

# Cdx2 (K-21): sc-130716

## 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 5q33.1 and encodes a 265 amino acid protein.

## REFERENCES

- 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.
- 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.
- Silberg, D.G., et al. 2000. Cdx1 and Cdx2 expression during intestinal development. *Gastroenterology* 119: 961-971.
- Allan, D., et al. 2001. RAR $\gamma$  and Cdx1 interactions in vertebral patterning. *Dev. Biol.* 240: 46-60.
- 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.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: CDX2 (human) mapping to 13q12.2.

## SOURCE

Cdx2 (K-21) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Cdx2 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

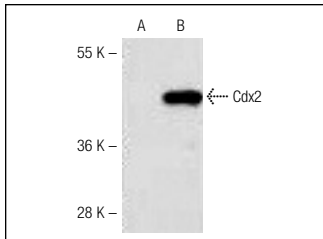
Cdx2 (K-21) is recommended for detection of Cdx2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 Cdx2 siRNA (h): sc-43680, Cdx2 shRNA Plasmid (h): sc-43680-SH and Cdx2 shRNA (h) Lentiviral Particles: sc-43680-V.

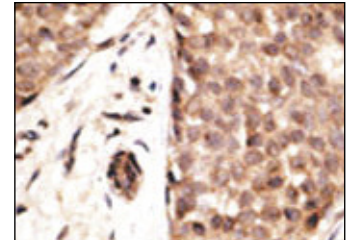
Molecular Weight of Cdx2: 40 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, human placenta extract: sc-363772 or Jurkat nuclear extract: sc-2132.

## DATA



Cdx2 (K-21): sc-130716. Western blot analysis of Cdx2 expression in non-transfected (A) and human Cdx2 transfected (B) 293 whole cell lysates.



Cdx2 (K-21): sc-130716. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Zhao, J., et al. 2014. Evaluation of ultrasound-processed rapid cell blocks in the cytopathologic diagnosis of cavity fluids. *Acta Cytol.* 58: 182-191.

## 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) or our catalog for detailed protocols and support products.