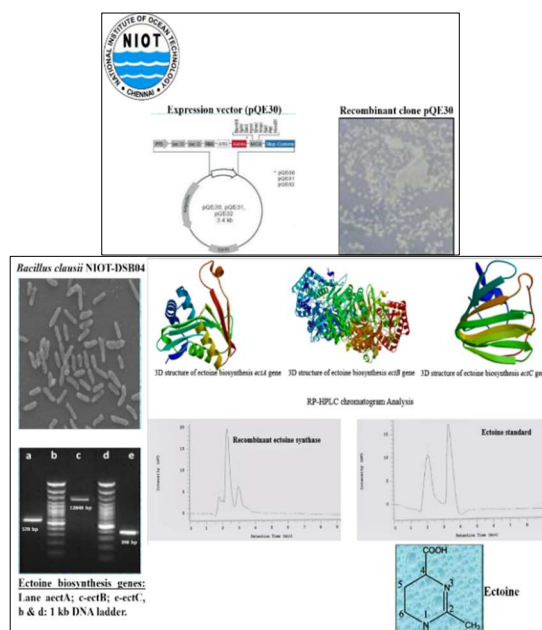




RECOMBINANT ECTOINE FROM DEEP SEA BACTERIA



Recombinant Ectoine: A major compatible solute from halophilic bacteria, *Bacillus clausii*: Ectoine and 5-hydroxyectoine belong to the family of compatible solutes which are known to stabilize the cell's essential functions by maintaining the stability of proteins under stress conditions like high salinity, heat or aridity stress, UV irradiation and dryness. The present invention relates to a method for producing recombinant ectoine or a derivative thereof, using the recombinant plasmid containing genetic material coding for biosynthesis of ectoine. The technology reports the construction and optimization of ectoine biosynthesis gene in *Bacillus clausii* as well as the construction of plasmids for expression of intracellular ectoine in *Escherichia coli* M15 (expression host), and subsequent mass production by submerged fermentation.



The developed recombinant clone provides a high production output and lower production cost of the final product. The products developed in this invention represent a new supplement in derma pharmacy industry and is used as an active ingredient in skin care and sun protection products. The development of this recombinant ectoine aim for its use in derma pharmaceutical compositions intended for use in cosmetics applications, such as UV protectant skin creams.

Currently Ectoine is being imported from abroad to India. The global recombinant ectoine from deep sea bacteria for skin care and cosmetic applications market is growing at a significant pace owing to driving factors such as increasing demand of ectoine for meeting the need of the skin care sector for various anti-aging, sun burn, eye drops, nasal drops etc.

This technology is developed by **National Institute of Ocean Technology**, Ministry of Earth Sciences, Govt. of India and seeks to stimulate the use of technology by commercialization under Make in India Initiative and **National Research Development Corporation** will facilitate for smooth transfer and licensing of the technology with affordable Licencing terms and conditions.

Any company or organization interested in the technical know-how and to get more details about the technology please refer the contact details below.

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