SANTA CRUZ BIOTECHNOLOGY, INC.

Cdx4 (C-7): sc-374472

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cdx1, Cdx2 and Cdx4 are members of the caudal-type homeobox family of genes, which are homologs of the *Drosophila* "caudal" gene required for anterior-posterior regional identity. The proteins encoded by these genes are transcription factors which play an important role in development by regulating the expression of Hox genes. Hox genes play a fundamental role in the development of the vertebrate central nervous system, heart, axial skeleton, limbs, gut, urogenital tract and external genitalia. Cdx4 is a major positive regulator of the expression of all Hox family members. Due to its critical role as a regulator, Cdx4 is a direct target of the canonical Wnt pathway. The loss of Cdx4 can result in the development of an expanded hindbrain, while the overexpression of Cdx4 may cause the hindbrain to lose its distinct segmental features and resemble the spinal cord.

REFERENCES

1. Gamer, L.W., et al. 1993. Murine Cdx-4 bears striking similarities to the *Drosophila* caudal gene in its homeodomain sequence and early expression pattern. Mech. Dev. 43: 71-81.
2. Horn, J.M., et al. 1995. A member of the caudal family of homeobox genes maps to the X-inactivation centre region of the mouse and human X chromosomes. Hum. Mol. Genet. 4: 1041-1047.
3. Bonner, C.A., et al. 1995. Isolation, characterization, and precise physical localization of human CDX1, a caudal-type homeobox gene. Genomics 28: 206-211.
4. Gaunt, S.J., et al. 2005. Cdx4/lacZ and Cdx2/lacZ protein gradients formed by decay during gastrulation in the mouse. Int. J. Dev. Biol. 49: 901-908.
5. Pilon, N., et al. 2006. Cdx4 is a direct target of the canonical Wnt pathway. Dev. Biol. 289: 55-63.
6. Tabariès, S., et al. 2005. Cdx protein interaction with Hoxa5 regulatory sequences contributes to Hoxa5 regional expression along the axial skeleton. Mol. Cell. Biol. 25: 1389-1401.
7. Bansal, D., et al. 2006. Cdx4 dysregulates Hox gene expression and generates acute myeloid leukemia alone and in cooperation with Meis1a in a murine model. Proc. Natl. Acad. Sci. USA 103: 16924-16929.

CHROMOSOMAL LOCATION

Genetic locus: CDX4 (human) mapping to Xq13.2; Cdx4 (mouse) mapping to X D.

SOURCE

Cdx4 (C-7) is a mouse monoclonal antibody raised against amino acids 1-168 mapping at the N-terminus of Cdx4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-374472 X, 200 µg/0.1 ml.

APPLICATIONS

Cdx4 (C-7) is recommended for detection of Cdx4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 Cdx4 siRNA (h): sc-72316, Cdx4 siRNA (m): sc-72317, Cdx4 shRNA Plasmid (h): sc-72316-SH, Cdx4 shRNA Plasmid (m): sc-72317-SH, Cdx4 shRNA (h) Lentiviral Particles: sc-72316-V and Cdx4 shRNA (m) Lentiviral Particles: sc-72317-V.

Cdx4 (C-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

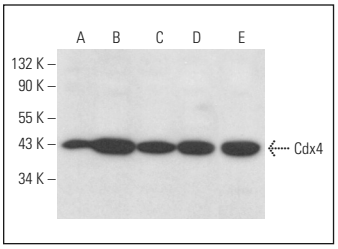
Molecular Weight of Cdx4: 30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or SK-N-MC nuclear extract: sc-2154.

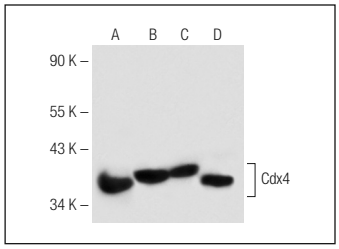
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Cdx4 (C-7): sc-374472. Western blot analysis of Cdx4 expression in SK-N-MC nuclear extract (**A**) and SK-N-SH (**B**), SH-SY5Y (**C**), IMR-32 (**D**) and Neuro-2A (**E**) whole cell lysates.



Cdx4 (C-7): sc-374472. Western blot analysis of Cdx4 expression in HeLa (**A**), C6 (**B**) and Hep G2 (**C**) whole cell lysates and SK-N-MC nuclear extract (**D**).

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.