

# Cdx1 (286.4): sc-130363

## 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. Downregulation 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. Prinos, P., et al. 2001. Multiple pathways governing Cdx1 expression during murine development. *Dev. Biol.* 239: 257-269.
6. Allan, D., et al. 2001. RAR $\gamma$  and Cdx1 interactions in vertebral patterning. *Dev. Biol.* 240: 46-60.
7. Soubeyran, P., et al. 2001. Homeobox gene Cdx1 regulates Ras, Rho and PI 3 kinase pathways leading to transformation and tumorigenesis of intestinal epithelial cells. *Oncogene* 20: 4180-4187.
8. 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.
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 (human) mapping to 5q32.

## SOURCE

Cdx1 (286.4) is a mouse monoclonal antibody raised against recombinant Cdx1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Cdx1 (286.4) is recommended for detection of Cdx1 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Cdx1 siRNA (h): sc-43679, Cdx1 shRNA Plasmid (h): sc-43679-SH and Cdx1 shRNA (h) Lentiviral Particles: sc-43679-V.

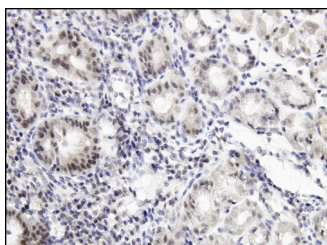
Molecular Weight of Cdx1: 28 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



Cdx1 (286.4): sc-130363. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing nuclear localization.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.