

**Anti-PC2 [RABBIT] Antibody - 600-401-478**
**Code:** 600-401-478

**Size:** 100 µg

**Product Description:** Anti-PC2 [RABBIT] Antibody - 600-401-478

**Concentration:** 1.36 mg/mL by UV absorbance at 280 nm

**PhysicalState:** Liquid (sterile filtered)

<b>Label</b>	Unconjugated
<b>Host</b>	Rabbit
<b>Gene Name</b>	CBX4
<b>Species Reactivity</b>	human
<b>Buffer</b>	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
<b>Stabilizer</b>	None
<b>Preservative</b>	0.01% (w/v) Sodium Azide
<b>Storage Condition</b>	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
<b>Synonyms</b>	E3 SUMO-protein ligase CBX4 Chromobox protein homolog 4 Polycomb 2 homolog Pc2 hPc2
<b>Application Note</b>	This affinity purified antibody has been tested for use in immunofluorescence staining of cultured cells and western blotting using transfected cell lysates. The antibody is also functional by ELISA. Reactivity in other immunoassays is unknown. Dilutions for western blotting represent a starting point dilution and further optimization may be required. The antibody detects a band of approximately 82 kDa (predicted molecular weight: 61.4 kDa). In immunofluorescence, this antibody detects the expected discrete nuclear structure that is termed the PcG body, corresponding to the known localization of PC2. The antibody has been successfully used to detect FLAG-tagged transfected hPC2 (see figure below). It detects a weak band that probably corresponds to endogenous PC2, however, a strong secondary band is also seen at 50kD in all cell lines thus far tested. This suggests that the antibody may also react with another highly expressed ubiquitous protein.
<b>Background</b>	PC2 is the human homolog of the Drosophila 'Polycomb' (Pc) protein which has been identified as a gene family member associated with a cellular memory system that is responsible for the inheritance of gene activity by progeny cells. The human Pc homolog gene is more closely related to a Xenopus Pc homolog, XPc, than to a previously described human Pc homolog, CBX2 (hPc1). However, the hPc2 and CBX2/hPc1 proteins are shown to colocalize in interphase nuclei of human U-2 OS osteosarcoma cells, suggesting that the proteins are part of a common protein complex. The human protein is believed to function as a repressor of proto-oncogene activity and that interference with hPc2 function can lead to derepression of proto-oncogene transcription and subsequently to cellular transformation. Other reports describe PC2 as a protein that has SUMO E3 activity for the corepressors CtBP and CtBP2.
<b>Purity And Specificity</b>	This is an affinity purified antibody produced by immunoaffinity chromatography using the immunizing peptide after immobilization to a solid phase. Reactivity occurs against human PC2 protein.
<b>Assay Dilutions</b>	User Optimized
<b>ELISA</b>	1:10,000 - 1:40,000
<b>WESTERN BLOT</b>	1:1,000 - 1:4,000
<b>IFMICROSCOPY</b>	1:100 - 1:400
<b>OTHER ASSAYS</b>	User Optimized
<b>Expiration</b>	Expiration date is one (1) year from date of opening.
<b>Immunogen</b>	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to aa 95-107 of Human PC2 protein.
<b>General Reference</b>	Kagey, M.H., Melhuish, T.A. and Wotton, D. (2003) The polycomb protein Pc2 is a SUMO E3. Cell 113 (1), 127-137. Satijn, D.P., Olson, D.J., van der Vlag, J., Hamer, K.M., Lambrechts, C., Masselink, H., Gunster, M.J., Sewalt, R.G.,

van Driel,R. and Otte,A.P. (1997) Interference with the expression of a novel human polycomb protein, hPc2, results in cellular transformation and apoptosis. *Mol. Cell. Biol.* 17 (10), 6076-6086. PubMed: 9315667

Satijn,D.P., Gunster,M.J., van der Vlag,J., Hamer,K.M., Schul,W., Alkema,M.J., Saurin,A.J., Freemont,P.S., van Driel,R. and Otte,A.P. (1997) RING1 is associated with the polycomb group protein complex and acts as a transcriptional repressor. *Mol. Cell. Biol.* 17 (7), 4105-4113.  
Kagey,M.H., Melhuish,T.A. and Wotton,D. (2003) The polycomb protein Pc2 is a SUMO E3. *Cell* 113 (1), 127-137.

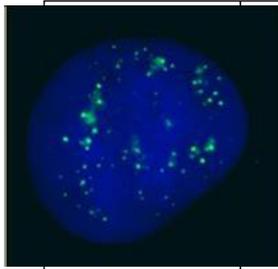
## Related Products

200-301-428	Anti-SUMO (MOUSE) Monoclonal Antibody - 200-301-428
600-401-966	Anti-DAXX (RABBIT) Antibody - 600-401-966
600-401-B06	Anti-c-Myb (RABBIT) Antibody - 600-401-B06
611-1302	Anti-RABBIT IgG (H&L) (GOAT) Antibody Peroxidase Conjugated - 611-1302

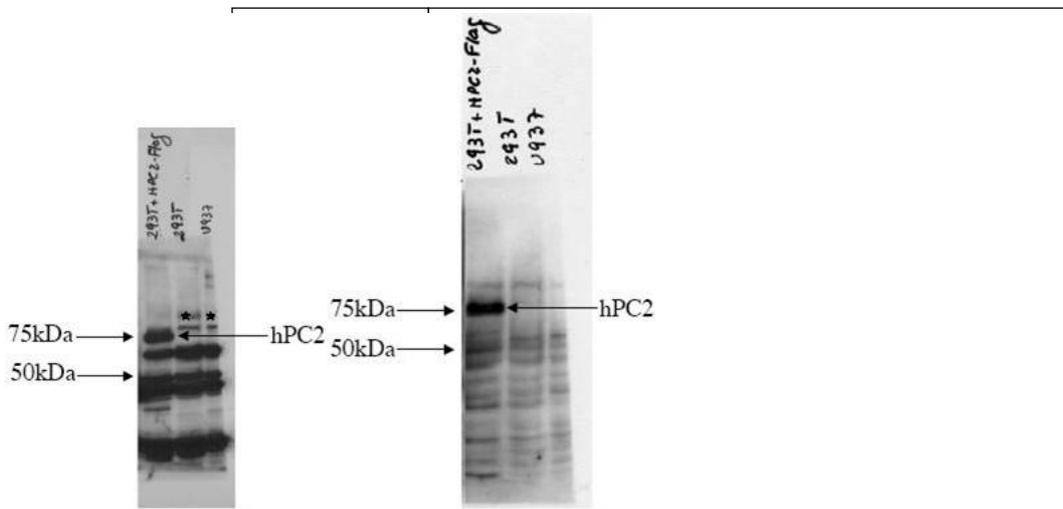
## Related Links

## Images

- 1 Rockland's anti-hPC2 antibody was used for immunofluorescent imaging of human cells (U2OS). The image reveals the expected discrete nuclear structure that is termed the PcG body corresponding to the known localization of PC2 (see Satijn et al. below). IF was performed after fixation in PBS with 4% PF for 5 min, permeabilization with 0.5% Triton X100-PBS for 5 min, and blocking with 5% milk / 0.2% Tween for 1 h. Primary antibody used at 1:200 in 5% milk / 0.2% Tween for 1 h, secondary antibody for 30 min. All blocking and incubation steps carried out at 37° C. Nuclei were counterstained with Hoechst stain (blue). Data contributed by Luke Hughes-Davies and Rhiannon Jade, Gurdon Institute, Cambridge, UK.



- 2 Western blotting. Analysis shows the detection of human PC2 in probed lysates using Rockland's Affinity Purified anti-hPC2 antibody. The panel on the left shows the blot probed with anti-hPC2. The panel on the right is the same blot reprobed with anti-FLAG antibody to confirm the presence of FLAG tagged recombinant PC2 in the lysate. In the left panel the band labeled as hPC2 is FLAG-tagged transfected hPC2 in 293T cells. The bands labeled with stars are likely endogenous hPC2. In the right panel the band labeled hPC2 is FLAG-tagged transfected hPC2 in 293T cells. Data contributed by Dr Ari Melnick, Albert Einstein College of Medicine.



## Disclaimer

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