

P21 & FP – Phytochemistry and antibacterial activity of the essential oil of *Mentha suaveolens* Ehrh

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During an ethnopharmacological survey carried out in the Khénifra region, we have noted that the most widespread and most treated pathologies are the digestive disorders. *Mentha Suaveolens* Ehrh is one of the herbs used to relieve these infections. Indeed, this study aims to confirm the traditional know-how of the population surveyed through the evaluation of the antibacterial activity of the essential oil, the identification of the chemical composition and the isolation of the active ingredients responsible for this activity by chromatographic and spectroscopic methods (CCM, CG, SM, RMN ¹H, RMN ¹³C et RMN-DEPT ¹³C).

Essential oil extracted from the aerial part of *Mentha Suaveolens* Ehrh, is obtained by hydrodistillation in a Clevenger type apparatus, its yield is 4.32% relative to the dry matter.

We selected nine microorganisms responsible for digestive infections to achieve the antibacterial activity of the essential oil of *Mentha Suaveolens* Ehrh, it is *Klebsiella pneumoniae*1, *Escherichia coli* (Résistante et Sensible), *Staphylococcus aureus* BLACT, *Enterococcus faecalis*, *serratia fonticola*, *Acinétobacter baumannii*, *klebsiella oxytoca* and *Enterobacter aerogenes*, *P.aeuroginosa*. The essential oil of *mentha suaveolens* marked a strong activity with respect to *Klebsiella pneumoniae*, *Escherichia coli* (resistance and sensible), *Enterococcus faecalis*, *serratia fonticola*, *Acinétobacter baumannii* and *klebsiella oxytoca*, however, it is inactive against *Staphylococcus aureus* BLACT, *Enterobacter aerogenes* and *P.aeuroginosa*. The essential oil of *Mentha Suaveolens* Ehrh showed a very strong antibacterial power compared to the standard antibiotics Fox 30, TIM 58 and PRL 100.

The analysis performed by GC / MS has allowed us to identify the chemical composition of the essential oil extracted from *Mentha Suaveolens* Ehrh, the major components of this HE are Piperitenone oxide (75.50%), piperitenone (5.55%), beta-caryophyllene (2.02%), limonene (1.68%), terpinen-4 -ol (1.27%) and pulegone (1.05%).

The antibacterial activity of the marked *Mentha Suaveolens* Ehrh essential oil is related to its chemical composition, Indeed, this species was fractionated on an open column of silica, using an eluent (hexane / ether), of increasing polarity with a view to isolating Piperitenone oxide (75.50%) and piperitenone (5.55%).

Key words: *Mentha Suaveolens* Ehrh, essential oil, chemical composition, antibacterial activity, antibiotic.