

# CBX7 (m): 293T Lysate: sc-119054

## BACKGROUND

CBX7 (chromobox protein homolog 7) is a 251 amino acid nuclear protein that contains one N-terminal chromo domain and one C-terminal Pc box. Highly expressed in kidney, brain, heart and skeletal muscle, with weaker expression in peripheral blood leukocytes, CBX7 functions as a component of the chromatin-associated polycomb complex (PcG) and is involved in maintaining the transcriptionally repressed state of target genes. Additionally, CBX7 modifies chromatin and is thought to extend the cellular life span of epithelial cells by repressing p14 ARF expression, while simultaneously repressing telomerase activity. Due to its ability to repress the transcription of cell-cycle related proteins, CBX7 is thought to play a role in tumorigenesis, specifically in the development of follicular lymphoma and thyroid cancer.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608457. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Gil, J., Bernard, D., Martínez, D. and Beach, D. 2004. Polycomb CBX7 has a unifying role in cellular lifespan. *Nat. Cell Biol.* 6: 67-72.
3. Gil, J., Bernard, D. and Peters, G. 2005. Role of polycomb group proteins in stem cell self-renewal and cancer. *DNA Cell Biol.* 24: 117-125.
4. Suarez-Merino, B., Hubank, M., Revesz, T., Harkness, W., Hayward, R., Thompson, D., Darling, J.L., Thomas, D.G. and Warr, T.J. 2005. Microarray analysis of pediatric ependymoma identifies a cluster of 112 candidate genes including four transcripts at 22q12.1-q13.3. *Neuro Oncol.* 7: 20-31.
5. Bernard, D., Martinez-Leal, J.F., Rizzo, S., Martinez, D., Hudson, D., Visakorpi, T., Peters, G., Camero, A., Beach, D. and Gil, J. 2005. CBX7 controls the growth of normal and tumor-derived prostate cells by repressing the INK4A/ARF locus. *Oncogene* 24: 5543-5551.
6. Bernstein, E., Duncan, E.M., Masui, O., Gil, J., Heard, E. and Allis, C.D. 2006. Mouse polycomb proteins bind differentially to methylated Histone H3 and RNA and are enriched in facultative heterochromatin. *Mol. Cell Biol.* 26: 2560-2569.
7. Scott, C.L., Gil, J., Hernando, E., Teruya-Feldstein, J., Narita, M., Martínez, D., Visakorpi, T., Mu, D., Cordon-Cardo, C., Peters, G., Beach, D. and Lowe, S.W. 2007. Role of the chromobox protein CBX7 in lymphomagenesis. *Proc. Natl. Acad. Sci. USA* 104: 5389-5394.
8. Pallante, P., Federico, A., Berlingieri, M.T., Bianco, M., Ferraro, A., Forzati, F., Iaccarino, A., Russo, M., Pierantoni, G.M., Leone, V., Sacchetti, S., Troncone, G., Santoro, M. and Fusco, A. 2008. Loss of the CBX7 gene expression correlates with a highly malignant phenotype in thyroid cancer. *Cancer Res.* 68: 6770-6778.

## CHROMOSOMAL LOCATION

Genetic locus: Cbx7 (mouse) mapping to 15 E1.

## PRODUCT

CBX7 (m): 293T Lysate represents a lysate of mouse CBX7 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

CBX7 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CBX7 antibodies. Recommended use: 10-20 µl per lane.

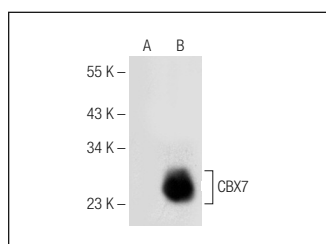
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CBX7 (G-3): sc-376274 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CBX7 expression in CBX7 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



CBX7 (G-3): sc-376274. Western blot analysis of CBX7 expression in non-transfected: sc-117752 (A) and mouse CBX7 transfected: sc-119054 (B) 293T whole cell lysates.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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](http://www.scbt.com) for detailed protocols and support products.