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CBX4 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2514B

Product Information

Application	WB, E
Primary Accession	O00257
Other Accession	O55187
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	61368
Antigen Region	410-437

Additional Information

Gene ID	8535
Other Names	E3 SUMO-protein ligase CBX4, 632-, Chromobox protein homolog 4, Polycomb 2 homolog, Pc2, hPc2, CBX4
Target/Specificity	This CBX4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 410-437 amino acids from the C-terminal region of human CBX4.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CBX4 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CBX4
Function	E3 SUMO-protein ligase that catalyzes sumoylation of target proteins by promoting the transfer of SUMO from the E2 enzyme to the substrate (PubMed:12679040, PubMed:22467880, PubMed:22825850). Also acts as a

	histone reader, which specifically recognizes and binds histone H3 trimethylated at 'Lys-9' and 'Lys-27' (H3K9me3 and H3K27me3, respectively) via its chromo domain (By similarity). Catalyzes sumoylation of HNRNPK, a p53/TP53 transcriptional coactivator, hence indirectly regulates p53/TP53 transcriptional activation resulting in p21/CDKN1A expression (PubMed:22825850). Acts as a regulator of brown adipocyte differentiation by mediating sumoylation of PRDM16, thereby preventing PRDM16 ubiquitination and degradation (By similarity). Monosumoylates ZBTB35 (PubMed:22467880). Component of a Polycomb group (PcG) multiprotein PRC1-like complex, a complex class required to maintain the transcriptionally repressive state of many genes, including Hox genes, throughout development (PubMed:12167701, PubMed:19636380, PubMed:21282530). PcG PRC1 complex acts via chromatin remodeling and modification of histones; it mediates monoubiquitination of histone H2A 'Lys-119', rendering chromatin heritably changed in its expressibility (PubMed:12167701, PubMed:19636380, PubMed:21282530). Plays a role in the lineage differentiation of the germ layers in embryonic development (By similarity).
Cellular Location	Cytoplasm. Nucleus. Nucleus speckle. Note=Localization to nuclear polycomb bodies is required for ZBTB35 sumoylation (PubMed:22467880) Localized in distinct foci on chromatin (PubMed:18927235)
Tissue Location	Ubiquitous.

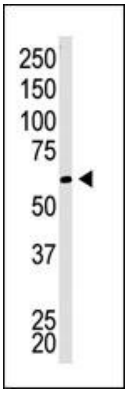
Background

Chromobox homolog 4 (CBX4 or Pc2) is a member of Drosophila Polycomb group gene family. The polycomb group (PcG) genes are essential for maintenance of appropriate expression patterns of developmental master regulators and thus are essential for proper development. Changes in expression pf PcG proteins have been associated with cancer. CBX4 is a part of the cellular memory system that is responsible for the inheritance of gene activity by progeny cells. CBX4 is involved in maintaining the transcriptionally repressive state of genes. It modifies chromatin, rendering it heritably changed in its expressibility. Structurally, CBX4 contains 1 chromo domain. It was reported that Pc2 is involved in sumoylation process by recruiting SUMO E1 and E2, and Pc2 is actually SUMO E3 during sumoylation events. CBX4 expression is ubiquitous.

References

Kagey, M.H., et al., Cell 113(1):127-137 (2003).
Satijn, D.P., et al., Mol. Cell. Biol. 17(10):6076-6086 (1997).

Images



The anti-CBX4 C-term Pab (Cat. #AP2514b) is used in Western blot to detect CBX4 in Jurkat cell lysate.

Citations

- Different polycomb group CBX family proteins associate with distinct regions of chromatin using nonhomologous protein sequences.
- Regulation of the SUMO pathway sensitizes differentiating human endometrial stromal cells to progesterone.
- HiPLA: High-throughput imaging proximity ligation assay.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.