

## Antibacterial activity of *Plantago major L* and *Laurus nobilis* extracts on some bacteria

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**Introduction:** Since synthetic antibiotics can cause the resistance microorganisms and have a high cost and exhibit side effects to human health, scientific are investigating an alternative method for treatment. During the last decades, natural products including medical plants are gaining attractiveness as an alternative therapy in treatment of various bacterial infections. The purpose of this study was to investigate the antibacterial effect against *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae*, *Enterococcus faecalis*.

**Methods:** Extracts prepared with 70 % ethanol concentration from *Plantago major L* and *Laurus nobilis* plants. Both extracts were tested for antibacterial activity against four gram negative and gram positive pathogens of clinical origin using well diffusion and micro broth dilution methods.

**Results:** It was found that *Plantago major L* extracts exhibited higher antibacterial activity than *Laurus nobilis* extract. Ethanol extract of *Plantago major L* and *Laurus nobilis* showed the highest inhibition zone and significant bactericidal activity against *Staphylococcus aureus* and *Enterococcus faecalis* while the ethanol extracts showed weak antibacterial activity against *Escherichia coli* and *Klebsiella pneumoniae*. *Plantago major L* and *Laurus nobilis* presented the lowest MICs against *Staphylococcus aureus* (6.25mg/ml and 25mg/ml respectively).

**Conclusion:** The results suggest that the extract of *Plantago major L* and *Laurus nobilis* could be considered as potentially effective antibacterial agent against *Staphylococcus aureus* and *Enterococcus faecalis* and could be considered as a potential sources of new antimicrobial agent.

**Keywords:** *Klebsiella pneumoniae*, *Escherichia coli*, *Staphylococcus aureus*, *Enterococcus faecalis*, *Plantago major L*, *Laurus nobilis*, medical plants