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Effects of PDGF on the Activation of the MyoD Family Gene Expressions in *Xenopus laevis*

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We report the effects of hPDGF(human Platelet-Derived Growth Factor) on the muscle cell differentiation in *Xenopus laevis*. Animal caps were excised from stage 8, 12 and 15 embryos and animal cap assay was performed with the treatment of hPDGF for 5 hours. MyoD family genes(MyoD, Myf5, Myogenin) were activated in the PDGF-treated animal caps excised at stage 8 whereas control animal caps are not. Animal caps from stage 12 did not show significant expression of MyoD family genes. However stage 15 animal caps showed increase in another myoD family gene, MRF4. It was reported that the somites have strong expression of PDGF. All these data strongly suggest that PDGF activates MyoD family gene expression spatiotemporally ,thus, mediate muscle cell differentiation in *Xenopus laevis*.

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EXPRESSION PATTERN OF *XENOPUS* HOX-3.1 GENE TRANSCRIPTS DURING EMBRYOGENESIS IN *XENOPUS LAEVIS*

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We have isolated new *Xenopus* Hox-3.1(XHox-3.1), homeobox-containing gene, from neurula stage (stage.17) cDNA library and its expression pattern of RNAs was monitored with whole-mount in situ hybridization methods using digoxigenin-labeled DNA probe. Those transcripts were restricted to a limited number of embryonic regions such as the dorsal trunk. At midgastrula stage, XHox-3.1 was expressed in the dorsal mesoderm and ectoderm surrounding animal half, and its expression was restricted to a neural plate at early neurula stage. At later developmental stages, High level of XHox-3.1 transcripts continue to be detected in the neural tube. The data support the hypothesis that the *Xenopus* Hox-3.1 gene specifies positional information during embryogenesis like mouse cognate gene.