To the Editor:

Cesano et al. recently presented data on the use of a major histocompatibility complex nonrestricted cytotoxic cell line (TALL-104) for purging of leukemia cells from marrow. The concept of using cytotoxic cells for marrow purging is not novel, as Long et al. and Ades et al. had previously demonstrated that effective purging can be achieved using interleukin-2 (IL-2)-generated LAK cells. Further, data have been presented on the purging of leukemia from blood with the cytotoxic cell line NK-92, which has almost identical surface receptors and functional characteristics as LAK cells. A comparative analysis by Yan et al. in fact, confirmed that NK-92 cells are more cytolytic than TALL-104 cells and also kill a broader spectrum of malignant targets.

NK-92 cells, like TALL-104 cells, do not lose their cytotoxicity after radiation; however, they cease to proliferate. They also do
Table 1. Purging Effect of NK-92 Cells

<table>
<thead>
<tr>
<th>E:T ratio</th>
<th>% Survival of K562 neo'</th>
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<tbody>
<tr>
<td>10:1</td>
<td>0</td>
</tr>
<tr>
<td>5:1</td>
<td>0</td>
</tr>
<tr>
<td>1:1</td>
<td>0</td>
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<tr>
<td>0.1:1</td>
<td>75 ± 21</td>
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Normal peripheral blood mononuclear cell (PBMC) preparations were spiked with 10% K562 cells, which had been transfected with the gene conferring resistance to neomycin (K562 neo'). NK-92 cells (irradiated with 10 cGy) were cocultured with the PBMC/K562 neo' suspension at various effector:target ratios. After 4 hours, all cells were plated in methylcellulose containing G418 and the surviving colonies were counted after 7 days. Only K562 neo' cells not killed/purged by NK-92 cells will grow under these culture conditions, providing a reproducible quantification for surviving K562 neo' cells. No IL-2 was added to these cultures. The mean ± SEM of three experiments is presented.

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Like Cesano et al., we believe that purging with cytotoxic cells, whose production can easily and reproducibly be scaled up, should be exploited in the clinical setting.

REFERENCES


Purging of malignant cells from blood after short ex vivo incubation with NK-92 cells [letter; comment]

HG Klingemann and B Miyagawa