Supplemental Figures.



**Supplemental figure 1.**

Cytolytic activity increases with purification. The CD4+ population was isolated from the 6-day LAK culture with antibody-coated magnetic beads, and the CD4+CD25+subset was similarly isolated from CD4+. Both were incubated with K562 in standard assays at different effector–target cell ratios.



**Supplemental figure 2.**

Gating strategy for isolating the lymphocytes population from PBMC cells for Figure 1. A. Lymphocytes gating. B. CD3CD4 gating. E2 – double positive cells. C. CD3CD8 gating. E2-double positive cells.

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**Supplemental figure 3.**

Gating strategy for isolating the lymphocytes population from CD4+CD25+ T lymphocytes subpopulation, purified on magnetic beads, for Figure 3. A. Lymphocytes gating. B. Staining by the FITC-conjugated anti-rabbit antibodies.



**Supplemental figure 4.**

Gating strategy for isolating the lymphocytes population from PBMC cells.



**Supplemental figure 5.**

The CD16+CD56+ population was isolated from the 4-day LAK culture with antibody-coated magnetic beads. Cells were incubated with K562 in standard assays with 1hour preincubation with antibodies to FasL, Fas, Granzyme B.



**Supplemental figure 6.**

The CD3+CD8+ population was isolated from the 4-day LAK culture with antibody-coated magnetic beads. Cells were incubated with K562 in standard assays with 1hour preincubation with antibodies to FasL, Fas, Granzyme B, Tag7 and Hsp70.



**Supplemental figure 7.**

Flow cytometry of FoxP3 intracellulary stained with the mouse anti-FoxP3 antibodies following by the PE-conjugated anti-mouse antibodies. A. the CD4+CD25+CD127+ population stained by PE-conjugated anti-mouse antibodies. B. the CD4+CD25+CD127+ population stained with the mouse anti-FoxP3 antibodies following by PE-conjugated anti-mouse antibodies. C. total PBMC population stained with the mouse anti-FoxP3 antibodies following by PE-conjugated anti-mouse antibodies.



**Supplemental figure 8.**

Gating strategy for isolating the Tag7+ lymphocytes population from PBMC, purified on magnetic beads. A. Lymphocytes gating. B. Staining with the mouse anti-Granzyme B antibodies following by PE-conjugated anti-mouse antibodies.