

# TLX3 (H-55): sc-30185

## BACKGROUND

Members of the TLX homeobox gene family are expressed in the developing hindbrain; specifically, the TLX3 gene is expressed in the developing dorsal and ventral medulla oblongata. The TLX3 gene is required for formation of first-order relay visceral sensory neurons in the brainstem. Development of most nor/adrenergic centers is compromised in both TLX3- and Phox2b-deficient mice. The TLX3 and Phox2 proteins have independent functions in specifying the nor/adrenergic phenotype. TLX3-deficient newborn mice have a high rate of respiration, a decreased duration of inspiration and frequent apnea; they die shortly after birth from central respiratory failure. In both chick and mouse embryos, TLX3 expression occurs in two longitudinal stripes of post-mitotic neurons in the developing hindbrain and spinal cord. The human TLX3 gene maps to chromosome 5q35.1. Implicated in T-ALL (T-cell acute lymphoblastic leukemia), the t(5:14)(q35;q32) translocation increases transcription of the TLX3 gene.

## REFERENCES

1. Shirasawa, S., et al. 2000. Rnx deficiency results in congenital central hypoventilation. *Nat. Genet.* 24: 287-290.
2. Bernard, O.A., et al. 2001. A new recurrent and specific cryptic translocation, t(5:14)(q35;q32), is associated with expression of the Hox11L2 gene in T acute lymphoblastic leukemia. *Leukemia* 15: 1495-1504.
3. Cinti, R., et al. 2001. Assignment of the HOX11L2 gene to human chromosome band 5q35.1 and of its murine homolog to mouse chromosome bands 11A4-A5 by *in situ* hybridization. *Cytogenet. Cell Genet.* 92: 354-355.
4. Lee-Kirsch, M.A., et al. 2001. Assignment of the human homeobox 11-like 2 gene (HOX11L2) to chromosome 5q34 → q35 by radiation hybrid mapping. *Cytogenet. Cell Genet.* 92: 358.
5. Qian, Y., et al. 2001. Formation of brainstem nor/adrenergic centers and first-order relay visceral sensory neurons is dependent on homeodomain protein Rnx/Tlx3. *Genes Dev.* 15: 2533-2545.

## CHROMOSOMAL LOCATION

Genetic locus: TLX3 (human) mapping to 5q35.1; Tlx3 (mouse) mapping to 11 A4.

## SOURCE

TLX3 (H-55) is a rabbit polyclonal antibody raised against amino acids 31-85 mapping near the N-terminus of TLX3 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-30185 X, 200 µg/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

TLX3 (H-55) is recommended for detection of TLX3 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).

TLX3 (H-55) is also recommended for detection of TLX3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TLX3 siRNA (h): sc-38804, TLX3 siRNA (m): sc-38805, TLX3 shRNA Plasmid (h): sc-38804-SH, TLX3 shRNA Plasmid (m): sc-38805-SH, TLX3 shRNA (h) Lentiviral Particles: sc-38804-V and TLX3 shRNA (m) Lentiviral Particles: sc-38805-V.

TLX3 (H-55) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of TLX3: 32 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Regadas, I., et al. 2013. Several *cis*-regulatory elements control mRNA stability, translation efficiency, and expression pattern of Prxl1 (paired related homeobox protein-like 1). *J. Biol. Chem.* 288: 36285-36301.
2. Regadas, I., et al. 2014. Dual role of Tlx3 as modulator of Prxl1 transcription and phosphorylation. *Biochim. Biophys. Acta* 1839: 1121-1131.

## STORAGE

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


 MONOS  
 Satisfaction  
 Guaranteed

Try **TLX3 (G-8): sc-514691** or **TLX3 (34-L): sc-81990**, our highly recommended monoclonal alternatives to TLX3 (H-55).