations in a Pbx/Nkx2-5/p15 module. *Dev. Cell* 22: 913-926.
- Saravanakumar, M. and Devaraj, H. 2013. Notch signalling in cardiovascularogenesis: insight into their role in early cardiovascular development. *Mol. Biol. Rep.* 40: 3537-3547.

PROTOCOLS

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



Try **Nkx-2.5 (A-3): sc-376565** or **Nkx-2.5 (F-2): sc-365207**, our highly recommended monoclonal alternatives to Nkx-2.5 (A-16). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Nkx-2.5 (A-3): sc-376565**.