

**TITLE:** DETERMINATION OF ANTIMICROBIAL ACTIVITY OF *BRASSICA RAPA L.* HEXANIC FRACTION FACE TO *STAPHYLOCOCCUS AUREUS* AND *ECHERICHIA COLI*.

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**ABSTRACT:**

*Staphylococcus aureus*, is one of the largest nosocomial pathogens in hospital infections and *Escherichia coli*, the main agents causing urinary tract infections. Resistance of bacteria to antimicrobials has increased in recent years, this was due to the development of increasingly resistant strains. Therefore, therapeutic methods appear as a new alternative. Brassicaceae oil is known to contain glucosinolates ( $\beta$ -thioglucoside-N-hydroxysulphates), a secondary metabolite that can exhibit various biological activities, such as nematocide, insecticide, antiprotozoal, anticancer, antifungal and antimicrobial. *Brassica rapa L.*, popularly known as turnip, has up to 47% oil and serves as an important source of raw material for industrial use. The objective of this work was to determine the minimum inhibitory concentration (MIC) of the hexanic extract of *Brassica rapa L.* against *Staphylococcus aureus* and *Escherichia coli*. To prepare the extract, the turnip greens were dried at room temperature, crushed and pulverized, then subjected to extraction by maceration in ethanol (4 times). The ethanolic extract was dissolved in methanol/water and subjected to liquid-liquid extraction with *n*-hexane, after which all solvent was removed. Strains of *Staphylococcus aureus* ATCC EKQ27664 and *Escherichia coli* ATCC 25922 were used for the antimicrobial activity test. The methodology used was microdilution in broth, and MIC was performed by means of microplates. The concentrations assessed were 0.048 to 25 mg/mL being dissolved in 10% DMSO. The test had a sterility control, positive control and growth control. The results indicated the inhibition of *Staphylococcus aureus* ATCC EKQ 27664 and *Escherichia coli* ATCC 25922 by the hexane fraction of turnip seed at the concentration 12.5 mg/mL. It was concluded that the hexanic fraction of the *Brassica rapa L.* grain has antimicrobial activity against *Staphylococcus aureus* ATCC EKQ 27664 and *Escherichia coli* ATCC 25922.

**Keywords:** antimicrobial, Brassicaceae, *Staphylococcus aureus*, glucosinolates.