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(54) Title: METHODS OF DETECTING LONG RANGE CHROMOSOMAL INTERACTIONS

(57) Abstract: The present invention relates to a method of monitoring epigenetic changes comprising monitoring changes in conditional long range chromosomal interactions at at least one chromosomal locus where the spectrum of long range interaction is associated with a specific physiological condition, the method comprising the steps of: (i) in vitro crosslinking of said long range chromosomal interactions present at the at least one chromosomal locus; (ii) isolating the cross linked DNA from said chromosomal locus; (iii) subjecting said cross linked DNA to restriction digestion with an enzyme that cuts at least once within the at least one chromosomal locus; (iv) ligating said cross linked cleaved DNA ends to form DNA loops; (v) identifying the presence of said DNA loops; wherein the presence of DNA loops indicates the presence of a specific long range chromosomal interaction.



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