

Antibacterial Activity of Methanol Extract of Punica Granatum Linn. (Punicaceae) Fruit Peel Against Selected Bacterial Species

Authors : Afzan Mahmad, Santibuana Abd Rahman, Gouri Kumar Dash, Mohd. Syafiq Bin Abdullah

Abstract : Antibacterial activity of the methanol extract of fruit peel of Punica granatum Linn (Family: Punicaceae) was evaluated against two Gram positive and two Gram negative bacteria. The Gram positive bacteria included Staphylococcus aureus, Streptococcus pneumoniae and the Gram negative organisms included Escherichia coli and Pseudomonas aeruginosa respectively. The culture media used for antibacterial assay was Mueller Hinton agar for the growth of S. aureus, E. coli, and P. aeruginosa. The media used for the growth of S. pneumoniae was Mueller Hinton blood agar. The antibacterial assay was performed through Disc diffusion technique. The methanol extract was tested at three different concentrations (50, 100 and 200 mg/ml). Standard antibiotic discs containing vancomycin (30 µg) for S. pneumoniae, penicillin (10 units) for S. aureus, ceftriaxone (30 µg) for E. coli and ciprofloxacin (5 µg) for P. aeruginosa were used for the activity comparison. The results of the study revealed that the extract possesses antibacterial activity against S. aureus, S. pneumoniae and P. aeruginosa at all tested concentrations. The maximum zone of inhibition of 19 mm of the extract at 200 mg/ml was observed against S. pneumoniae. However, no zone of inhibition was observed against E. coli at the tested concentrations of the extract. Based on the results obtained in this study, it may be concluded that the fruit peel of P. granatum possess broad spectrum of antibacterial activity against a number bacteria.

Keywords : Punica granatum Linn., methanol extract, antibacterial, zone of inhibition

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020