

**EVOLUTIONARY CHROMOSOMAL REARRANGEMENTS LEAVE
UNCHANGED INTRANUCLEAR POSITION OF TRANSLOCATED LOCI
IN PRIMATE CELLS**

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Human genome, interphase nuclei, in situ hybridization, BAC probes, chromosome evolution

Intranuclear spatial repositioning of genes has been described in cell differentiation and in some genetic diseases, showing a correlation between radial nuclear location (RNL) of genes and expression profile. It should be hypothesized that orthologous genes have similar RNL in cell nuclei from different species to preserve specific expression pattern. Thus, to evaluate spatial chromatin organization and the related genomic features in different lineages, we analysed RNL of eighteen different loci, involved in evolutionary translocation/inversion events, in cell nuclei from human, gorilla and macaque. Our analyses were performed by 2-D in situ hybridization with human BAC probes, and results showed a general conserved RNL of the investigated loci. This indicates that chromosomal rearrangements fixed during primate chromosomal evolution seem to leave unchanged the RNL of the involved loci, in order to preserve original transcriptional activity related to the location of genes in specific subnuclear contexts.