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Characterization of exopolymeric substances from *Bacillus flexus* S15 isolated from southeast coast of Tamil Nadu, India

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Bacillus flexus S15 isolated from marine soil sample produced 478 mg/l of exopolymeric substances. The colorimetric analysis shows that the exopolymer comprised of about 65% sugars, 3.1% proteins, 0.24 % uronic acids and 12.7% sulphur. FTIR and ¹H NMR analysis revealed the presence of functional groups corresponding to carbohydrates, proteins, and sulphate. In differential scanning calorimetric analysis, it was found that the melting temperature (T_m) of exopolymer was 260.45°C. The bacterial exopolymer exhibited cytotoxic activity on A549 cell (IC₅₀ 120.36 µg/mL) and antibacterial activity against clinical pathogens. The present study makes a pavement and its possibility for its potential biomedical application.

Biography

R Thirumurugan, Professor has 14 years of teaching and research experience. He obtained his PhD in Aquatic Biotechnology from Bharathidasan University in the year 2000. He had received DST-FAST TRACK Young Scientist award from Department of Science and Technology, Govt. of India. He is pursuing UGC Raman Post Doctoral Fellowship (2014-2015) in Auburn University, USA. He has published more than 30 papers in referred national and international reputed journals. He has been serving as a member in many International Associations and operating various research projects funded by UGC, DST and DAE. He has successfully guided one PhD and 20 MPhil scholars and currently guiding 8 PhD scholars in the area of aquatic biotechnology, marine microbes, nanoscience, probiotics and toxicology.

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