



**Figure 1.** Transcriptional memory of the chromatin state. The schematic drawing illustrates some key changes in the chromatin marks associated with a chromatin region that has recently been transcribed or becomes stably repressed by Polycomb mechanisms. A region that has not been recently transcribed is marked by heavy H3K27me2. A region recently transcribed has lost H3K27me2, but instead gained H3K27ac and H3K4me3 marks in the promoter-proximal part and H3K36me3 (which, in turn, recruits deacetylating complexes) to control the excessive access allowed by the loss of H3K27me2. Regions that can recruit stable binding of Polycomb complexes PRC1 and PRC2 acquire H3K27me3. For simplicity, other histone marks are not shown.