D-11 Neural induction and patterning of the ectoderm of *Xenopus laevis by* PDGF signalling

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Several kinds of growth factors are able to induce a neural tissue in *Xenopus* embryo, which may do so by different mechanisms. Here we present evidence that Platelet-derived Growth Factor(PDGF) may account for neural induction and patterning. PDGF-A, expressed in the presumptive ectodermal cells during gastrulation, is a mesodermal inducer of blastula stage ectoderm explants(animal caps). When animal caps are excised from midblastula and treated immediately with PDGF-AA homodimer, they express mesoderm marker genes(α-cardiac actin and MyoD). However, PDGF treatment is delayed about 4 hours(or longer) after excision of late blastula animal cap, it induces neural marker genes such as OtxA, a marker of forebrain, XIF3, a neurally expressed intermediate filament gene and XlHbox6, a marker of spinal cord. PDGF also induced the expression of a general neural marker NCAM in the ectoderm incubated in calcium-and magnesium-free medium, but not the expression of mesoderm markers, suggesting that PDGF directly neuralized ectoderm cells without forming mesodermal cells. Further, we examined the interaction of PDGF-AA with noggin, an anterior neural inducer. Single treatment of PDGF or noggin with low doses couldn't induce the expression of NCAM. However, If animal caps were treated with both factors of same low doses simultaneously, the combined treatment showed synergistic effect of elevating the expression of NCAM in explants of embryos. These data support a role for PDGF in neural induction or patterning *in vitro*.

D-12 Unrecorded Species of the Family Clupeidae, *Sardinella lemuru* from Korea

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It has been reported that 21 species from the genus *Sardinella* belonging to the family Clupeidae and order Clupeiformes are distributed in the world, of which only one (*Sardinella zunasi*) and three species have been known to occur in Korea and Japan, respectively.

In the present study, we report the two specimens of *Sardinella lemuru* which collected for the first time from the Korean waters. The specimens were very similar to *Sardinella zunasi* in external features but differ in the number of anal fin rays. While the specimens were difficult to differentiate by color from *Clupea pallasii*, they were easily recognized by the number of gill rakers. We propose " Bali-paen-daeng-i " as a new Korean name for *Sardinella lemuru*.