

Testing the presence of satDNAs transcription in the somatic and germinative cells of the Grasshopper *Abracris flavolineata* (Orthoptera) with B chromosome

Postali, L.¹; Milani, D.²; Cabral-de-Mello, D.C.²

Abstract/Resumo

B chromosomes are dispensable elements that occur in addition to normal chromosomes (A) and exhibit non-Mendelian inheritance. These supernumerary chromosomes occur in about 15% of the eukaryotes, being composed basically of repetitive and heterochromatic DNA more specifically the multigenic families, transposition elements and satellite DNAs (satDNAs). Several studies using animals and plants have been performed in order to obtain new information about the evolution and behavior of satDNAs and besides evidences for transcription have been emerged, suggesting functional roles. In the present work we checked the transcription of five satDNAs previously isolated from grasshopper *Abracris flavolineata* genome, a species with B chromosome. RNA was extracted from two tissues (saltatory leg and testis) from two individuals 0B and one 1B and the cDNA was obtained to test satDNA transcription. In both tissues all satDNAs were transcribed, but they revealed variability depending of the individual for two of them. For satDNAs 204 and 220 it was noticed transcription in saltatory legs of only one individual 0B, as for satDNA 204 in which transcription in testis was restrict for one individual 0B. The other satDNAs were transcribed in all individuals. The observation of transcription in 1B individuals indicate that this chromosome is not suppressing satDNAs. Finally, transcription of all satDNAs in a somatic and germinative tissues suggests functional role of these sequences independent of the cell line. The next steps are to test the differences in transcript quantity for distinct tissues of 0B and 1B individuals, trying to understand the influence of B chromosome presence in satDNA transcription and to check the possible occurrence of secondary functional structures for the satDNAs sequences.

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1 Graduada em Ciências Biológicas, Depto de Biologia, Instituto de Biociências, UNESP - Rio Claro/SP, layspostali@hotmail.com
2 Depto de Biologia, Instituto de Biociências, UNESP - Rio Claro/SP