

**A-03 : CLONING AND PARTIAL SEQUENCING OF THE
ACTIN GENE FROM *Setaria digitata***

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Setaria digitata is a filarial nematode infecting cattle, sheep and goats. In order to study the structural and genomic organisation of protein coding genes in this parasite, actin, which plays an important role in a variety of cellular processes was selected as a model.

S. digitata DNA was partially digested with restriction enzyme Sau 3a and a genomic library was constructed in the vector EMBL-3. The library was screened with a recombinant plasmid containing a part of the Rat -actin gene. A recombinant bacteriophage clone Act 15b was selected for further analysis. Southern blot analysis of Act 15b and *S. digitata* genomic DNA cleaved with a variety of restriction endonucleases revealed a single 2.3Kb Hind III fragment which hybridized with the Rat actin gene. This fragment was cloned in PUC 18. The above clone designated pSAC9 was further digested with a number of restriction enzymes and some of the resulting fragments were subcloned into the plasmid vector Bluescript. The subclones were then completely or partially sequenced by the Dideoxy method. The available sequences were then computer analysed and comparisons made with other Actin genes. The encoded amino acid sequences matched closely with those reported for other organisms from a wide range of taxonomic groups.

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