

Cdx1 (m): 293T Lysate: sc-119160

BACKGROUND

The members of the murine Cdx family (Cdx1, Cdx2, and Cdx4) are members of the caudal-type homeobox family of genes, which are homologues of the *Drosophila* "caudal" gene required for anterior-posterior regional identity. The intestine-specific transcription factors Cdx1 and Cdx2 are candidate genes for directing intestinal development, differentiation, proliferation and maintenance of the intestinal phenotype. The relative expression of Cdx1 to Cdx2 protein may be important in the anterior to posterior patterning of the intestinal epithelium and in defining patterns of proliferation and differentiation along the crypt-villus axis. Expression of the Cdx1 homeobox gene in epithelial intestinal cells promotes cellular growth and differentiation. Cdx1 positively regulates its own expression. Cdx1 and Cdx2 are expressed in the small intestine and colon of fetus and adult. A decrease in human Cdx1 and/or Cdx2 expression is associated with colorectal tumorigenesis. Both Cdx1 and Cdx2 genes must be expressed to reduce tumorigenic potential, to increase sensitivity to apoptosis and to reduce cell migration, suggesting that the two genes control the normal phenotype by independent pathways. The human Cdx1 gene maps to chromosome 5q32 and encodes a 265-amino acid protein.

REFERENCES

1. Bonner, C.A., et al. 1995. Isolation, characterization, and precise physical localization of human CDX1, a caudal-type homeobox gene. *Genomics* 28: 206-211.
2. Mallo, G.V., et al. 1997. Molecular cloning, sequencing and expression of the mRNA encoding human Cdx1 and Cdx2 homeobox. Down-regulation of Cdx1 and Cdx2 mRNA expression during colorectal carcinogenesis. *Int. J. Cancer* 74: 35-44.
3. Mallo, G.V., et al. 1998. Expression of the Cdx1 and Cdx2 homeotic genes leads to reduced malignancy in colon cancer-derived cells. *J. Biol. Chem.* 273: 14030-14036.
4. Silberg, D.G., et al. 2000. Cdx1 and cdx2 expression during intestinal development. *Gastroenterology* 119: 961-971.
5. Allan, D., et al. 2001. RARgamma and Cdx1 interactions in vertebral patterning. *Dev. Biol.* 240: 46-60.
6. Soubeyran, P., et al. 2001. Homeobox gene Cdx1 regulates Ras, Rho and PI3 kinase pathways leading to transformation and tumorigenesis of intestinal epithelial cells. *Oncogene* 20: 4180-4187.
7. Moucadel, V., et al. 2001. Cdx1 promotes cellular growth of epithelial intestinal cells through induction of the secretory protein PAP I. *Eur. J. Cell Biol.* 80: 156-163.
8. Prinos, P., et al. 2001. Multiple pathways governing Cdx1 expression during murine development. *Dev. Biol.* 239: 257-269.
9. Oh, E.J., et al. 2002. The caudal-related homeodomain protein CDX1 activates proliferating cell nuclear antigen expression in hepatocellular and colorectal carcinoma cells. *Int. J. Oncol.* 20: 23-29.

CHROMOSOMAL LOCATION

Genetic locus: Cdx1 (mouse) mapping to 18 E1.

PRODUCT

Cdx1 (m): 293T Lysate represents a lysate of mouse Cdx1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Cdx1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Cdx1 antibodies. Recommended use: 10-20 µl per lane.

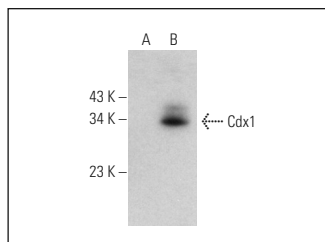
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Cdx1 (D-4): sc-515146 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Cdx1 expression in Cdx1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



Cdx1 (D-4): sc-515146. Western blot analysis of Cdx1 expression in non-transfected: sc-117752 (A) and mouse Cdx1 transfected: sc-119160 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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