cells in the microwells of round-bottomed 96-well microplates. After a 4-h incubation, the supernatant from each well was collected, and the radioactivity was measured using a γ counter (LKB, Rack-gamma, Sweden). For calculation of specific lysis of Cr^{51}, the following formula was used:

$$\text{Specific lysis (\%)} = \frac{\text{cpm of test group - cpm of spontaneous release}}{\text{cpm of complete release - cpm of spontaneous release}} \times 100\%$$

γ-IFN Assay

γ-IFN titer was determined after intraperitoneal GM-CSF (100 U/mouse) treatment on days 0, 4, 6, and 7, using a mouse γ-IFN ELISA test kit (Genezyme, Cambridge, MA, USA).

Data Analysis

Data are expressed as the mean ± standard deviation. Repeated-measures ANOVA was used to analyze the statistical significance of differences among the control and test groups; $p < 0.01$ was considered statistically significant.

RESULTS

Effect of GM-CSF on *C. albicans* Infection

We first determined the optimal doses of GM-CSF against systemic *C. albicans* infection in mice. Four graded doses (1, 10, 100, and 1000 U/mouse) of GM-CSF were i.p. administered for 7 days before *C. albicans* infection. GM-CSF i.p. at 100 U/mouse was found to be the most effective dose, and dose-response relationships between the drug and survival rates were noted as shown in Fig. 1. Most non-treated control mice died between days 4 and 6 after infection. Our results indicate that GM-CSF i.p. treatment at 100 U/mouse is most effective when given for 7 days before *C. albicans* infection.

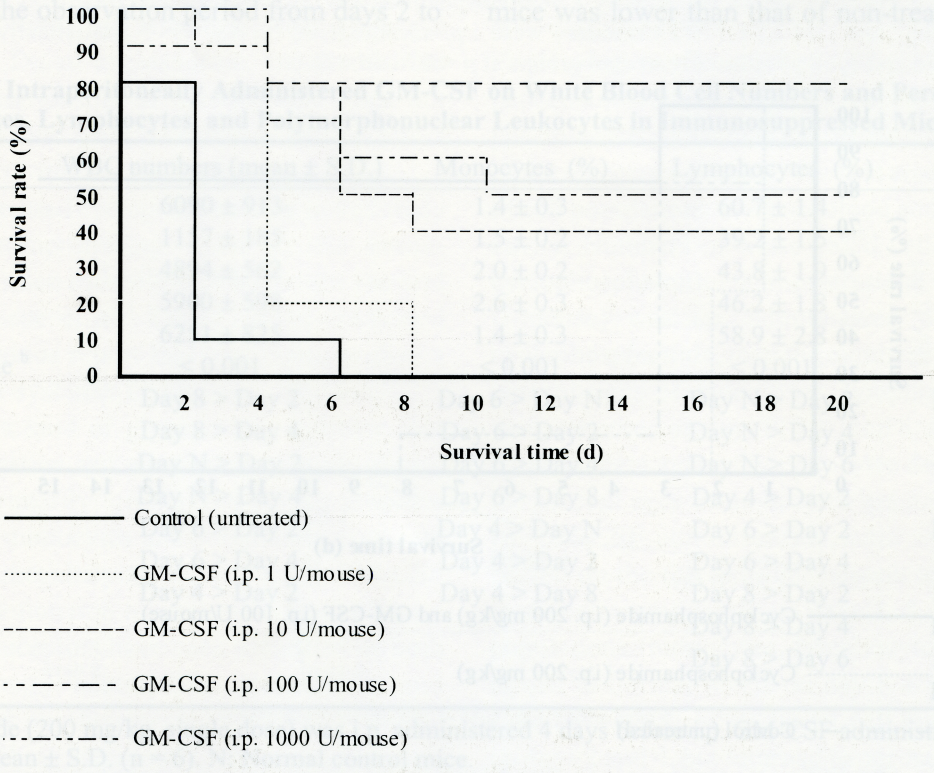

Fig. 1. Anticandidal dose-response of i.p. GM-CSF. GM-CSF was i.p. administered at various doses for 7 days before *C. albicans* infection.