

In vitro Antibacterial Activity of *Hibiscus rosa sinensis* leaf extracts against some pathogens
associated with Urinary Tract Infections

by

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ABSTRACT

In vitro Antibacterial Activity of *Hibiscus rosa sinensis* leaf extracts against some pathogens associated with Urinary Tract Infections

The *in vitro* antibacterial activity of *Hibiscus rosa sinensis* leaf (methanolic, dichloromethne, ethyl acetate, n-hexane, and aqueous) extracts were studied against gram negative (*Escherichia coli* and *Pseudomonas aeruginosa*) and gram positive (*Streptococcus faecalis*) bacteria. The methanolic extract was subjected to sequential liquid-liquid extraction using solvents of varying polarity and concentrations. Out of the 5 extracts, methanolic and dichloromethane extracts exhibited the highest antibacterial activity as measured using the zone of inhibition. This was followed by ethyl acetate and n-hexane extracts. At 200 mg/ml concentration, all extracts were considered active when tested with *E. coli* and *S. faecalis*, and were partially active against *P. aeruginosa*. The aqueous extract was inactive towards the three bacteria. The 200 mg/ml concentration showed no significant difference when compared with the positive control, amoxicillin (12.51µg/ml). This shows that *Hibiscus rosa sinensis* exhibit a promising antibacterial activity.

Phytochemical analysis of the active fraction- the methanolic extract, showed the presence of alkaloids, tannins, glycosides, saponins, steroids, flavonoids, terpenoids, and

antraquinones. These bioactive components could be responsible for the antibacterial activity of *Hibiscus rosa sinensis* leaf extracts.