SANTA CRUZ BIOTECHNOLOGY, INC.

CBX8 (C-3): sc-374332

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Polycomb group (PcG) proteins form multiprotein complexes and play a role in gene silencing and Hox gene regulation by altering chromatin structure during transcription. CBX4 (chromobox homolog 4) and CBX8 (chromobox homolog 8), also known as PC2 or NBP16 and PC3 or RC1, respectively, are PcG proteins that show structural similarity to M33 and, like M33, bind the PcG protein RING1 through a conserved c-box motif located in the C-terminus of RING1. However, CBX8 has only been shown to bind RING1 *in vivo* with covalently modified forms of RING1. CBX8 also interacts with the carboxy-terminus of AF9, a transcriptional activator implicated in the development of acute lukemias. CBX8 acts as a long range transcriptional silencer when targeted to a reporter gene by a heterologous DNA-binding domain. The human MPc3 gene maps to chromosome 17q25.3 and encodes a 389 amino acid protein.

REFERENCES

1. Garcia, E., et al. 1999. RYBP, a new repressor protein that interacts with components of the mammalian polycomb complex, and with the transcription factor YY1. EMBO J. 18: 3404-3418.
2. Bardos, J.I., et al. 2000. HPC3 is a new human polycomb orthologue that interacts and associates with RING1 and Bmi-1 and has transcriptional repression properties. J. Biol. Chem. 275: 28785-28792.
3. Bel-Vialar, S., et al. 2000. Altered retinoic acid sensitivity and temporal expression of Hox genes in polycomb-M33-deficient mice. Dev. Biol. 224: 238-249.

CHROMOSOMAL LOCATION

Genetic locus: CBX8 (human) mapping to 17q25.3; Cbx8 (mouse) mapping to 11 E2.

SOURCE

CBX8 (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 231-269 within an internal region of CBX8 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CBX8 (C-3) is available conjugated to agarose (sc-374332 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374332 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374332 PE), fluorescein (sc-374332 FITC), Alexa Fluor® 488 (sc-374332 AF488), Alexa Fluor® 546 (sc-374332 AF546), Alexa Fluor® 594 (sc-374332 AF594) or Alexa Fluor® 647 (sc-374332 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374332 AF680) or Alexa Fluor® 790 (sc-374332 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374332 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

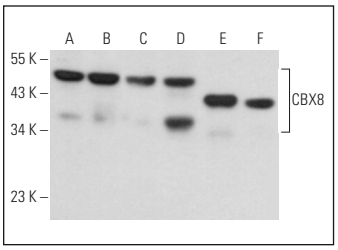
CBX8 (C-3) is recommended for detection of CBX8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CBX8 siRNA (h): sc-38195, CBX8 siRNA (m): sc-38196, CBX8 shRNA Plasmid (h): sc-38195-SH, CBX8 shRNA Plasmid (m): sc-38196-SH, CBX8 shRNA (h) Lentiviral Particles: sc-38195-V and CBX8 shRNA (m) Lentiviral Particles: sc-38196-V.

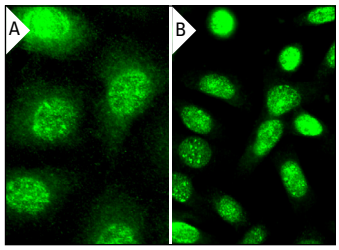
Molecular Weight of CBX8: 39 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Hep G2 cell lysate: sc-2227 or KNRK whole cell lysate: sc-2214.

DATA



CBX8 (C-3): sc-374332. Western blot analysis of CBX8 expression in K-562 (**A**), Hep G2 (**B**), HeLa (**C**), Jurkat (**D**), KNRK (**E**) and RAW 264.7 (**F**) whole cell lysates.



CBX8 (C-3): sc-374332. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunofluorescence staining of formalin-fixed SW480 cells showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Freire-Benéitez, V., et al. 2021. Elucidation of the BMI1 interactome identifies novel regulatory roles in glioblastoma. NAR Cancer 3: zcab009.
2. Kim, H.J., et al. 2021. Negative regulation of erythroid differentiation via the CBX8-TRIM28 axis. Mol. Cells 44: 444-457.
3. Fang, X., et al. 2022. Identification and validation of chromobox family members as potential prognostic biomarkers and therapeutic targets for human esophageal cancer. Front. Genet. 13: 851390.
4. Schaefer, E.J., et al. 2022. BCOR and BCORL1 mutations drive epigenetic reprogramming and oncogenic signaling by unlinking PRC1.1 from target genes. Blood Cancer Discov. 3: 116-135.

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.