

# Chromatin interactions and regulatory elements in cancer : from bench to bedside

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## **Highlights**

In cancer, mutations in non-coding distal regulatory elements and aberrant chromatin remodelling can alter the chromatin interaction landscape, resulting in the dysregulation of gene expression.

Chromatin interactions and regulatory elements can potentially serve as diagnostic and predictive biomarkers for epigenetically driven cancers.

Chromatin interaction analysis can guide the selection of regulatory elements for genetic and epigenetic editing, as well as identify potential off-target effects.

General inhibitors of transcription preferentially target cancer addiction to oncogenes driven by super-enhancers, but their effects on chromatin interactions in off-target normal cells remain to be elucidated.

The mechanisms of chromatin interaction formation need to be better understood in order to translate epigenetic therapies to the clinic safely and effectively.