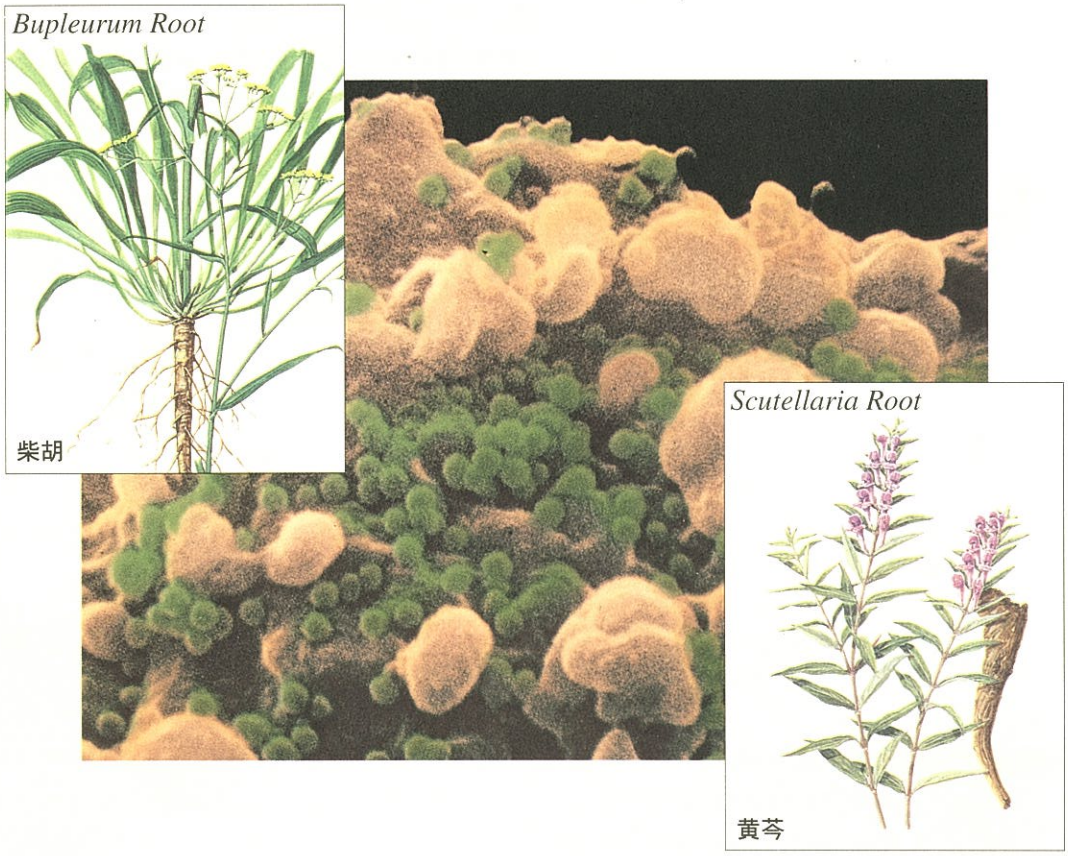
Tenth International Conference on AIDS

International Conference on STD

Satellite Symposium

New Facet of Herbal Medicine in The Treatment of HIV Induced Diseases



Chairman

Tohru Tokunaga
National Institute of Health, Tokyo, Japan

Ivan Hirsch
Institut National de la Santé et de la Recherche Médicale,
Mareseille, France

DATE：August 8 (Mon), 1994　18：00～20：30
PLACE：Yokohama Grand Intercontinental Hotel, 1F「Silk」

4. Inhibition of HIV-1 LTR-directed Gene Expression by *Sho-Saiko-to* and Baicalin

Kenji Watanabe, Unna Venkatachalam
and Steven C. Miller

Department of Cell and Molecular Biology, SRI International,
CA, USA

Evidence is accumulating that oxidative stress brought about by the production of reactive oxygen intermediates (ROIs) may play a critical role in the progression to AIDS.Because of their potential as therapeutic agents,a number of antioxidants have recently been evaluated for anti-HIV activity.The ability of the antioxidant to inhibit the production of ROIs is thought to be important in the mechanism of action.For example, the activation of the transcription factor NF-kB which stimulates HIV gene expression by binding to the kB elements in the promoter region of the viral long terminal repeat (LTR), has been shown to be inhibited by some antioxidants.

Kampo represents a therapeutic system of healing with natural herbs. *Sho-Saiko-to* (TJ-9), an herbal extract,is an example of a Kampo medicine therapy traditionally used.In the present study we have evaluated the ability of TJ-9 and baicalin (a flavonoid in the *Sho-Saiko-to* extract) to act as antioxidants and inhibit the induction of HIV-1 LTR-directed reporter gene expression in the human promonocyte cell line U937.For these studies U937 cells were electroporated with a DNA construct containing the bacterial chloramphenicol acetyl transferase (CAT) gene under the control of the HIV-1 LTR.24h postelectroporation,replicate cultures were treated with 12-O-tetra-decanoylphorbol-13-acetate (TPA) to activate HIV-1 LTR-directed CAT gene expression. Samples were harvested after 24h and the level of HIV-1 LTR-directed CAT protein induced by TPA in the presence and absence of the antioxidants was measured in cell extracts.Equal amounts of protein were assayed for CAT activity or protein with a CAT ELISA.Using this approach we have shown that *Sho-Saiko-to* and baicalin inhibit in a dose-dependent manner the induction of HIV-1 LTR-directed CAT expression. Our results suggest that the antioxidant activity of these Kampo agents may have potential therapeutic use for AIDS patients.