MOLECULAR ANALYSIS OF BACTERIAL ISOLATES PRODUCING YELLOW PIGMENT CAATINGA BIOME

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Introduction: In various industrial segments are additives used to impart color. Natural dyes has gained prominence over synthetic, and these toxic past. The microbial pigment production presents a viable raw material, which is independent of weather conditions and generates a huge amount. In the region of Caatinga research activities of microbial resources they are still quite limited. Among the micro-organisms only 1% of bacteria have been described, indicating a biodiversity being explored as a new source of natural pigments. The identification of the isolates is generally based on physiological tests, which are time consuming and often unreliable. Therefore, molecular techniques are proposed as a fast and reliable alternative. Objective: This study aimed to identify 17 bacterial isolates of the Caatinga biome, by studying the 16S ribosomal gene (16S rDNA).

Materials and methods: The deposited isolated at the Molecular Biology Laboratory of the UFPE were grown in LB (Luria Bertani) medium for 24 hours at 37\(^\circ\)C, followed by centrifugation and extraction of DNA. PCR reactions were performed with specific primers and conditions for amplification of the 16S rDNA gene. All reactions were analyzed by agarose gel electrophoresis. The gene products were purified amplified 16S rDNA and the identity of these isolates was confirmed by sequencing. The data obtained by sequencing of the 16S rDNA gene were compared using the BLASTn program. Results and discussion: The sequences obtained had varying degrees of similarity with international collections isolates, 12 isolates which were identified as Micrococcus luteus, two isolates identified as Leifsonia xyli subsp. xyli two isolated as Kocuria rhizophila and one isolated from Mycobacterium testaceum. Conclusion: From the results it was possible to identify the species and subspecies level isolates from Caatinga Biome, thus contributing to further work with industrial production of pigments.

Keywords: Molecular identification, 16S rDNA, Pigments.

Acknowledgements: CAPES.