TITLE: ANTIBIOTIC ACTIVITY OF *Wickerhamomyces anomalus* MYCOCINS AGAINST MULTIDRUG RESISTANT *Acinetobacter baumannii* strains

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ABSTRACT:

Mycocins are extracellular glycoproteins secreted by killer yeast, with inhibitory activity on sensitive cells. These yeasts has been used in several biotechnological branches, mainly in the control of contaminating microorganisms. *Acinetobacter baumannii* has caused high mortality rate due severe nosocomial infections with a high level of antibiotic resistance available in the market. Therefore, the objective of this work was test the antibiotic action of *Wickerhamomyces anomalous* mycocins on multidrug resistant strains of *Acinetobacter baumannii.* The mycocins were obtained from culture supernatant (1 % peptone, 2 % glucose, 1.92 % citric acid and 3.48 % bibasic potassium phosphate, pH 4.7, 25 °C for 5 days) from three environmental strains of *W. anomalus* (WA40, WA45 and WA92) and tested against thirty strains of multidrug resistant *A. baumannii* isolated from clinical samples. Evaluating the susceptibility of *Acinetobacter baumannii*, the mycocins in supernatant were tested at different dilutions (pure, 1: 2, 1: 4, 1: 8 and 1:16) and tested in broth microdilution assays. The supernatant of WA45 showed highest antibiotic activity, inhibiting 93 % of the *A. baumannii* strains until the 1:8 dilution. According to the results, a high mycocin antibiotic action was observed in culture supernatant of *Wickerhamomyces anomalus* on strains multidrug resistant of *Acinetobacter baumannii*.

Keywords: mycocins, multidrug-resistant, antibiotic activity

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