



# Screening and Biochemical Characterization of PHB Producing Bacterium Isolated from Marine Sample

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**Abstract:** The increasing importance of the non-degradable plastics has emerged as one of the major concerns. For this, research is being ventured from the existing reserve to produce bio plastics on the basis of biodegradability properties. A thermoplastic is both biodegradable and environmental friendly, as well as biocompatible is Poly-hydroxy butyrate. Present study focused on identification of potential polyhydroxybutyrate producing bacterial strains from marine soil sample collected from Bapatla, Guntur District. Ten bacterial isolates were identified through Sudan Black staining, out of which RR25 observed to be potential for PHB production. Biochemical characterization was performed for preliminary identification of isolate and was *Bacillus* sp. Biopolymer obtained from the isolate was characterized by FTIR and DSC. The biopolymer compared with standard and identified as polyhydroxybutyrate.

**Keywords:** Biopolymer, *Bacillus* sp, Polyhydroxybutyrate, FT-IR, DSC

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