

D123 Inhibition of retinoic acid synthesis retards salamander limb regeneration

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Retinoids including retinoic acid (RA) are important in the process of limb development and regeneration. Especially, in the regenerating salamander limbs, RA enhances dedifferentiation state. However, it is not known whether RA is involved from the beginning of limb regeneration or it simply upregulate dedifferentiation. To know the roles of RA in regeneration process and the relationship between the regeneration and the dedifferentiation, we microinjected the inhibitor of RA synthesis, disulphiram, intraperitoneally to the salamander larvae, *Hynobius leechii*, with the time course of 0, 1, 2, 4, 8 days after amputation of forelimbs at stylopodium level. Histological and morphological analyses as well as some molecular approach showed that the regeneration rate of disulphiram-treated group was much slower than that of the control group. Interestingly, the retardation of regeneration by disulphiram treatment was pronounced when the inhibitor was given immediately after amputation. The result indicates that RA is involved in the regeneration process from the very early stage of regeneration.

D124 Tissue- and Reproductive Organ-specific Expression of Protease Nexin-1(PN-1) in Sprague-Dawley Rat

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Protease Nexin-1 (PN-1) inhibits the activity of several serine proteases including thrombin, urokinase (uPA)-type plasminogen activator and trypsin. Tissue- and reproductive organ-specific mRNA levels of the PN-1 were investigated in Sprague-Dawley adult rat. PN-1 mRNA expression in rats was found in brain (forebrain, hindbrain), heart, liver, lung, muscle, spleen, epididymus, seminal vesicle, vas deferens, testis, ovary and oviduct. The level of PN-1 mRNA in male and female among the tissues was the highest in forebrain of the female. PN-1 expression in reproductive organs was found only in ovary and oviduct. These results suggest that PN-1 expression was dependent on the sex and may be related to oogenesis and early embryogenesis.