

## Determination of *in vitro* antibacterial activity of marine sponges in Sri Lanka

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The rapid emergence of resistant bacteria is occurring worldwide, endangering the efficacy of antibiotics. Development of potential drug leads to overcome this challenge is critically important. In this present study, 20 different sponge species were collected from Sri Lanka for the screening of *in vitro* antibacterial activity using Agar Disk Diffusion Method. Two extracts, organic and aqueous were prepared for each sample and tested against four bacteria. Six out of 20 tested species showed antibacterial activity. Four of the organic extracts and three of the aqueous extracts were active against *Escherichia coli*. Only one organic extract was active against *Staphylococcus aureus* and none of the extracts was active against *Pseudomonas aeruginosa* and *Bacillus cereus*. Almost all the species showed weak activity even at 20 µg/disc compared to the inhibition zone diameter of the positive control (10 µg/disc). Notably both the organic and aqueous extracts of *Xestospongia testudinaria* and *Axinella donani* were active against *E. coli*. The antibacterial active extracts are undergoing further analysis to identify the active constituents.

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