

**CBX4 Antibody**  
**Catalog # ASC11535****Specification**

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**CBX4 Antibody - Product Information**

Application	WB, IF
Primary Accession	<a href="#">O00257</a>
Other Accession	<a href="#">NP_003646</a> , <a href="#">55770830</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	62 kDa KDa
Application Notes	CBX4 antibody can be used for detection of CBX4 by Western blot at 1 µg/mL. For immunofluorescence start at 20 µg/mL.

**CBX4 Antibody - Additional Information**

Gene ID 8535

**Target/Specificity**

CBX4; Two alternatively spliced transcript variants have been observed.

**Reconstitution & Storage**

CBX4 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

CBX4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**CBX4 Antibody - Protein Information****Name** CBX4**Function**

E3 SUMO-protein ligase which facilitates SUMO1 conjugation by UBE2I (PubMed:<a href="http://www.uniprot.org/citations/12679040" target="\_blank">12679040</a>). Involved in the sumoylation of HNRNPK, a p53/TP53 transcriptional coactivator, hence indirectly regulates p53/TP53 transcriptional activation resulting in p21/CDKN1A expression. Monosumoylates ZNF131 (PubMed:<a href="http://www.uniprot.org/citations/22825850" target="\_blank">22825850</a>).

**Cellular Location**

Nucleus. Nucleus speckle. Note=Localization to nuclear polycomb bodies is required for ZNF131 sumoylation (PubMed:22467880). Localized in distinct foci on chromatin (PubMed:18927235)

**Tissue Location**

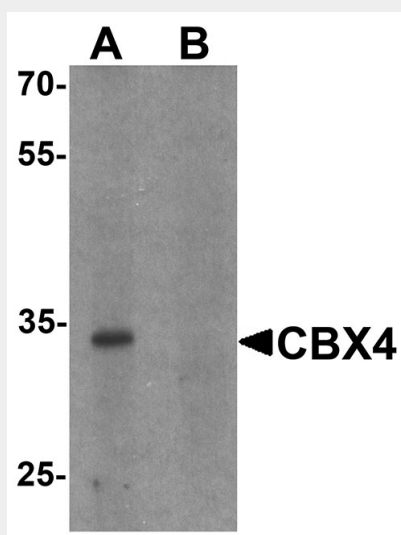
Ubiquitous.

## CBX4 Antibody - Protocols

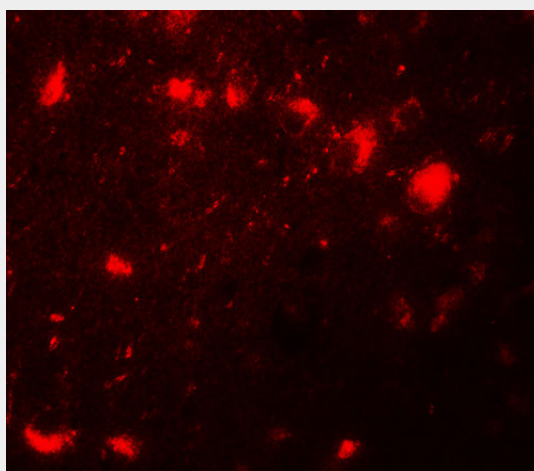
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## CBX4 Antibody - Images



Western blot analysis of CBX4 in human brain tissue lysate with CBX4 antibody at 1  $\mu$ g/ml in (A) the absence and (B) the presence of blocking peptide.



Immunofluorescence of CBX4 in human brain tissue with CBX4 antibody at 20  $\mu$ g/mL.

## CBX4 Antibody - Background

**CBX4 Antibody:** Polycomb group (PcG) proteins are chromatin-associated proteins which are important for embryonic and adult stem cell self-renewal and maintenance. At least two distinct human PcG complexes have been identified. Polycomb repressive complex I (PRC1) contains CBX4/Pc2, HPH1 and RING domain-containing proteins (RING1, RING2 and BMI1). CBX4 (Chromobox protein homolog 4 or PC2), which functions as a transcriptional suppressor, is a candidate of KyoT2-binding proteins. It is a E3 SUMO-protein ligase which facilitates SUMO1 conjugation. Depletion of CBX4 results in decreased cellular resistance to ionizing radiation. CBX4 is directly involved in the cellular response to DNA damage.

#### **CBX4 Antibody - References**

Simon JA and Tamkun JW. Programming off and on states in chromatin: mechanisms of Polycomb and trithorax group complexes. *Curr. Opin. Genet. Dev.* 2002;12:210-8.

Gieni RS and Hendzel MJ. Polycomb group protein gene silencing, non-coding RNA, stem cells, and cancer. *Biochem. Cell Biol.* 2009; 87:711-46.

Luis NM, Morey L, Mejetta S, et al. Regulation of human epidermal stem cell proliferation and senescence requires polycomb-dependent and -independent functions of Cbx4. *Cell. Stem Cell* 2011; 9:233-46.

Ismail IH, Gagné JP, Caron MC, et al. CBX4-mediated SUMO modification regulates BMI1 recruitment at sites of DNA damage. *Nucleic Acids Res.* 2012 Mar 8.