F826 Analysis of role of the *D-raf* in the UV-mediated signal transduction pathway

Hye-Yeong Ha*, and Mi Ae Yoo
Department of Molecular Biology, Pusan National University

Raf-1 kinase, a cytoplasmic Ser/Thr protein kinase, is activated upon treatment of cells with a variety of growth-stimulating agents, including ultraviolet light(UV) in animal cells. *Drosophila* homologue of c-*raf-1*, *D-raf* revealed multiple functions in regulation of cellular differentiation and proliferation during the development. In this study, we investigate function of the *D-raf* gene in UV-responsive events by using hypomorphic mutant $D\text{-}raf^{C110}$ and *D-raf-lacZ* transgenic flies. Survivals of wild-type and $D\text{-}raf^{C110}$ after UV irradiation were examined. Expression of the *D-raf* gene after UV-irradiation was examined by quantitative analysis and histochemical X-gal staining for β-galactosidase(β-gal) activity. Expression of the *D-raf* gene increased after UV-irradiation, showing the highest induction at 16 hr after UV-irradiation.

F827 Spatiotemporal Expression Pattern of Chordin, a Neural Inducer in Zebrafish Embryos.

Hyunjoo Ro and Myungchull Rhee
Department of Biology, Chungnam National University, Taejon, 305-764 Korea

Along the differentiation of a vertebrate embryo to an adult, Spemann's organizer molecules located at the blastopore lip of *Xenopus* gastrula turn on a series of genes triggering body pattern formation as well as neural induction. Spemann's organizer molecules are composed of secreted signal molecules such as Vg-1, Activin and Wnt, and transcriptional factors such as goosecoid, Xlim1 and Xnot. While the expression of *goosecoid* is stimulated by Activin, Goosecoid-induced gene encoding a secrected signal peptide, *chordin* has been cloned. Injection of *chordin* mRNA into ventral side of *Xenopus* gastrula created another complete body axis at the injected site, suggesting that Chordin is one of molecules involved in body pattern formation triggered by Spemann's orgnizer molecules. To understand molecular mechanisms wherein Chordin initiates vertebrate neural induction, spatio-temporal expression pattern of *chordin* gene in zebrafish embryos at three different developmental stages (one cell, cleavage and neurula) was analysed with whole-mount *in situ* hybridization technique. Interestingly, *chordin* mRNA was detected at low level from one cell and cleavage stage embryos apparently without any preponderance of spatial distribution. In contrast, it is specifically restricted to the dorsal side of neurula stage embryos with highly elevated concentration, which is consistant with previous foundings from other species. At this point, we are performing anti-sense RNA injection experiment to examine the possible function of Chordin along embryonic developmental stages