



BCIL Biotech Consortium India Limited

Unlocking Prodigiosin's Economic Viability: An Economical Method for Fermentation and Application Growth

TECHNOLOGY AVAILABLE FOR TRANSFER

UNMET NEED AND OPPORTUNITY

Prodigiosin, a versatile deep-red pigment with various industrial applications, faces challenges such as high manufacturing costs and limited availability. This technology addresses the need for a cost-effective and scalable method of prodigiosin synthesis. By utilizing response surface methodology (RSM) and affordable carbon sources from rice straw, the innovation aims to enhance prodigiosin production and expand its applications, particularly in the food industry.

STAGE OF DEVELOPMENT

The technology has undergone successful optimization of fermentation conditions using *Serratia marcescens* CMS2, a prodigiosin-producing strain. By incorporating xylose derived from rice straw into a growth medium supplemented with peanut de-oiled cake, the prodigiosin yield has been significantly increased. Encapsulation of prodigiosin in polysaccharides further enhances solubility, opening avenues for diverse applications. The process is well-established and ready for application in various industries.

INTELLECTUAL PROPERTY

Indian Patent File

UNIQUE SELLING PROPOSITION

Cost-Effective Prodigiosin Production: The use of peanut de-oiled cake as a nitrogen source offers a more economical alternative compared to traditional yeast extract, resulting in higher prodigiosin yield.

Expanded Applications: Encapsulation of prodigiosin in polysaccharides enhances solubility, making it a natural food coloring alternative. This opens up opportunities in the food sector, reducing reliance on artificial food coloring with potential health and environmental benefits.

Scalable Cost Savings: The study demonstrates a significant reduction in production costs, making prodigiosin a commercially viable option with an estimated benefit of \$578.41, offering a competitive edge in the market.

LICENSING OPPORTUNITY

BCIL is looking for suitable industrial partner for commercialization of this Technology.

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