

**TITLE:** ANTIBIOFILM ACTIVITY OF THE EXTRACT *Hypericum brasiliense* ABOUT *Staphylococcus pseudintermedius* ISOLATES OF CANINE OTITIS IN THE STATE OF RIO DE JANEIRO.

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**ABSTRACT:**

Bacterial biofilms are a complex and structured community of microorganisms, surrounded by an extracellular matrix of polysaccharides. The biofilm may be adhered to inert surfaces, and its formation may hinder the eradication of bacteria through the use of usual antimicrobials in clinical practice. *Staphylococcus* sp. are biofilm forming bacteria associated with a wide variety of skin and soft tissue infections. In dogs are the main cause of pyoderma and otitis, with *Staphylococcus pseudintermedius* being the most isolated species in these cases. The genus *Hypericum* has several species with proven antimicrobial activity, such as *H. brasiliense*, which has already shown promising results in previous studies. The present study aimed to investigate the activity of *H. brasiliense* against strains of *S. pseudintermedius* and on the formation of biofilms isolated from dogs affected by pyoderma or otitis. Five samples of *S. pseudintermedius* were seeded in TSA and incubated at 37°C for 24 hours. The Minimum Inhibition Concentration Determination (MIC) was determined by microdilution in broth. The MIC is a test that enables the determination of the lowest concentration of the derivative that inhibits the visible growth of a bacterial culture. The test was performed visually by the use of Resazurin 0.01% dye, where the pink color indicates bacterial growth and the blue color indicates absence of growth. The concentration used was 512 to 4 µg/ml. Subsequently, the Minimum Bactericidal Concentration Test (MBC) was performed, defining the lowest concentration capable of eliminating 99.9% of the microorganisms. The extract obtained MIC results for *S. pseudintermedius* strains, between 8 and 64 µg/mL and MBC between 32 and 128 µg/mL. The *in vitro* antibiofilm activity of the extract against the same strains was evaluated by the protocol of SILVA et al. (2010) with adaptation. The results with the extract of *H. brasiliense* suggest good activity in the fight against biofilm formation. As conclusion, the extract of *H. brasiliense* showed antimicrobial action and antibiofilm in formation (between 8 µg/mL and 32 µg/mL), demonstrating prospects for the development of new drugs for therapy of infections caused by resistant bacteria and biofilm-forming bacteria.

**Keywords:** biofilm formation, extract activity, MIC, MBC.

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