

PRODUCTION OF DIFFERENT KINDS OF PHA BY BACILLUS CEREUS ISOLATED FROM THE ATLANTIC FOREST SOIL

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A new bacteria producing polyhydroxyalkanoate (PHA), a biodegradable biopolymer, was isolated from the ground of Brazilian Atlantic Forest. This is a Gram-positive mobile white pigmentation bacterium. The sequencing data of the gene rDNA 16S indicate that this new isolate presents content G+C of 35 mol% and has 99% similarity with bacteria of the *Bacillus cereus* species. Thus, this new isolate is now identified as *Bacillus cereus* ICB 2005-1. This isolate produces PHA composed by units of hydroxybutirate-hydroxyvalerate-hydroxydodecanoate (PHB-HV-HDd) when in mineral medium with glucose and produces PHB-HDd in mineral media with starch or soy flour. The results indicate that this bacteria has a PHA synthase belongs to the class IV, while the intracellular PHA depolymerase is in a new row of the phylogenetic tree, get rid of all others reported in the literature.