

Trypanosoma (nannomonas) congolense

Abstract:

Pulsed field gradient gel electrophoresis was used to separate chromosomes of parasitic protozoan Trypanosome congolense clone IL1180. Total trypanosome DNA was isolated and resolved into 18 chromosomes by pulsed-field gradient gel electrophoresis. The chromosomes fall into four main size categories: the minichromosomes of about 50-150 kb; the medium-size chromosomes 200-750kb; the large chromosomes >1mb and chromosomes that are –specifically trapped in the wells. Four distinct medium –sized chromosomes with sizes 340kb, 360kb, 400kb and 500kb, were identified and designated chromosomes 1-4 respectively. DNA bands from each of the four medium-size chromosomes were excised from the gel, purified and randomly amplified with 23 random oligonucleotide primers (RAPD analysis). The RAPD product, which was unique to each of the four medium –sized chromosomes, were identified and cloned in T-vector plasmid. One RAPD product of approximate size 1.5Kb, which was amplified by oligonucleotide primer, ILO867 was identified as unique to medium –sized chromosome 2. This RAPD product referred to as RAPD2/867/1.5 hereinafter only hybridized to medium sized chromosomes 2. This cloned fragment can therefore be used as a specific DNA marker for medium –size chromosome 2 of T. congolense.