



Iranian. J. Immunol. Volume 9, Supplement 1, April 2012

11th International Congress of Immunology & Allergy

• **The Immunomodulatory Effect of Florida Plorutus on Macrophage Response against Candida Albicans**
Farahnejad Z^{1*}, Ghazanfari T², Yousefi KH¹

¹Department of Mycology, School of Medicine, AJA University of Medical Sciences, Tehran, Iran,

²Immunoregulation Research center, Shahed University, Tehran, Iran

Background: The evaluation of immune responses is considered as a useful approach for proper diagnosis and appropriate therapeutic protocols in various diseases including infections, cancer, autoimmune, immunodeficiencies etc. An increase or decrease in immune parameters could be an important criterion of disease status. Immunomodulators are compounds capable to modulate different parts of immune responses. Herbal plants and fungi are considered as a significant source of immunomodulators. There are numerous studies indicating that serious and recurrent fungal infections are seen mostly in somehow immunodeficient patients, at the other hand candidal sepsis is followed by vigorous and harmful inflammatory responses. These points along with drug resistance of *Candida* and other fungal species encourage the attempts to find a useful immunomodulator. In the present study the immunomodulatory effect of *Florida plorutus* on innate immune response against *Candida* is considered. **Materials and Methods:** The extract and various fractions of *Florida plorutus* (R100, R50, R30, R10, R5 and F5) were prepared. Peritoneal macrophages of Balb/C mice were separated, washed, counted and cultured in 96-well microtiter plates. The extract and fractions were added at various concentrations to the wells, then the *Candida albicans* were added. Vital activity of macrophages were assayed using MTT. Statistical analysis using ANOVA and $P < 0.05$ were performed. **Results:** A statistically significant increase in macrophage total activity was observed at high concentrations of the extract and its fractions at macrophage to *Candida*. **Conclusion:** The results of this study indicates that the effect of the extract and its fractions is dose dependent with positive (increasing) effect at high concentrations and negative (decreasing) effect at low concentrations on total activity of macrophages.

Keywords: *Candida albicans*, *Florida plorutus*, macrophage.