Variation among *Trichomonas vaginalis* strains

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Trichomonas vaginalis is a sexually transmitted protozoan that infects approximately 180 million individuals annually. In spite of the apparent lack of protein and DNA differences reported in the literature to date, there is a marked variation in levels of drug resistance seen in isolates world-wide. Metronidazole and tinidazole, members of the nitroimidazole family of drugs, are the recommended treatments for infections of this parasite, yet resistance is common. Some clinical isolates maintain their levels of drug resistance in the absence of drug pressure. These isolates traditionally succumb to minimal lethal concentrations (MLC) of metronidazole of around 50 μM but commonly display only aerobic resistance. We have induced high levels of resistance in strains of *T. vaginalis* in the laboratory with MLCs of >200 μM. In these lines the hydrogenosome organelle, responsible for the activation of nitroimidazole drugs to their toxic radicals, is completely down-regulated. With such dramatic differences among the clinically resistant, laboratory-induced resistant and isogenic drug-susceptible lines, we have explored strain differences in *T. vaginalis* and report here on drug resistance to a variety of drugs, RFLPs and compared cell free fractions.