

## Comparison of antibacterial properties of *Mentha longifolia* L. hudson var. chlorodictya rech .f. cultivated in Sabzevar and Gorgan.

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**Background and Aims:** Traditionally, plants application in the treatment of diseases has deep roots in human history. The antimicrobial activity of plant extracts in the laboratory is studied on Gram-positive and negative strains of human infections. The mint family plants have antimicrobial properties. The present study was designed to explore antibacterial properties *M. longifolia* L. cultivated in two regions of Sabzevar and Gorgan.

**Methods:** In this study, different concentrations of ethanol and aqueous extracts of leaves and flowers of *M. longifolia* L. of Sabzevar and Gorgan were studied on *Shigella dysenteriae* RI 366 and *Klebsiella pneumonia* ATCC 10031 bacteria. Antibacterial effects were evaluated by the agar disk diffusion method and minimum inhibitory concentration (MIC) method. Disk of ceftriaxon was used as positive control. Each experiment was repeated three times.

**Results:** The tested bacteria were resistant against ethanol and aqueous extracts in the agar disk diffusion method and ethanol extracts in the MIC method. *M. longifolia* L. did not show a significant antibacterial effect.

**Conclusions:** The results showed that bacteria growth were observed in all the dishes and test tubes. So, *M. longifolia* L. has not antibacterial activity and inhibitory effect on tested bacteria. In next researches, it is needed to perform more studies in *in vivo* conditions.

**Keywords:** Mint; Medicinal plants; *Mentha longifolia* L.; Antibacterial activity