

## Intrinsically Bent DNA Sites in the *Drosophila melanogaster* Third Chromosome Amplified Domain

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Bent DNA is an alternative conformation of DNA that consists of rich phased tracts of adenine and thymine every 10 base pairs, or multiples of them. Differently of flexibility properties, intrinsically bent sites acts in cooperation and permits a DNA curvature in particular regions associated both with replication origins and promoters. Here, we investigate the localization and structure of intrinsically bent DNA sites in the extensively characterized *Drosophila melanogaster* third chromosome DAFC-66D segment (*Drosophila amplicon in the follicle cells*). This region contains the amplification control element ACE3, which is a replication enhancer that acts in *cis* to activate the major replication origin *ori-b*. Through electrophoretic analyses (mobility assay and permutation), and *in silico* approaches we have identified three major bent DNA sites in DAFC-66D. The bent DNA site (*b1*) is localized in the ACE3 element, whereas the other two bent DNA sites (*b2* and *b3*) are localized in the *ori-b* region. Four additional bent DNA sites were identified in the intron of the *S18* gene and near the TATA box of the *S15*, *S19* and *S16* genes. The identification of DNA bent sites in genomic regions previously characterized as functionally relevant for DNA amplification further supports a function for DNA bent sites in DNA replication in eukaryotes.

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