The M13 repeat probe detects RFLPs between two strains of the protozoan malaria parasite *Plasmodium falciparum*

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It has been demonstrated that a DNA sequence from the genome of M13 reveals hypervariable minisatellites in humans and bovines (1). A related sequence from M13 has detected minisatellite-like RFLPs in some angiosperm and gymnosperm species (2). The entire M13 genome has been cross-hybridized with endonuclease fragments from several taxonomically distant animals, taxonomically distant angiosperms, yeast, and bacteria, in some cases demonstrating polymorphic fragments within species (3). Here we show (Fig. 1) that the M13 repeat probe reveals RFLPs between two strains of the protozoan (sporozoan) *Plasmodium falciparum* (a human malaria parasite). These preliminary results, along with previously reported findings (2,3,4 and references therein) indicate that a particular minisatellite probe may be useful in detecting polymorphisms across wide taxonomic expanses, including all the major kingdoms. **Methods:** Malaria parasites were grown *in vitro* in human red blood cells using the technique of Trager and Jensen (5). The chloroquine-susceptible Haiti 135 (6) and chloroquine-resistant Indochina I (7) strains of *P. falciparum* used for these studies were provided originally by Phuc Nguyen-Dinh and C.C. Campbell of the Centers for Disease Control. DNA was isolated from haploid (trophozoite-stage intraerythrocytic) parasites according to the procedure of Welles et al. (8). DNA from each strain (3 ug) was digested according to the supplier's instructions except that an excess of enzyme was used. Electrophoresis, blotting, M13 repeat probe preparation, hybridization, filter washing, and autoradiography were all performed as described previously (2). **References:** 1. Vassart et al., 1987, *Science* **235**:683. 2. Rogstad et al., 1988, *Proc. Natl. Acad. Sci. USA* **85**:9176. 3. Ryskov, et al., 1988, *FEBS Letters* **233**:388. 4. Rogstad et al., 1988, *Nucleic Acids Research* **16**:11378. 5. Trager and Jensen, 1976, *Science* **193**:673. 6. Teklehaimanot et al., 1985, *Am. J. Trop. Med. Hyg.* **34**:429. 7. Pfaller and Krogstad, 1981, *J. Infect. Dis.* **144**:372. 8. Welles et al., 1987, *Cell* **49**:633. **Support:** NSF BSR-8700214 (SHR) and BSR-8714397 (to Barbara A. Schaal); NIH AI 07766 (BLH). These investigations received the financial support of the United Nations Development Program/World Bank/World Health Organization Special Programme for Research and Training in Tropical Diseases. **Fig. 1:** Autoradiograph of *Dra*I digested, electrophoresed, and blotted genomic DNA from two strains of *P. falciparum* hybridized with labelled M13 repeat probe. Left lane: Haiti 135. Right lane: Indochina I.

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