



# An improved extraction protocol for metagenomic DNA from a soil of the Brazilian Atlantic Rainforest

J.H. Amorim, T.N.S. Macena, G.V. Lacerda-Junior, R.P. Rezende,  
J.C.T. Dias, M. Brendel and J.C.M. Cascardo

Departamento de Ciências Biológicas, Universidade Estadual de Santa Cruz,  
Ilhéus, BA, Brasil

Corresponding author: J.C.M. Cascardo  
E-mail: [cascardo@uesc.br](mailto:cascardo@uesc.br)

Genet. Mol. Res. 7 (4): 1226-1232 (2008)  
Received August 14, 2008  
Accepted September 26, 2008  
Published November 11, 2008

**ABSTRACT.** The need for the prospecting for and identification of new biomolecules is a reality. Molecular techniques allow access to the metabolic potential of microorganisms via the isolation of DNA from environmental samples, i.e., without the application of microbial culture techniques. With its great biological diversity, the Atlantic Rainforest biome has a soil rich in organic matter, some components of which interfere negatively in the reactions necessary for the exploitation of its biotechnological potential. Here, we describe a protocol for the optimization of the treatment of soil samples before DNA extraction. The new methodology gives higher yield and quality of extracted DNA as compared with pre-existing techniques, facilitating the amplification and digestion of environmental DNA, and thus allows optimal exploitation of the genetic potential of the Atlantic Rainforest biome.

**Key words:** Microbial DNA; Lysis; Polymerase chain reaction; Soil; Atlantic Rainforest