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Isolation and Identification of Microorganisms from Marine-Associated Samples under Laboratory Conditions

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Abstract : The Ocean, which covers over 70% of the world's surface, is wealthy in biodiversity as well as a rich wellspring of microorganisms with huge potential. The oceanic climate is home to an expansive scope of plants, creatures, and microorganisms. Marine microbial networks, which incorporate microscopic organisms, infections, and different microorganisms, enjoy different benefits in biotechnological processes. Samples were collected from marine environments, including soil and water samples, to cultivate the uncultured marine organisms by using Zobell's medium, Sabouraud's dextrose agar, and casein media for this purpose. Following isolation, we conduct microscopy and biochemical tests, including gelatin, starch, glucose, casein, catalase, and carbohydrate hydrolysis for further identification. The results show that more gram-positive and gram-negative bacteria. The isolation process of marine organisms is essential for understanding their ecological roles, unraveling their biological secrets, and harnessing their potential for various applications. Marine organisms exhibit remarkable adaptations to thrive in the diverse and challenging marine environment, offering vast potential for scientific, medical, and industrial applications. The isolation process plays a crucial role in unlocking the secrets of marine organisms, understanding their biological functions, and harnessing their valuable properties. They offer a rich source of bioactive compounds with pharmaceutical potential, including antibiotics, anticancer agents, and novel therapeutics. This study is an attempt to explore the diversity and dynamics related to marine microflora and their role in biofilm formation.

Keywords : marine microorganisms, ecosystem, fungi, biofilm, gram-positive, gram-negative
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