

# Cdx1 (D-4): sc-515146

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: CDX1 (human) mapping to 5q32; Cdx1 (mouse) mapping to 18 E1.

## SOURCE

Cdx1 (D-4) is a mouse monoclonal antibody raised against amino acids 220-265 mapping at the C-terminus of Cdx1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cdx1 (D-4) is available conjugated to agarose (sc-515146 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515146 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515146 PE), fluorescein (sc-515146 FITC), Alexa Fluor® 488 (sc-515146 AF488), Alexa Fluor® 546 (sc-515146 AF546), Alexa Fluor® 594 (sc-515146 AF594) or Alexa Fluor® 647 (sc-515146 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515146 AF680) or Alexa Fluor® 790 (sc-515146 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Cdx1 (D-4) is recommended for detection of Cdx1 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 Cdx1 siRNA (h): sc-43679, Cdx1 siRNA (m): sc-142242, Cdx1 shRNA Plasmid (h): sc-43679-SH, Cdx1 shRNA Plasmid (m): sc-142242-SH, Cdx1 shRNA (h) Lentiviral Particles: sc-43679-V and Cdx1 shRNA (m) Lentiviral Particles: sc-142242-V.

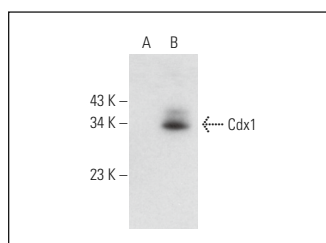
Molecular Weight of Cdx1: 28 kDa.

Positive Controls: Cdx1 (m): 293T Lysate: sc-119160.

## 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



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.

## SELECT PRODUCT CITATIONS

1. Chen, S., et al. 2023. LMP1 mediates tumorigenesis through persistent epigenetic modifications and PGC1β upregulation. *Oncol. Rep.* 49: 53.

## 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.

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