Bioprospecting of secondary metabolites from marine actinomycetes for combating the multidrug resistance among uropathogens

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Abstract:

The development of multi drug resistant uropathogens is a big threat to human race. Infections with multidrug-resistant bacteria are hard to treat. The present study Characterization of bioactive compounds from marine actinomycetes antagonistic to urinary tract bacterial pathogens is aims to prove marine actinomycetes have some bioactive compounds which are antagonistic to multi drug resistant uropathogens. In the present study, the uropathogens were collected from urine samples of patients with their consent.

Marine actinomycetes were isolated from marine sediments collected from different stations of Poovar coastal region, part of Arabian Sea on the western coast of India using standard microbiological techniques. The isolated strains were subjected to downstream characterization and those showed significant antagonistic activity common uropathogens were subjected to further studies. The isolate PVR9 showed maximum inhibitory activity against Escherichia coli (19mm). Similarly PVR4 showed maximum activity against Klebsiella sp. PVR35 showed maximum activity against Pseudomonas sp. in well diffusion assay. But in disc diffusion method PVR2 is the most potent strain against Pseudomonas sp. Against Acinetobacter sp. PVR9 showed the highest antagonistic activity in both the secondary assays followed by PVR2. PVR4 is the most potent isolate against Klebsiella sp. in both disc and well diffusion methods. These observations showed lime light on the fact that the marine actinomycetes of the tropical area are a good resource of potential bioactive molecules. Further studies on these isolates will help to combat the multi-drug resistance in clinical scenario.

Biography:

I have completed my postgraduation at the age of 22 years from Bharathiar university and bachelor's degree from Mahatma Gandhi university, Kottayam. I have published 4 papers in reputed journals. Now I am doing Phd in microbiology from Manonmaniam sundaranar university,Tirunelveli, Tamilnadu, India.

About University/College

Scott Christian College, India

Scott Christian College is an autonomous, co-educational, arts and science college in Nagercoil, Tamil Nadu. Run by the Diocese of Kanyakumari of the Church of South India, the college is graded "A" under National Assessment and Accreditation Council (NAAC)

The college is one of the oldest colleges in the present-day Tamilnadu state and one of the first to be started in the erstwhile princely state of Travancore. The alumni of the college are called Scottians.

The Status of Autonomy was conferred on Scott Christian College, in April 2005, perhaps the most historic moment in the annals of this pioneering seat of higher learning in the South. The NAAC Peer team visit in campus in April 2009 and College was awarded 'A' the highest grade. The Ida Marsden Hostel was extended accommodation 500 students in 2009. The UGC has constituted an Expert Committee to evaluate the performance and academic attainments for the Extension of Autonomous Status. The process is expect to be completed within couple of months.

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References:

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marine actinomycetes antagonistic to Urinary tract bacterial pathogens, Journal of basic and applied research international, Volume 27 (6);1-16

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