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Original Article

Antibacterial, antifungal and cytotoxic activities of 3,5-diacetyltambulin isolated from Amorphophallus campanulatus Blume ex. Decne

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Abstract:

ABSTRACT

Background and purpose of the study: Amorphophallus campanulatus is widely distributed in Bangladesh, India, and Africa and the tuberous roots of the plant has many traditional uses and is an important source of biologically active compounds. In the present study *in vitro* antibacterial, antifungal and cytotoxic activities of 3,5-diacetyltambulin which is a flavonoid isolated from *Amorphophallus campanulatus* was studied.

Materials and Methods: *In vitro* antibacterial and antifungal activities was evaluated by disc diffusion and MICs technique was determined by serial dilution technique. Cytotoxicity was determined against brine shrimp nauplii.

Results and Major conclusion: The compound showed significant antibacterial activities against four Gram-positive bacteria (*Bacillus subtilis*, *Bacillus megaterium*, *Staphylococcus aureus*, *Streptococcus β-haemolyticus*) and six Gram-negative bacteria (*Escheichia coli*, *Shigella dysenteriae*, *Shigella sonnei*, *Shigella flexneri*, *Pseudomonus aeruginosa*, *Salmonella typhi*). The MIC values against these bacteria ranged from 8 to 64 µg/ml but had weak antifungal activity against a number of fungi. In cytotoxicity determination, LC_{50} of the compound against brine shrimp nauplii was 10.02 µg/ml.

Keywords:

Keywords: Flavonoid, Gram-positive, Gram-negative, MIC, Cytotoxicity.

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