

# Cdx2 (E-1): sc-393572

## 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

- Bonner, C.A., et al. 1995. Isolation, characterization, and precise physical localization of human Cdx1, a caudal-type homeobox gene. *Genomics* 28: 206-211.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: CDX2 (human) mapping to 13q12.2; Cdx2 (mouse) mapping to 5 G3.

## SOURCE

Cdx2 (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 261-292 near the C-terminus of Cdx2 of human origin.

## PRODUCT

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

Cdx2 (E-1) is available conjugated to agarose (sc-393572 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393572 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393572 PE), fluorescein (sc-393572 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393572 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393572 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393572 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393572 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393572 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393572 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393572 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

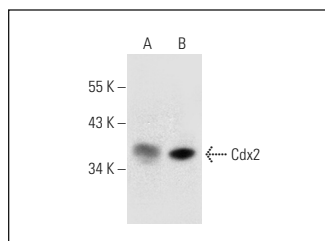
Cdx2 (E-1) is recommended for detection of Cdx2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cdx2 siRNA (h): sc-43680, Cdx2 siRNA (m): sc-142243, Cdx2 shRNA Plasmid (h): sc-43680-SH, Cdx2 shRNA Plasmid (m): sc-142243-SH, Cdx2 shRNA (h) Lentiviral Particles: sc-43680-V and Cdx2 shRNA (m) Lentiviral Particles: sc-142243-V.

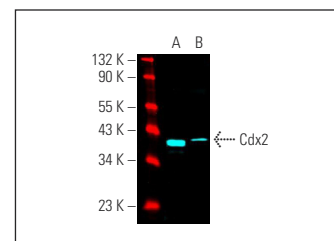
Molecular Weight of Cdx2: 40 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, Caco-2 cell lysate: sc-2262 or human ovary extract: sc-363769.

## DATA



Cdx2 (E-1): sc-393572. Western blot analysis of Cdx2 expression in COLO 320DM (A) and Caco-2 (B) whole cell lysates.



Cdx2 (E-1) Alexa Fluor<sup>®</sup> 647: sc-393572 AF647. Direct fluorescent western blot analysis of Cdx2 expression in COLO 320DM whole cell lysate (A) and human ovary tissue extract (B). Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Cruz Marker<sup>™</sup> Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor<sup>®</sup> 790: sc-516731.

## SELECT PRODUCT CITATIONS

- Jo, H., et al. 2017. Oxyresveratrol improves tight junction integrity through the PKC and MAPK signaling pathways in Caco-2 cells. *Food Chem. Toxicol.* 108: 203-213.
- Topal, T., et al. 2019. Rapid translocation of pluripotency-related transcription factors by external uniaxial forces. *Integr. Biol.* 11: 41-52.
- Lin, Y., et al. 2021. Supplementation of the *in vitro* maturation culture medium of mouse oocytes with growth hormone improves pregnancy outcomes. *Reprod. Sci.* 28: 2540-2549.

## 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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