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## Protective Effect of rhGM-CSF against *Candida albicans* Infection in Immunosuppressed Mice

### Key Words

rhGM-CSF

*Candida albicans*

Immunosuppressed mice

BRMs(biological response modifiers)

### ABSTRACT

This study was performed to investigate the protective effect of recombinant human granulocyte-macrophage colony-stimulating factor (rhGM-CSF) by assessment of its growth inhibitory activity against *Candida albicans* infection in mice. The optimal dose of rhGM-CSF for protection was 100 U/kg body weight. Interestingly, rhGM-CSF failed to directly stimulate the production of superoxide from peritoneal macrophages exposed to rhGM-CSF in mice. Analysis of the kinetics of peritoneal fluid in mice treated with rhGM-CSF indicated an increased ratio of macrophages. Enhancements of  $\gamma$ -interferon ( $\gamma$ -IFN) production and NK cell activity were also observed. These data suggest that ( $\gamma$ -IFN produced by GM-CSF is important as one aspect of the factors protecting mice against candidiasis. (N. Taipei J. Med. 2001; 3:55-64)

### INTRODUCTION

With recent increases in the numbers of immunocompromised patients, a concomitant increase in the incidence of opportunistic fungal infections has been reported.<sup>1</sup> In those immunocompromised hosts, reduc-

tion in the number of lymphocytes, monocytes, and polymorphonuclear leukocytes (PMN) or in the activity of these immunocompetent cells has been viewed as one of the most important predisposing factors, especially for most fungal infections.<sup>2,3</sup>

Considerable attention has been directed in recent

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