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Bioassay guided fractionation and characterization of anionic AMPs from *Donax cuneatus*

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Donax cuneatus, an edible bivalve is consumed as a regular meal by the people of southern coastal area of Tamilnadu, India. Naturally, the marine invertebrates are inbuilt with pharmaceuticals. Our research interest was focused to identify the AMPs (antimicrobial peptides) from the mollusk *Donax cuneatus*. Fresh bivalves were collected from the coast of Cuddalore, Tamilnadu. The fleshes of the bivalves were extracted with 5% cold aqueous acetic acid and TrisHCl buffer at pH 4, 7 and 9. The crude peptides were concentrated, dialyzed and evaluated for its antimicrobial property by well diffusion method against few strains of bacterial clinical isolates. All the extracts showed potential activity towards tested strains. The maximum activity was observed with acetic acid extract against *Staphylococcus aureus*. 1mg of protein in 1ml of aqueous precipitate was estimated by Lowry's method. 1ml of crude extract was purified in DEAE cellulose (Merck) anion exchange column at a flow rate of 0.2ml/min with PBS as mobile phase. 50 fractions collected were screened for antimicrobial property using *Pseudomonas aeruginosa* and *Staphylococcus aureus*. The activity was noted to the *Staphylococcus aureus* with the maximum zone of inhibition of 12mm by 29th fraction and the activity was poor for *Pseudomonas aeruginosa*. The active fractions were identified and lyophilized. The sequence was predicted by MALDI TOF spectra. The peptide isolated was identified to have net charge of -3 and molecular weight of 10 kda. They were suspected to be rich in glycine and asparagine.

Biography

P Selvamani has completed his PhD from Jadavpur University, Kolkatta, India. He started his career as Guest Lecturer during 2003 and now working as Assistant Professor since 2006 in Department of Pharmaceutical Technology, Anna University, Bharathidasan Institute of Technology Campus, Tiruchirappalli, Tamil Nadu, India. He has published more than 50 papers and participated in 6 international conferences all around the world. He was awarded with "Active Researcher Award" by CTDI, Anna University, Chennai, TamilNadu, India and "Fast Track Young Scientist Award" by DST (Department of Science and Technology) New Delhi, India. He undertook projects as Principal Investigator and Co-Principal Investigator from Indian Government funding Agencies to the total value of \$ 11 Lakhs.

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