GMR Genetics and Molecular Research
Online Journal
ISSN:1676-5680

Chromosomal localization and partial sequencing of the 18S and 28S ribosomal genes from *Bradysia hygida* (Diptera: Sciaridae)

V.P. Gaspar[1], E.L.T. Shimauti[2] and M.A. Fernandez[1]

[1]Departamento de Biotecnologia, Genética e Biologia Celular, Universidade Estadual de Maringá, Maringá, PR, Brasil
[2]Departamento de Análises Clínicas e Biomedicina, Universidade Estadual de Maringá, Maringá, PR, Brasil

Corresponding author: M.A. Fernandez
E-mail: aparecidafernandez@gmail.com

Genet. Mol. Res. 13 (1): 2177-2185 (2014)
Received February 5, 2013
Accepted June 14, 2013
Published March 26, 2014
DOI http://dx.doi.org/10.4238/2014.March.26.6

ABSTRACT. In insects, ribosomal genes are usually detected in sex chromosomes, but have also or only been detected in autosomal chromosomes in some cases. Previous results from our research group indicated that in *Bradysia hygida*, nucleolus organizer regions were associated with heterochromatic regions of the autosomal C chromosome, using the silver impregnation technique. The present study confirmed this location of the ribosomal genes using fluorescence *in situ* hybridization analysis. This analysis also revealed the partial sequences of the 18S and 28S genes for this sciarid. The sequence alignment showed that the 18S gene has 98% identity to *Corydalus armatus* and 91% identity to *Drosophila persimilis* and *Drosophila melanogaster*. The partial sequence analysis of the 28S gene showed 95% identity with *Bradysia amoena* and 93% identity with *Schwenckfeldina* sp. These results confirmed the location of ribosomal genes of *B. hygida* in an autosomal chromosome, and the partial sequence analysis of the 18S and 28S genes demonstrated a high percentage of identity among

several insect ribosomal genes.

Key words: *Bradysia hygida*; 28S rDNA gene; 18S rDNA gene; Sciarid; Fluorescence *in situ* hybridization

