

# Hox11 (1D7): sc-12760

## BACKGROUND

The Hox proteins play a role in patterns of embryonic development and cellular differentiation by regulating downstream target genes. The Hox11 gene, termed an orphan homeobox gene, as it is located outside of the four mammalian Hox clusters, is a DNA-binding nuclear transcription factor. The human Hox11 gene maps to chromosome 10q24 and has been implicated in the chromosomal translocation t(7;10)(q24;q11) that occurs in T cell acute lymphoblastic leukemia (T-ALL). The t(7;10) translocation occurs between the Hox11 gene and the T cell receptor (TCR)  $\delta$ -chain gene and is a result of aberrant physiological recombinational events at the early stages of T cell development. The Hox11 gene is normally expressed in the splanchnic anlage arising from the splanchnic mesoderm. Homozygous Hox11-deficient mice have no spleen, while all other splanchnic derivatives develop normally. Spleen development starts and proceeds normally in Hox11-deficient mice to a specific stage of embryogenesis, when the spleen anlage becomes fully absorbed.

## REFERENCES

1. Dube, I.D., et al. 1991. A novel human homeobox gene lies at the chromosome 10 breakpoint in lymphoid neoplasias with chromosomal translocation t(10;14). *Blood* 78: 2996-3003.
2. Hatano, M., et al. 1991. Deregulation of a homeobox gene, Hox11, by the t(10;14) in T cell leukemia. *Science* 253: 79-82.
3. Dear, T.N., et al. 1993. The Hox11 gene encodes a DNA-binding nuclear transcription factor belonging to a distinct family of homeobox genes. *Proc. Natl. Acad. Sci. USA* 90: 4431-4435.
4. Roberts, C.W., et al. 1994. Hox11 controls the genesis of the spleen. *Nature* 368: 747-749.

## CHROMOSOMAL LOCATION

Genetic locus: TLX1 (human) mapping to 10q24.31; Tlx1 (mouse) mapping to 19 C3.

## SOURCE

Hox11 (1D7) is a mouse monoclonal antibody raised against amino acids 261-330 of Hox11 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> 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-12760 X, 200  $\mu$ g/0.1 ml.

Hox11 (1D7) is available conjugated to agarose (sc-12760 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12760 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12760 PE), fluorescein (sc-12760 FITC), Alexa Fluor® 488 (sc-12760 AF488), Alexa Fluor® 546 (sc-12760 AF546), Alexa Fluor® 594 (sc-12760 AF594) or Alexa Fluor® 647 (sc-12760 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12760 AF680) or Alexa Fluor® 790 (sc-12760 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

Hox11 (1D7) is recommended for detection of Hox11 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

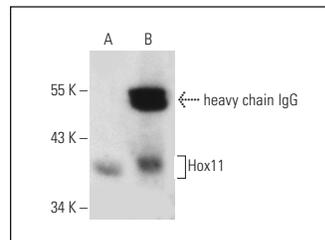
Suitable for use as control antibody for Hox11 siRNA (h): sc-38700, Hox11 siRNA (m): sc-38701, Hox11 shRNA Plasmid (h): sc-38700-SH, Hox11 shRNA Plasmid (m): sc-38701-SH, Hox11 shRNA (h) Lentiviral Particles: sc-38700-V and Hox11 shRNA (m) Lentiviral Particles: sc-38701-V.

Hox11 (1D7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Hox11: 40 kDa.

Positive Controls: ALL-SIL whole cell lysate: sc-364356.

## DATA



Hox11 (1D7): sc-12760. Western blot analysis of Hox11 expression in ALL-SIL whole cell lysate (A) and Hox11 expression in ALL-SIL whole cell lysate immunoprecipitated with Hox11 (1D7): sc-12760 and detected by Western blot with the same antibody (B).

## SELECT PRODUCT CITATIONS

1. Owens, B.M., et al. 2003. Specific homeodomain-DNA interactions are required for HOX11-mediated transformation. *Blood* 101: 4966-4974.
2. Chen, E., et al. 2010. Phosphorylation of Hox11/TLX1 on Threonine-247 during mitosis modulates expression of cyclin B1. *Mol. Cancer* 9: 246.
3. Rakowski, L.A., et al. 2011. Transient responses to NOTCH and TLX1/HOX11 inhibition in T-cell acute lymphoblastic leukemia/lymphoma. *PLoS ONE* 6: e16761.
4. Della Gatta, G., et al. 2012. Reverse engineering of TLX oncogenic transcriptional networks identifies RUNX1 as tumor suppressor in T-ALL. *Nat. Med.* 18: 436-440.

## 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.