



Figure 9. Model for the transgenerational role of MES-4 and how MES-4 and MES-2/3/6 participate in X repression in the germline. (A) MES-2/3/6-generated H3K27me3, a repressive histone modification, is concentrated on the X chromosomes. MES-4 and H3K36 methylation on autosomal genes repel the MES-2/3/6 complex, helping to concentrate its repressive action on the X chromosomes. (B) MES-4 is concentrated on the autosomes. MES-4 immunostaining is in green. DNA is stained red. Arrows mark the two X chromosomes, which lack MES-4 staining. (C) MES-4 associates with genes expressed in the maternal germline and marks them with H3K36me2/3. MES-4 propagation of H3K36 methyl marks in the absence of transcription enables MES-4 to transmit the memory of germline gene expression across generations.