

Title: EVALUATION OF THE GENOMIC PROFILE OF *M. PULMONIS* ISOLATES FROM RATS OF ANIMAL FACILITIES IN THE STATE OF RIO DE JANEIRO

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Abstract:

Mycoplasma pulmonis is the agent of murine respiratory mycoplasmosis and causes severe respiratory and reproductive problems, compromising the breeding of laboratory rodents and interfering with experimental results. It is difficult to control, being necessary the employment of molecular techniques for monitoring this agent. In Brazil there have not yet been found studies that allow knowing the genomic profile of isolates of *M. pulmonis*. The goal of this study was to evaluate the genomic profile of different isolates of *M. pulmonis*. Isolates obtained from 18 rats, originated from five animal facilities (I,II,III,IV,V) in the state of Rio de Janeiro were typified as *M. pulmonis* by indirect immunoperoxidase and PCR reactions. The evaluation of the genomic profile was realized through Pulsed Field Gel Electrophoresis (PFGE). To analyze the genotypic relationship between the isolated strains of *M. pulmonis*, through the Sall enzyme profiles a dendrogram was obtained by Dice coefficient (1% optimizing). PFGE generated two unrelated groups, A and B. Through PFGE we observed that restriction happened in the 18 isolates resulting in 10 different profiles. Profiles consisted of two to five DNA fragments of sizes varying from 62 Kbp to 460 Kbp. Five samples originated from facilities I and IV are in group A, along with the standart sample of *M. pulmonis*. Moreover, 13 samples from facilities I, II, III and V belong to group B. Samples belonging to facility I were verified both in PFGE groups A and B. Group A has two PFGE subtypes and group B has three subtypes. The greatest similarity found between isolates in these groups was 57%. With the data obtained in the study we concluded that there are genotypic differences between *M. pulmonis* samples isolated from rats obtained in facilities in Rio de Janeiro. As far as it is known, this is the first study about genotypic differences in *M. pulmonis* strains, once that similar studies have not been found.

Key Words: PFGE, Murine Respiratory Mycoplasmosis, mycoplasma.

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