

Table S1 Specific information of 28 polycomb group (PcG)-related genes

CR_id	Official_symbol	Aliases	Complex	Function	PMID	Type	Histone_type
54880	BCOR	MAA2; ANOP2; MCOPS2	BCOR	Polycomb group (PcG) protein	26153137		
80314	EPC1	Epl1	NuA4, Piccolo_NuA4, NuA4-related complex; Polycomb group	Polycomb group (PcG) protein	26153137; 24240475		
54799	MBTD1	SA49P01	MBT	Polycomb group (PcG) protein	26153137; 24240475		
10039	PARP3	IRT1; ARTD3; ADPRT3; ADPRTL2; ADPRTL3; PADPRT-3	poly (ADP-ribose) polymerase and other nucleotide enzymes	Polycomb group (PcG) protein	26153137; 24240475		
7703	PCGF2	MEL-18; RNF110; ZNF144	PRC1; Polycomb Repressive Complex 1	Polycomb group (PcG) protein	24063517; 26153137		
10336	PCGF3	RNF3; DONG1; RNF3A	PRC1, RING2-FBRS	Polycomb group (PcG) protein	26153137		
84333	PCGF5	RNF159	PRC1, RING2-FBRS	Polycomb group (PcG) protein	26153137		
84108	PCGF6	MBLR; RNF134	PRC1, RING2-L3MBTL2; Polycomb Repressive Complex 1	Polycomb group (PcG) protein	24063517; 26153137		
1911	PHC1	EDR1; HPH1; RAE28; MCPH11	PRC1; Polycomb Repressive Complex 1	Polycomb group (PcG) protein	26153137; 24063517		
1912	PHC2	PH2; EDR2; HPH2	PRC1; Polycomb Repressive Complex 1	Polycomb group (PcG) protein	26153137; 24063517		
80012	PHC3	EDR3; HPH3	PRC1; Polycomb Repressive Complex 1	Polycomb group (PcG) protein	26153137; 24063517		
23429	RYBP	AAP1; DEDAF; YEAF1; APAP-1	BCOR, RING2-L3MBTL2, RING2-FBRS	Polycomb group (PcG) protein	26153137		
22955	SCMH1	Scml3	PRC1; MBT	Polycomb group (PcG) protein	24240475; 26153137		
10389	SCML2		PRC1; MBT	Polycomb group (PcG) protein	26153137; 24240475		
256380	SCML4	dJ47M23.1	MBT	Polycomb group (PcG) protein	26153137; 24240475		
51460	SFMBT1	RU1; SFMBT; hSFMBT	SCL; MBT	Polycomb group (PcG) protein	26153137; 24240475		
8726	EED	HEED; WAIT1	PRC2; Polycomb group protein; Polycomb Repressive Complex 2; Polycomb group	Polycomb group (PcG) protein; Histone Modification (histone deacetylation); Different isoforms determine PRC3 or PRC4 PRC2 variants.	26153137; 26169266; 24063517; 24240475	Histone Modifier	
648	BMI1	PCGF4; RNF51; FLV12/BMI1; flvi-2/bmi-1	PRC1; Polycomb Repressive Complex 1; RING finger	Polycomb group (PcG) protein; Maintenance of transcriptional repression of key genes during development. H2AK119ub.	26153137; 24063517; 24240475; 22196736; 22196736		
5252	PHF1	PCL1; PHF2; hPHF1; MTF2L2; TDRD19C	PRC2; Polycomb Repressive Complex 2; Polycomb group; Polycomb group	Polycomb group (PcG) protein; Mediates PRC2 intrusion into active H3K36 chromatin regions.	24240475; 24063517; 26153137; 24240475	Histone Modifier	
84759	PCGF1	NSPC1; RNF68; RNF3A-2; 2010002K04Rik	PRC1, BCOR; Polycomb Repressive Complex 1(BCOR complex)	Polycomb group (PcG) protein; Represses CDKN1A expression in a RARE-dependent manner.	24063517; 26153137		
22823	MTF2	M96; PCL2; TDRD19A; dJ976O13.2	PRC2; Polycomb Repressive Complex 2; Polycomb group	Polycomb group (PcG) protein; Required for PRC2-mediated Hox repression.	24063517; 26153137; 24240475		
2145	EZH1	KMT6B	PRC2; enhancer of zeste 1 polycomb repressive complex 2 subunit; Polycomb Repressive Complex 1(Catalytic subunit); SET-HMT	Histone modification write, Polycomb group (PcG) protein (Histone methylation); Histone Modification [Histone methyltransferases (HMT)]; H3K27me1/me2/me3 HMT. Less critical for H3K27me3 formation than EZH2; Writer	26153137; 26169266; 24063517; 24240475; 24253304; 22196736; 22196736	Histone Modifier	Writer
2146	EZH2	WVS; ENX1; EZH1; KMT6; WVS2; ENX-1; EZH2b; KMT6A	PRC2; enhancer of zeste 2 polycomb repressive complex 2 subunit; Histone methyltransferases; SET-HMT	Histone modification write, Polycomb group (PcG) protein (Histone methylation); Histone Modification [Histone methyltransferases (HMT)]; H3K27me1/me2/me3 HMT. Major role in stem cell identity maintenance. Also methylates GATA4. Catalytic subunit of PRC2 complex; Writer	26153137; 26169266; 24063517; 24063517; 24240475; 24253304; 22196736; 22196736; 22196736; 22196736	Histone Modifier	Writer
6015	RING1	RNF1; RING1A	PRC1, BCOR, RING2-L3MBTL2, RING2-FBRS; Polycomb Repressive Complex 1	Histone modification write, Polycomb group (PcG) protein (Histone ubiquitination); H2AK119ub.	26153137; 24063517	Histone Modifier	Writer
23512	SUZ12	CHET9; JAZ1	PRC2; Polycomb group protein; Polycomb Repressive Complex 2(EZH2 coenzyme); Polycomb group	Histone modification write cofactor, Histone modification write cofactor, Polycomb group (PcG) protein, TF (Histone methylation, Histone ubiquitination, TF repressor); Histone Modification (chromatin silencing); Required for PRC2 H3K27 HMT activity. Interacts with SIRT1.	26153137; 26169266; 24063517; 24240475; 22196736; 22196736; 22196736	Histone Modifier	Writer
57713	SFMBT2		MBT	Histone modification read, Polycomb group (PcG) protein, TF (TF repressor)	26153137; 24240475	Histone Modifier	Reader
171023	ASXL1	MDS; BOPS	PR-DUB; Polycomb Repressive Complex 2	Histone modification erase, Polycomb group (PcG) protein (Histone deubiquitination); Associates with PRC2 to promote gene repression.	26153137; 24063517; 24240475; 22196736; 22196736	Histone Modifier	Eraser
8314	BAP1	UCHL2; hucep-6; HUCEP-13	PR-DUB; Polycomb Repressive Complex 1	Histone modification erase, Polycomb group (PcG) protein (Histone deubiquitination); Catalytic component of the PR-DUB complex, that specifically deubiquitinates H2AK119ub1.	26153137; 24063517; 22196736; 22196736	Histone Modifier	Eraser

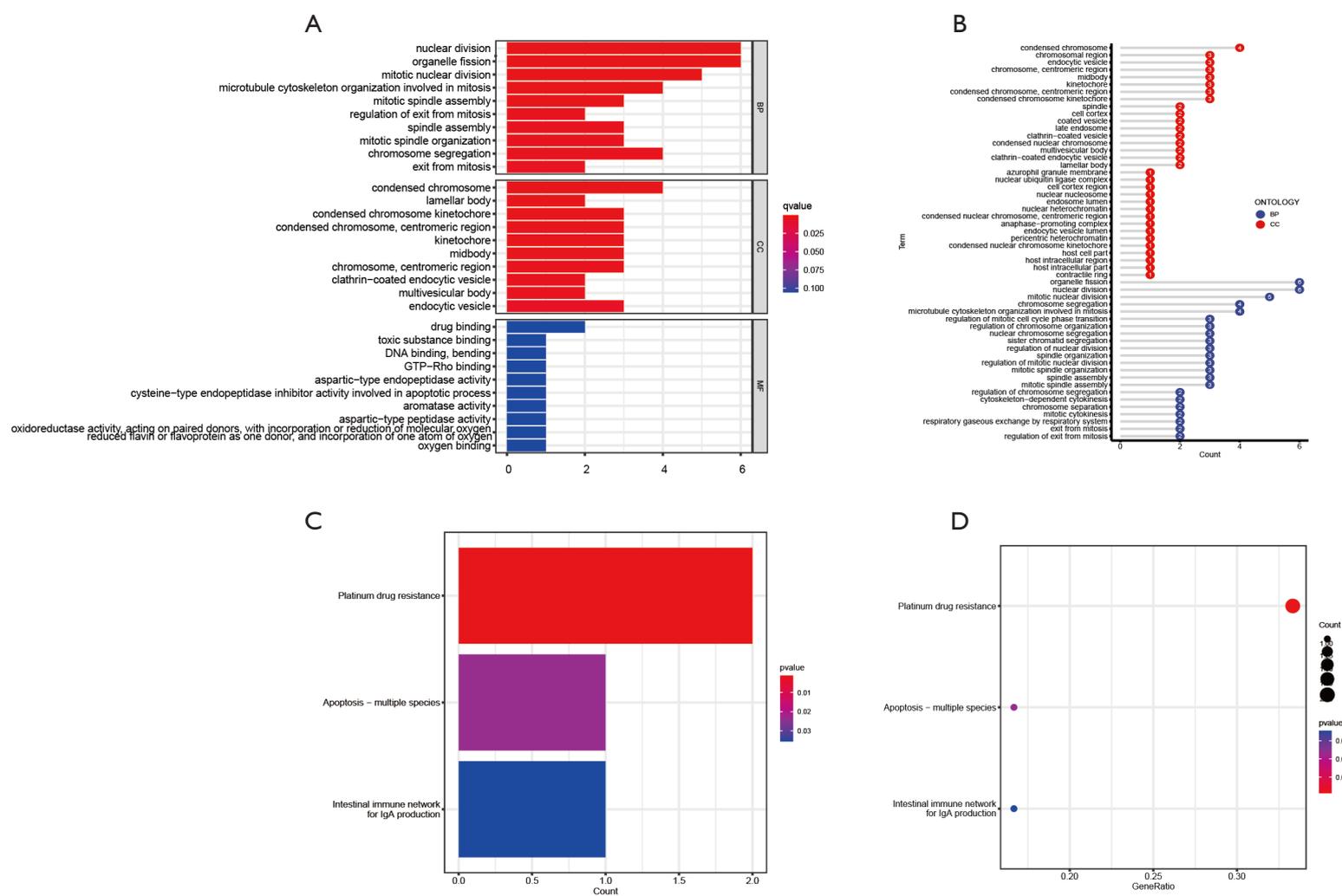


Figure S1 Enrichment analysis of PcG-related genes (A,B) Results of GO enrichment of 18 PcG-related genes. (C,D) Results of KEGG enrichment of 18 PcG-related genes.