

# Nkx-2.5 (H-114): sc-14033

## 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 (H-114) is a rabbit polyclonal antibody raised against amino acids 24-137 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-14033 X, 200 µg/0.1 ml.

## APPLICATIONS

Nkx-2.5 (H-114) 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 (H-114) 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.

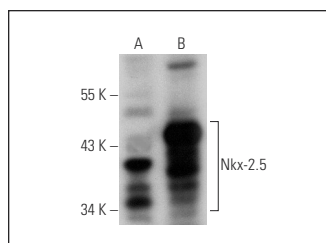
## STORAGE

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

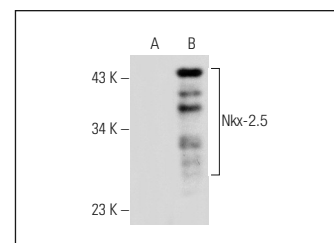
## RESEARCH USE

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

## DATA



Nkx-2.5 (H-114): sc-14033. Western blot analysis of Nkx-2.5 expression in non-transfected: sc-117752 (A) and human Nkx-2.5 transfected: sc-159567 (B) 293T whole cell lysates.



Nkx-2.5 (H-114): sc-14033. 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

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3. Bax, N.A., et al. 2010. Cardiac malformations in Pdgfralpha mutant embryos are associated with increased expression of WT1 and Nkx2.5 in the second heart field. *Dev. Dyn.* 239: 2307-2317.
4. Chang, Z., et al. 2010. Deletion of Akt1 causes heart defects and abnormal cardiomyocyte proliferation. *Dev. Biol.* 347: 384-391.
5. Armiñán, A., et al. 2010. Cardiac transcription factors driven lineage-specification of adult stem cells. *J. Cardiovasc. Transl. Res.* 3: 61-65.
6. Witman, N., et al. 2011. Recapitulation of developmental cardiogenesis governs the morphological and functional regeneration of adult newt hearts following injury. *Dev. Biol.* 354: 67-76.
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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 (H-114). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Nkx-2.5 (A-3): sc-376565**.