



## Dissemination of Antibiotic Resistance in *Mycoplasma hominis* Tunisian strains

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*M. hominis* is generally associated to genitourinary tract infections and recently, seems to be the potential causative agent of human infertility. Antimicrobial resistance in a number of bacterial pathogens has been shown to spread clonally. To our knowledge, data about the phylodistribution of drug resistance in *Mycoplasma hominis* are very scarce. The aims of this study were to assess the antimicrobial susceptibility of *Mycoplasma hominis* clinical strains recovered from Tunisian patients over 18 years, to identify the molecular basis of antibiotic resistance, and to investigate the phylogenetic relationships of resistant strains.

This study included 65 molecularly typed *Mycoplasma hominis* isolated over a 18-year time period (2000-2018). The antimicrobial susceptibility was tested against nine antibacterial agents using the broth microdilution method. Neighbor-joining and minimum spanning trees (NJT and MST, respectively) were reconstructed to establish the phylogenetic relationships among isolates. Fluoroquinolones, doxycycline, and josamycin were found to be the most effective antibacterial agents. However, 22 strains belonging to 11 expanded multilocus sequence types (eSTs) proved resistant to tetracycline. The majority of these eSTs were genetically related, indicative of clonal expansion of tetracycline resistance. Throughly, our data provide relevant information on the antibiotic susceptibility of Tunisian *M. hominis* clinical strains, lending support to a clonal transmission of tetracycline resistance. This is likely to have an important implication in monitoring the spread of drug resistance among *M. hominis*.

### **BIOGRAPHY**

Boutheina Ben Abdelmoumen Mardassi is a doctorate in veterinary medicine from National School of Veterinary Medicine at Sidi Thabet, Tunis-Tunisia. She has completed her Ph.D. from Biotechnology Research Institute at Montreal and Montreal University in Canada. She was Post-Doctorate from Armand-Frappier Institute at Montreal, Quebec, Canada. Actually, as a permanent researcher and a head of Mycoplasmas laboratory in Institut Pasteur de Tunis, she's working mainly on Mycoplasmas population genetics and comparative genomics. Also, a great importance is attached to the evolution and spread of antibiotic resistance in mycoplasmas.

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