Figure 1.X The epigenetic landscape and its role in regulation of gene expression. Multiple mechanisms in the regulation of gene expression. Changes to chromatin conformation brings promoters into proximity with distal regulatory elements allowing the recruited TF complexes to regulate gene expression. CTCF and the cohesin complex mediate chromatin looping by serving as a scaffold protein in the maintenance of the 3D genomic structure. Transcription can also be modified by lncRNA recruiting chromatin remodelling complexes or by the down-stream regulation of transcription by altering mRNA stability. Similarly, miRNA can regulate the levels of mRNA by either preventing translation or transcript degradation.