

## Antibacterial Effect of Aquous Extract of Root of *Calamus Rotang*

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*Calamus rotang* is climber and it is classified under palmae family. It has antipyretic, tonic, vermifuge, astringent and anticancerous properties. In traditional medicine the root of *Calamus rotang* has been used against many human disease, oral diseases gum bleeding and apthous ulcer, in form of decoction for gargling. Root decoction is used internally for vatha diseases and fever. The aim of the present study was to evaluate the antibacterial effect of root of *Calamus rotang* on selected human pathogenic bacteria. Dried root powder of *Calamus rotang* was extracted with sterile water. This extract was assessed for its antibacterial effect by agar well diffusion method on *Pseudomonas aeruginosa*, *Klebiella sp*, *Staphylococcus aureus*, *Escherichia coli*. Culture plate was prepared by inoculating  $10^6$  cells of bacterial inoculum and mixing with sterile nutrient agar medium and was allowed to set. Well of 8 mm of diameter was made on it with using cork borer and (50mg/100 $\mu$ l) of extract was introduced into the well. Streptomycin(50 $\mu$ g/100 $\mu$ l) was used as standard. The mixture of acetone and sterile water (3:7) was used as control. Experiment was repeated thrice and mean value was calculated. The diameter of zone of inhibition was measured and the antibacterial activity after 24 hours incubation at 37°C was recorded. The data revealed that the extract possesses the ability to inhibit the all test organism and the inhibitory effect was found to be high on *Klebiella sp* and low on *Pseudomonas aeruginosa*. The effect of this extract on both *Staphylococcus aureus* and *Escherichia coli* was almost equal. The experimnet done with the standard antibiotic, Streptomycin, showed higher inhibitory effect against *klebsiella sp* followed by *pseudomonas aeruginosa*, *Escherichia coli*, and *Staphylococcus aureus*. Surprisingly the inhibitory effect of 50 mg/100 $\mu$ l root of *Calamus rotang* on *Staphylococcus aureus* and *Escherichia coli* was almost equal to the inhibitory effect of 50mg/100 $\mu$ l Streptomycin. In order to address the effect of active pure molecule of root of *Calamus rotang* further isolation and purification of this extract and characterization of pure molecule should be done.

**Key words:** Calamus rotang, Aquous Extract, Antibacterial effect.