



**BM-A8**

**Evaluation of antibacterial activity of essential oil of rosemary**

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**Abstract**

Rosemary (*Rosmarinus officinalis* L.) is a medicinal plant; it is interesting to know its therapeutic virtues, in order to replace synthetic products with bioactive molecules, which are plant-based. This study describes the study of the chemical composition and antibacterial activity of essential oil (EO) of *Rosmarinus officinalis* L. The essential oil obtained by hydrodistillation using a Clevernger type device was analyzed by CG and CG-MS. The antibacterial activity of EO was studied by the disk diffusion method and the agar dilution method in order to determine the minimum inhibitory concentration (MIC) and the minimum bactericidal concentration (MBC). The results obtained from this work show that the EO yield of rosemary was respectively 1.6%. The main compounds present in the essential oil of *R. officinalis* are 2-Bornanone (19.47%), Eucalyptol (18.58%),  $\alpha$  Pinene (9.14%) and Camphene (5.68%). The CMI and CMB values expressed by the essential oil of *R. officinalis* were identical to those of *Pseudomonas fragi* and *Staphylococcus epidermidis* (CMI equal to 0.37% and CMB > 3 %) and for *Escherichia coli* were 0.75% (CMI equals CMB). We concluded that this work has shown that the use of *R. officinalis* as an antimicrobial agent, thus, the oil of *R. officinalis* has proven to be an alternative to conventional antibiotics for the fight against antibiotic resistance.

**Keywords:** *R. officinalis* L., Essential oil, Chemical composition, CMI, CMB.