SANTA CRUZ BIOTECHNOLOGY, INC.

ISX (E-2): sc-398934

BACKGROUND

The homeobox DNA-binding domain is a 60 amino acid motif that is conserved among many species and functions to bind DNA via a helix-turn-helix structure, thereby playing a role in transcriptional regulation and the control of gene expression. ISX (intestine-specific homeobox), also known as Pix-1 or RAXLX, is a 245 amino acid protein that localizes to the nucleus and contains one homeobox DNA-binding domain. Present at high levels in intestinal epithelial cells, ISX functions as a transcription factor that regulates intestinal gene expression and may also participate in vitamin A metabolism via the regulation of BCMO1 expression. The gene encoding ISX maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, neurofibromatosis type 2, autism and schizophrenia.

REFERENCES

1. Tsilchorozidou, T., et al. 2004. Constitutional rearrangements of chromosome 22 as a cause of neurofibromatosis 2. J. Med. Genet. 41: 529-534.
2. Arinami, T. 2006. Analyses of the associations between the genes of 22q11 deletion syndrome and schizophrenia. J. Hum. Genet. 51: 1037-1045.
3. Choi, M.Y., et al. 2006. A dynamic expression survey identifies transcription factors relevant in mouse digestive tract development. Development 133: 4119-4129.
4. Seino, Y., et al. 2008. ISX participates in the maintenance of vitamin A metabolism by regulation of β-carotene 15, 15'-monooxygenase (BCMO1) expression. J. Biol. Chem. 283: 4905-4911.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612019. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: ISX (human) mapping to 22q12.3.

SOURCE

ISX (E-2) is a mouse monoclonal antibody raised against amino acids 82-142 mapping within an internal region of ISX of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ISX (E-2) is available conjugated to agarose (sc-398934 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398934 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398934 PE), fluorescein (sc-398934 FITC), Alexa Fluor® 488 (sc-398934 AF488), Alexa Fluor® 546 (sc-398934 AF546), Alexa Fluor® 594 (sc-398934 AF594) or Alexa Fluor® 647 (sc-398934 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398934 AF680) or Alexa Fluor® 790 (sc-398934 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

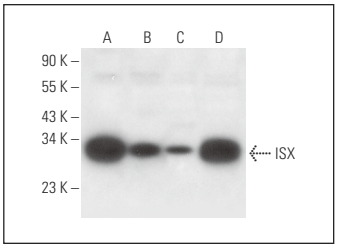
ISX (E-2) is recommended for detection of ISX of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid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

Suitable for use as control antibody for ISX siRNA (h): sc-75347, ISX shRNA Plasmid (h): sc-75347-SH and ISX shRNA (h) Lentiviral Particles: sc-75347-V.

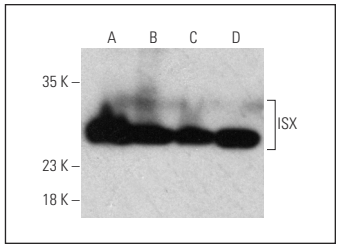
Molecular Weight of ISX: 27 kDa.

Positive Controls: RKO whole cell lysate: sc-364793, COLO 320DM cell lysate: sc-2226 or HeLa nuclear extract: sc-2120.

DATA



ISX (E-2): sc-398934. Western blot analysis of ISX expression in RKO (**A**), COLO 320DM (**B**) and SW480 (**C**) whole cell lysates and HeLa nuclear extract (**D**).



ISX (E-2) HRP: sc-398934 HRP. Direct western blot analysis of ISX expression in RKO (**A**), COLO 320DM (**B**) and SW480 (**C**) whole cell lysates and HeLa nuclear extract (**D**).

SELECT PRODUCT CITATIONS

1. Wang, L.T., et al. 2020. PCAF-mediated acetylation of ISX recruits BRD4 to promote epithelial-mesenchymal transition. EMBO Rep. 21: e48795.
2. Chuang, K.T., et al. 2021. Impact of bromodomain-containing protein 4 (BRD4) and intestine-specific homeobox (ISX) expression on the prognosis of patients with hepatocellular carcinoma' for better clarity. Cancer Med. 10: 5545-5556.

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 for detailed protocols and support products.