

CBX4 (6C5G3): sc-517216

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. The PcG protein CBX4, also known as, PC2 or NBP16, maps to human chromosome 17q25.3. CBX4 and CBX8 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. CBX4 is a repressor of proto-oncogene activity, thus interference with CBX4 function can lead to depression of proto-oncogene transcription and subsequently to cellular transformation. CBX4 is able to act as a long range transcriptional silencer. CBX4 is expressed in the human osteosarcoma cell line U-2OS. CBX4 is part of a large multiprotein complex that also contains other PcG proteins including Bmi-1.

REFERENCES

1. Satijin, D., et al. 1997. Interference with the expression of a novel human polycomb protein, hPc2, results in cellular transformation and apoptosis. *Mol. Cell. Biol.* 17: 6076-6086.
2. Alkema, M., et al. 1997. MPC2, a new murine homolog of the *Drosophila* polycomb protein is a member of the mouse polycomb transcriptional repressor complex. *J. Mol. Biol.* 273: 993-1003.
3. 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.
4. Bardos, J.I., et al. 2000. HPC3 is a new human polycomb orthologue that interacts and associates with RING1 and Bmi1 and has transcriptional repression properties. *J. Biol. Chem.* 275: 28785-28792.
5. 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.
6. Hemenway, C.S., et al. 2001. The polycomb protein MPC3 interacts with AF9, an MLL fusion partner in t(9;11)(p22;q23) acute leukemias. *Oncogene* 20: 3798-3805.
7. LocusLink Report (LocusID: 8535). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: CBX4 (human) mapping to 17q25.3.

SOURCE

CBX4 (6C5G3) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 397-514 of CBX4 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

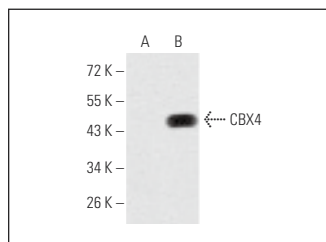
APPLICATIONS

CBX4 (6C5G3) is recommended for detection of CBX4 of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

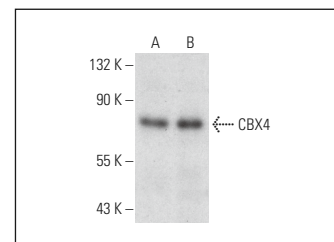
Suitable for use as control antibody for CBX4 siRNA (h): sc-38193, CBX4 shRNA Plasmid (h): sc-38193-SH and CBX4 shRNA (h) Lentiviral Particles: sc-38193-V.

Positive Controls: human CBX4 transfected HEK293 whole cell lysate, Jurkat nuclear extract: sc-2132 or MCF7 nuclear extract: sc-2149.

DATA



CBX4 (6C5G3): sc-517216. Western blot analysis of CBX4 expression in non-transfected (A) and human CBX4 (397-514)-hlgGfC transfected (B) HEK293 whole cell lysates.



CBX4 (6C5G3): sc-517216. Western blot analysis of CBX4 expression in Jurkat (A) and MCF7 (B) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Paschos, K., et al. 2019. Requirement for PRC1 subunit BMI1 in host gene activation by Epstein-Barr virus protein EBNA3C. *Nucleic Acids Res.* 47: 2807-2821.
2. Li, S., et al. 2021. Microarray expression profile analysis of circular RNAs and their potential regulatory role in bladder carcinoma. *Oncol. Rep.* 45: 239-253.
3. Liang, S., et al. 2022. Blockade of CBX4-mediated β -catenin SUMOylation attenuates airway epithelial barrier dysfunction in asthma. *Int. Immunopharmacol.* 113: 109333.

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.