CHAPTER VI

CONCLUSION AND SUGGESTION

It is clear from the results by pulse field gradient gel electrophoresis that P. falciparum had a chromosome size polymorphism. The suitable running conditions to show all chromosomes within a gel in this experiment were 80 volt for 137 hr at 14 °c with pulse time ramped 180-900 sec by CHEF-DR II apparatus. It is also indicated that PFGE technique could be exploited for characterization of P. falciparum parasites. Nevertheless, a particular indication showing that chromosome 4 polymorphism was related to pyrimethamine resistance has not been clearly elucidated from this study.

As there is a possibility that amplification of genes may contributed to the chromosome size polymorphism, dot blot analysis was done. By using Hybond-C membrane, two pyrimethamine-sensitive and 2 pyrimethamine-resistant clones of P. falciparum were compared. They revealed that no amplification in the pyrimethamine-resistant clones occured.

It is of interest to note that T9/94 (M1-1) b6 and T9/94 (M1-1) b14 clones, which were the most resistant to pyrimethamine amongst the mutant clones tested here and showed the larger size of chromosome 4, should be further investigated

either by dot blot analysis or other means to determine whether there was a relationship between this alteration of the fourth chromosome and pyrimethamine resistance.

The Saccharomyces cerevisiae strain YNN 295 can, therefore, be used with reasonable confidence as chromosome-sized standard up to 2200 kb. For more accuracy of size evaluation, higher molecular weight markers e.g. Schizosaccharomyces pombe or Candida albican chromosomes should be utilized.