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## FISH AS A CHROMOSOME IDENTIFICATION STRATEGY TO DELINEATE KARYOTYPIC EVOLUTION IN VERTEBRATES

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### ABSTRACT

Fluorescence *in situ* hybridization (FISH) is a powerful technique to directly localize cloned DNA probes onto chromosomes. This approach is essential to delimit cytogenetic analysis, especially in karyotypic evolution study. In this review, the various applications of this method were summarized: chromosomal localization of repetitive DNA sequence, construction of chromosome mapping with single copy DNA sequences, cross-species chromosome painting, comparative genomic hybridization and genomic *in situ* hybridization, allowing a rapid and comprehensive analysis of the process of chromosomal rearrangement in vertebrates. The compartmental data putting together from several applications of FISH strategies provide insight into the likely constitution of a vertebrate ancestral karyotype and lead us to understand some of the intricacies of karyotypic evolution.

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