## Study of fetal skin maturation with dominantnegative retinoic acid receptor transgenic mice

## Toshihiro Tanaka

Faculty of Medicine, Kyoto University

Retinoic acid plays an important role in the development of the organs, including skin. We constructed a cDNA functioning as a dominant-negative styled retinoic acid receptor and introduced it into mice. The resultant transgenic mice skin revealed a marked reduction of skin maturation. Macroscopic examination and microscopic examination of these transgenic mice showed thinning of the epidrmis with the loss of primary wickels and rete ridge formation of dermo-epidermo junction. These findings indicate that the retinoic acid act as a strong physiological maturation factor of the skin. Keratins and filaggrin were analyzed as differentiation marker. SDS-polyacrylamide gel electrophoresis of purified keratin revealed normal amount of keratin 1, 10, 5, 14 were expressed both controls and transgenic mice skin Ectopic expression of keratin 6 and 16 were detected in transgenic mice skin. Although, the expression of keratin occurs in transgenic mice, the expression pattern of these keratin were completely different to those of control mice as detected by immunofluorescence study. A complete depletion of fillagrin was observed with this technique. All these data indicate that retinoic acid plays an important role in the epidermal layer formation in fetal skin development.