## Abstract

**[Objective]** $CD8^+$ T cells from HIV-1-infected individuals possess HIV-1 suppressive activity in both MHC-I-restricted and -unrestricted manner. In addition, alloantigen-stimulated $CD8^+$ T cells can suppress HIV-1 replication by MHC-I-unrestricted and cell contact-dependent mechanism, but its mechanism is not fully understood. The aim of this study is to elucidate the suppressive mechanism for HIV-1 replication in $CD4^+$ T cells induced by alloantigen-stimulated $CD8^+$ T cells.

**[Methods]** Alloantigen-stimulated $CD8^+$ T cells (Raji-$CD8^+$ T cells) were cultured with autologous HIV-1-infected or -uninfected $CD4^+$ T cells. PHA-stimulated $CD8^+$ T cells were used as control. Nuclear and cytoplasmic extracts were prepared from the isolated $CD4^+$ T cells, and used for the analysis of transcription factors by EMSA and Western-blotting. I also analyzed surface molecules on Raji-$CD8^+$ T cells by flowcytometry to identify the HIV-1 suppressive molecule.

**[Results]** Raji-$CD8^+$ T cells suppressed HIV-1 replication, and inhibited NF-κB p65 and Ets-1 nuclear translocation in HIV-1-infected $CD4^+$ T cells in a cell contact-dependent manner. I found that NF-κB and Ets DNA-binding activity were reduced, and nuclear translocation of phospho-NF-κB p65 (Ser276) and Ets-1 was inhibited in $CD4^+$ T cells cultured with Raji-$CD8^+$ T cells. ICAM-1 expression was higher on Raji-$CD8^+$ T cells than on PHA-$CD8^+$ T cells. Neutralization of ICAM-1 on $CD8^+$ T cells or stimulation of LFA-1 on $CD4^+$ T cells did not affect the nuclear translocation of NF-κB p65, suggesting that ICAM-1 was not a primarily responsible molecule for the inhibition of HIV-1 replication.

**[Conclusion]** Inhibition of nuclear translocation of phospho-NF-κB p65 (Ser276) and Ets-1 plays important roles in suppression of HIV-1 replication in $CD4^+$ T cells co-cultured with alloantigen-stimulated $CD8^+$ T cells.