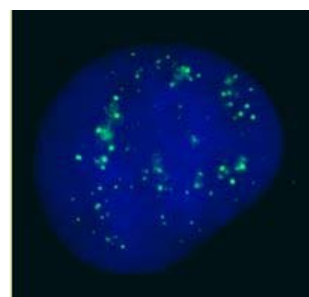


**Certificate of Analysis****Product:** Affinity Purified Anti-Human PC2 [Rabbit]**Code:** 600-401-478**Lot #:** 19774**Size:** 100 µg**Physical State:** Liquid (sterile filtered)**Antibody Concentration:** 1.36 mg/ml (by UV absorbance at 280 nm)**Buffer:** 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**Stabilizer:** None**Preservative:** 0.01% (w/v) Sodium Azide

**Storage Conditions:** Store vial at -20° C prior to opening. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Expiration date is one (1) year from date of opening.

**Background Information:** 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.



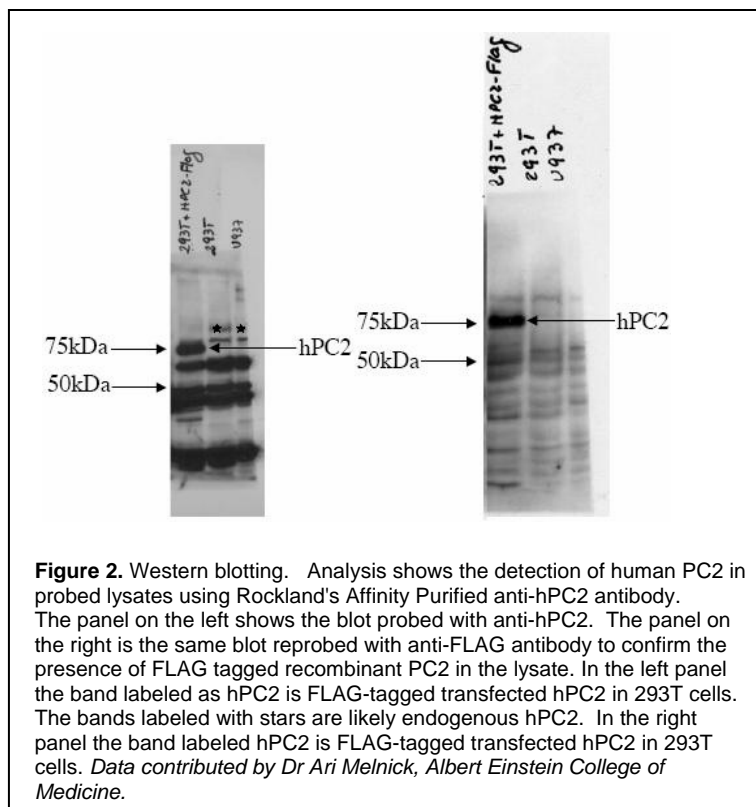
**Figure 1.** Immunofluorescence Microscopy. Rockland's anti-hPC2 antibody was used for immunofluorescent imaging of human cells (U2OS). The image reveals the expected discrete nuclear structure that is termed the PcG body corresponding to the known localization of PC2 (see Satijn et al. below). IF was 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.*

<b>Recommended Dilutions:</b>	<b>ELISA</b>	1:10,000 - 1:40,000
	<b>WESTERN BLOT</b>	1:1,000 - 1:4,000
	<b>IF MICROSCOPY</b>	1:100 - 1:400
	<b>OTHER APPLICATIONS</b>	User Optimized

**Application Note(s):** 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 50kDa in all cell lines thus far tested. This suggests that the antibody may also react with another highly expressed ubiquitous protein.

**Purity and Specificity:** 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. Cross reactivity with PC2 protein from mouse may occur as a 92% homology (BLAST) is noted for the immunized sequence. Cross reactivity with PC2 protein from other sources is not known.

**Immunogen:** 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.



#### Relevant Link(s):

GeneCard [GC17M081095](#) (Human)  
 Locus Link [8535](#) (Human)  
 Omim [603079](#) (Human)  
 SwissProt [O00257](#) (Human)  
 Unigene [5637](#) (Human)

#### General References:

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.

**Protein Sequence:** Human PC2, 560 aa, predicted MW 61.4 kDa

1	melpavgehv	favesiekk	irkgrveylv	kwrgwspkyn	twepeenild	prlliafqnr
61	erqeqlmgvr	krqpkpkplv	vqvptfarrs	nvlvtglqds	tdnrakldlg	aqkgqgghqy
121	elnskkhhqy	qphskeragk	ppppgksgky	yyqlnskkhh	pyqdpkmyd	lqyqgghkea
181	psptcpdlga	kshppdkwaq	gagakylvga	vkplagaaga	pgkgsekgpp	ngmmpapkea
241	vtngigggkm	kivknknkng	rivivmskym	engmqavkik	sgevaegear	spshkkraad
301	erhppadrft	kkaagaeekk	veappkrree	evsgvsdpqp	qdagsrklsp	tkeafgeqpl
361	qlttkpdlla	wdparnthpp	shhphphphh	hhhhhhhhhh	avgnlshvr	krclsethge
421	repckrlta	rsistptclg	gspaaerpap	lppaaalppq	evilldsld	epidlrvcvt
481	rseageppss	lvkpetpas	aavavaaaa	pttaekppa	eaqdepaesl	sefkpffgni
541	iitdvtancl	tvtfkeyvtv				

**Note:** This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.

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