CLONING AND PARTIAL CHARACTERIZATION OF REPETITIVE SEQUENCES FROM SETARIA DIGITATA

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Cloning and characterization of repetitive sequences from related species of parasites can throw light on the evolutionary relatedness of these parasites. It is also possible to construct a general gene probe for related species, if repetitive sequences specific for each of the related species are available. The characterization of a gene coding for a key metabolic enzyme in one species could also help in detecting the corresponding gene from a genomic library of another related species.

Setaria digitata is a filarial parasite found in cattle in Sri Lanka. We are currently investigating the biochemical properties of the key glycolytic enzymes in this parasite. In view of these investigations and other potential benefits outlined above and the availability of W. bancrofti genomic library in λgt11, a genomic library of S. digitata was constructed in λgt11 as described elsewhere[1].

The amplified library was screened by Plaque hybridization technique[2] using α-^{32}P-dCTP nick translated genomic DNA of S. digitata. After 3-4 cycles of screening, several putative recombinant clones giving strong signals have been isolated.

Southern blotted EcoR1 cleaved genomic DNA of S. digitata when probed ^{32}P-labelled recombinant DNA gave strong signals indicating the presence of parasite specific fragments in the recombinants. Restriction mapping and sub-cloning experiments of the most promising clones are in progress.

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References:

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