## SL802

### Quantitatively and qualitatively unbalanced signaling differentiates T cell receptor(TcR)-mediated apoptosis and activation.

Sang-Kyou Lee

Dept. of biotechnology, College of Engineering and Bioproduct Research Center
Yonsei University, Seoul 120-749

T lymphocyte activation consists of muiti signalling events eventually, leading to cellualr proliferation by the control of cytokine gene expression both Fas and its ligand, and become susceptible to cell death as a consequence of Fas llgation. To investigate the functional specificity of signaling chain for activation or apoptosis of T cell, chimeric molecules CD8-$\delta$, CD8-lg$\alpha$, CD8-lg $\beta$, CD8-Fas, CD8-lch which contain the extracellular and transmembrane domains of the human CD8$\alpha$ molecule and the cytosolic domain tail if TcR$\delta$ chain, lg$\alpha$ or lg$\beta$ subunit of BcR, Fas, Ice, Ich were constructed. Jurkat transfectants were generated expressing high level of CD8 chimeric molecules on their surface. Upon stimulation of transfectants with anti CD8 mAb OKT8, early and late signaling events of T cell activation such as tyrosine phosphorylation of various cytoplasmic sustrates and induction of CD69 caspase involved in T cell apoptosis and DNA frangmentation through these chinera were analyzed with the same strategy chimeric molecules CD8-Fas, CD8-FasL, CD8-lch, CD8-Bclx were expressed either transiently or stably in Jurkat T cell line and molecular dissection of signaling cascade thought these chimeras were examined. Taken together, these results suggest molecular mechanism of differential signaling pathways leading to T cell activation or apoptosis.