



Figure 29. A variety of mammalian PRC1 complexes. (A) The *Drosophila* PRC1 complex consists of four core factors (Ph, Psc, Pc, dRing) that mediate chromatin compaction and H2A ubiquitination. In mammals, there are at least six distinct PRC1 complexes that differ by the incorporation of a unique Psc ortholog (PCGF1-6). Several mammalian orthologs for Ph, dRing, and Pc add to the complexity of PRC1. Interestingly, CBX proteins can also be replaced by two other factors, RYBP or YAF2. (B) This differential incorporation of CBX, RYBP, or YAF2 impacts on possible recruitment mechanisms and functional output. Although CBX-containing complexes bind to H3K27me3, the recruitment mechanisms for RYBP/YAF2-containing PRC1 remain unknown. Furthermore, CBX-containing PRC1 shows only limited H2A ubiquitination activity, whereas RYBP was shown to stimulate the enzymatic activity of RING.