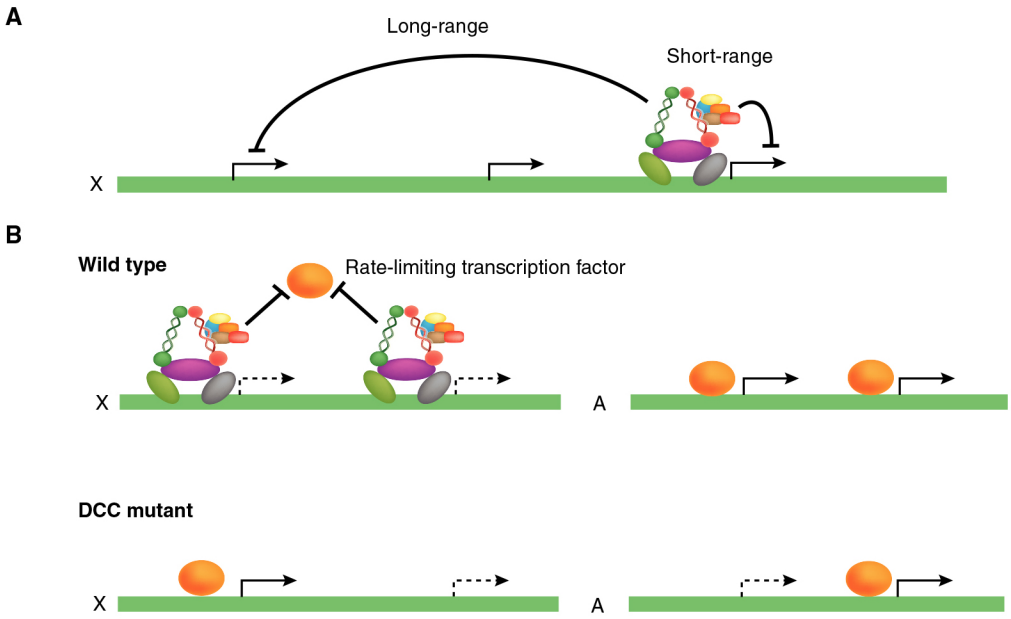

Figure 6. Models for how DCC concentrated on the X chromosomes may regulate gene expression. Upon loss of DCC function, most of the gene expression changes on the X chromosome are an increase in transcription, consistent with the DCC repressing X-chromosome transcription. However, only about half of DCC-bound genes increase in expression and many genes whose expression increases are not bound by the DCC. (*A*) The DCC may repress genes locally or cause structural changes that affect distant loci. (*B*) On the autosomes, the majority of expression changes due to loss of DCC function are a decrease in transcription. This could be explained by a model in which the DCC repels an activator from the X chromosomes. In the absence of the DCC, the activator is more evenly distributed between the X chromosomes and autosomes, resulting in increased gene expression from the X and decreased gene expression from the autosomes. An alternative model (not shown) is that the DCC may repress genes locally, and in the absence of the DCC additional effects on the X and autosomes result from the increase in transcription of hundreds of genes encoded from the X. The possibilities discussed above are not mutually exclusive.