

TITLE: EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF Cu-BASED METALLOCOMPOUNDS AGAINST *Escherichia coli* AND *Pseudomonas aeruginosa*

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ABSTRACT:

The major microorganisms associated with infections of high morbidity and mortality evolved into multidrug-resistant forms (MDR) subsequent to the indiscriminate use of antibiotics. *Escherichia coli* and *Pseudomonas aeruginosa* are commonly refractory to antibiotic therapy. Increase of resistance of these microorganisms to the available antimicrobial drugs demands the prospection of novel compounds with antimicrobial activity. Thus, the objective of this study was to evaluate the effect of Cu-based metallocompounds named NAT26, NAT28 and NAT 30 against planktonic cells of *Escherichia coli* ATCC11303 and *Pseudomonas aeruginosa* ATCC10145. To evaluate the antibacterial activity of the compounds, the bacteria were incubated for 24 hours at 37°C with the compounds diluted in concentrations ranging from 7.8 to 500 µg/mL. The susceptibility of the microorganisms to the compounds was evaluated by minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) tests. The compounds showed MIC and MBC values of 500 µg/mL against all microorganisms studied. Therefore, the metallocompounds NAT26, NAT28 and NAT30 may represent a therapeutic alternative for nosocomial infections associated with *Escherichia coli* and *Pseudomonas aeruginosa* MDR.

Keywords: Metallocompounds; copper; antimicrobial resistance.

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