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### ***In vitro* Antibacterial Activity of the Essential oil from *Artemisia wallichiana* Besser**

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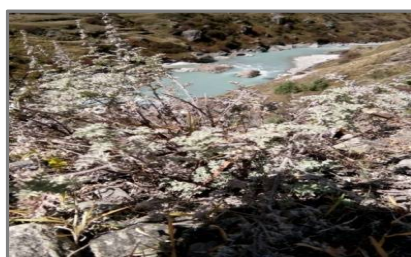
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#### **ABSTRACT**

*Artemisia wallichiana* Bess. (Family Asteraceae) grow wild in the central Himalayan region of Uttarakhand, India at an altitude range of 2500m. The emergence of new infections and increase of bacterial drug resistance has prompted interest for the development of new antibacterial agents from natural sources. This study is an attempt to assess the therapeutic potential of plant constituents as new antimicrobial drugs. Antibacterial activity of the oil sample was conducted against 11 bacterial strains using disc-diffusion method. The essential oil showed a broad spectrum of antibacterial activity against both the human and plant pathogenic bacteria. The oil showed the maximum activity against human bacterial strain *P. aeruginosa* (8.33 mm, MIC >100  $\mu\text{L mL}^{-1}$ ) followed by *K. pneumonia* (7.33 mm, MIC >100  $\mu\text{L mL}^{-1}$ ) and *S. typhimurium* (7.33 mm, MIC >100  $\mu\text{L mL}^{-1}$ ) while modest activity was observed against *B. subtilis* (6.33 mm MIC >100  $\mu\text{L mL}^{-1}$ ). Thus, it indicated the importance of this plant as natural agents for the treatment of infectious diseases caused by respective bacteria.

#### **Graphical Abstract**



**Keywords:** *Artemisia wallichiana*, Essential oil, Antibacterial activity, Disc-diffusion method.

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