**Function of carbohydrates involved in embryogenesis**

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Glycosylation is one of major post-translational protein modifications. Biological information thought to be encoded not only in polypeptide chains but also in carbohydrate chains. It is important to decode the biological information of carbohydrate chains. However, it is difficult to analyze the mammalian developmental processes in detail because of the processes taking place in the uterus. Therefore, we used medaka (*Oryzias latipes*), which is a good model to clarify the role of carbohydrate chains during development. To investigate what kinds of carbohydrates are expressed in medaka during the development, the structural analysis of *N*-glycans was performed by mass spectrometric analysis. It was reveled that complex-type of *N*-glycans were present and those expression were regulated during the embryogenesis. In this study, we focused on beta1,4-galactosyltransferase2 (*β4GalT2*), one of the key enzymes in the synthesis of complex-type of *N*-glycans. We found that the depletion of β4GalT2 by injection of the morpholino antisense oligonucleotides into medaka embryos resulted in significant morphological abnormalities. Molecular marker analysis by *in situ* hybridization revealed that the loss of β4GalT2 lead to defects in the antero-posterior axis formation during convergent and extension movements in gastrulation period without affecting the organizer formation. These results suggest that carbohydrate chains biosynthesized by β4GalT2 have essential roles for proper convergence and extension movement during medaka embryogenesis.