Immunomodulatory effects of Aloe vera and its fractions on response of macrophages against Candida albicans

Author(s): Farahnejad, Z (Farahnejad, Zohreh); Ghazanfari, T (Ghazanfari, Tooba); Yaraee, R (Yaraee, Roya)


Abstract: Natural products are important resources in traditional medicine and have been long used for prevention and treatment of many diseases. Medicinal plants have immunomodulatory properties. Aloe is one of the herbal medicines widely used in natural treatment and alternative therapy for various types of diseases. Aloe vera has been shown to modulate the immune response. Macrophages have been shown to play an essential role as the first line of defense against invading pathogen. Candida albicans is a communal and opportunistic pathogen in humans. In this study, we investigated the effect of A. vera extract and its fractions on infected macrophages with C. albicans. Viability of intraperitoneal macrophages was evaluated by 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide (MTT) test. Cell viability of infected macrophages was increased by the extract and dose of some isolated fractions dependently. The extract as well as R100, R50, R30, and R10 fractions of A. vera significantly increased cell viability of macrophages in most doses. R5 and F5 fractions showed no significant difference in comparison with control group. Further studies in animal models and human are necessary to clarify the modulatory effects of A. vera on macrophage function. Isolation and purification of A. vera components are also needed to find out the effective molecules.

Accession Number: WOS:000296643200015
Document Type: Article
Language: English
Author Keywords: Aloe vera; immunomodulatory; cell viability; macrophages; Candida albicans
KeyWords Plus: ACEMANNAN; GEL; ACTIVATION; INFECTIONS; MICE
Reprint Address: Ghazanfari, T (reprint author), Shahed Univ, Immunoregulat Res Ctr, POB 14155-7435, Tehran, Iran.
Addresses:
1. Shahed Univ, Immunoregulat Res Ctr, Tehran, Iran
2. Shahed Univ, Dept Immunol, Sch Med, Tehran, Iran
3. AJA Univ Med Sci, Dept Med Mycol, Tehran, Iran
E-mail Address: tghazanfari@yahoo.com
Funding:
<table>
<thead>
<tr>
<th>Funding Agency</th>
<th>Grant Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iran National Science Foundation</td>
<td></td>
</tr>
</tbody>
</table>

Publisher: INFORMA HEALTHCARE, TELEPHONE HOUSE, 69-77 PAUL STREET, LONDON EC2A 4LQ, ENGLAND
Web of Science Categories: Immunology; Pharmacology & Pharmacy; Toxicology
Research Areas: Immunology; Pharmacology & Pharmacy; Toxicology
IDS Number: 843AC
ISSN: 0892-3973