

GOSSYPIUM HIRSUTUM L. INHIBIT ECTO-PHOSPHATASE ACTIVITY OF FUNGI AND BACTERIA AND IMPAIR *FONSECAEA PEDROSOI* ADHESION TO EPITHELIAL CELL

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Cell surfaces contain enzymes whose catalytic site faces the extracellular medium referred as ecto-enzymes. Several plants extracts have been used for the treatment of diseases and seem to be involved with inhibition of microbial enzymatic activities. The aim of this study was evaluate the effect of *G. hirsutum* L. (cotton) aqueous extract in the acid ecto-phosphatase activity of different microorganisms and in *Fonsecaea pedrosoi* interaction to epithelial cells. For enzymatic assay 1×10^7 cells were incubated for 60 min at pH 5.5 in the absence or presence of 50µg of *G. hirsutum* and 5mM of *p*-nitrophenylphosphate. Our results demonstrated that the highest activity inhibition was observed to *Staphylococcus aureus*-MRSA (72.3%) followed by *Candida albicans* (47.7%), *F. pedrosoi* (46.0%), *Escherichia coli* (39.7%) and *Cryptococcus neoformans* (18.5%). Adhesion experiment showed that *G. hirsutum* extract was able to inhibit 42.5% the adhesion index of *F. pedrosoi* to Chinese Hamster Ovary epithelial cells when compared with control system. The modulation of ecto-phosphatase activity by medicinal plants is relevant since this enzyme is involved with cell differentiation and infection of host cells as previously demonstrated by our group in chromoblastomycosis (^aKneipp *et al.*, 2004).

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