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## Chemical characterization and optimization of 4MHA pentapeptide lactone from *Streptomyces parvulus* C5-5Y

Arockiam Jeyasundar Parimala Gnana Soundari<sup>1,2</sup>, Vellingiri Manon Mani<sup>1,2</sup>, K P Salin<sup>1</sup> and Venkatesan Brindha Priyadarisini<sup>1</sup>

<sup>1</sup>Bharathiar University, India

<sup>2</sup>Hindusthan College of Arts and Science, India

**Introduction:** The needs for increase in novel drugs urged to discover and develop new antibiotics with biopotentiality. The natural products have been developed from medicinal plants and the recent research has mainly focused on the microbial sources for novel antibiotics with bioactivities and this is economical in state. In this investigation we have developed a new bioactive compound with maximum antioxidant and antimicrobial activities.

**Methodology:** To increase the metabolite production as well as organism's growth, we aimed to optimize the medium with economical parameters and sources rapidly. This bioactive compound was elucidated from *Streptomyces parvulus*.

**Results:** The maximum growth and pigment production was evaluated with the standard formula, and the production was higher in optimal pH, temperature, carbon and nitrogen sources. The carbon sources are found to increase the growth of the organism especially in starch. The mass production was obtained in the optimized medium and the extracted pigments were subjected to HPLC analysis where the peak 4 was eluted and found to contain bioactivity through antimicrobial assessment. The compound AP4 was structurally elucidated with raw data, finally the AP4 was 4MHA (4-Methyl 3-Hydroxy anthranilic acid) pentapeptide lactone and it represents the half actinomycin structure with antioxidant properties.

**Conclusion:** Further studies will be focused on two-dimensional NMR spectroscopy to confirm the structure and application of pigment as pharma product in *in vivo* studies.

### Biography

Arockiam Jeyasundar Parimala Gnana Soundari has explored her research in Microbial Biotechnology especially in microbial metabolites for human welfare and disease prevention. Her experience has built many years in research and teaching which emphasizes student's development in research areas. Her research is mainly focused to create an economical antibiotics and pharmaceutical products from microbial origin and use it against dreadful diseases. Her foundation implies on separating a purified bioactive metabolite and applies for various medicinal fields. This makes the society to get the antibiotics in low cost. This research is a promising strategy and successful one which could be taking to higher degree levels for prevention of many diseases by microbial metabolites.

apgs\_1987@yahoo.co.in

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