D103 Differential distribution of Galβ1,3(4)GlcNAc α2,3-sialyltransferase in the developing Mouse Embryo.

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Sialic acids are key determinants for biological processes, such as cell-cell interaction and cell differentiation. Sialyltransferases contribute to the diversity in carbohydrate structure through their attachment of sialic acid in various terminal positions on glycolipid and on glycoprotein (N-linked and O-linked) carbohydrate groups.

Galβ1,3(4)GlcNAc α2,3-Sialyltransferase(ST3Gal III) is involved in the biosynthesis of sLex sLea known as selectin ligands and tumor-associated carbohydrate structures. The appearance and differential distribution of ST3Gal III mRNA in the mouse embryogenesis(E9, E11, E13, E15) was investigated by in situ hybridization with digoxigenin-labeled RNA probes coupled with alkaline phosphatase detection.

Results from hybridization, in 9-day mouse embryo, all cells were positive for Galβ1,3(4)GlcNAc α2,3-Sialyltransferase(ST3Gal III) mRNA expression and no specific signal was detected in the 11-day. In 13-day, abundantly expressed in liver and a part of vertebrae. and the 15-day was detected in liver, lung and was diffuse in the forebrain.

In conclusion, these results indicate that expression of ST3Gal III mRNA is developmentally regulated in tissue- and stage specific manners.

D104 **Characterization of Shank1 homologue in C.elegans using GST & GFP expression.**

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Shank1 is a novel protein consisting of PDZ(PSD-95, Disk-large, ZO-1)domain, Ankyrin repeats and SH3 domain. A *C.elegans* homologue of *shank*1 (C33B4.3) was found in the BLAST search, showing approximately 40% identity over 1000 amino acids. *Shank*1 in *C.elegans* shows relatively high sequence identity in the regions of Ankyrin repeats and PDZ domain, but little homology in the SH3 domain. In order to study the function of Shank1 in *C.elegans*, two approaches were used. One is to overexpress Shank1 protein in *E.coli* using GST(Glutathione-S-Transferase) fusion system. The other is to observe its expression pattern by GFP(Green Fluorescent Protein) reporter system. Currently, We are making antibody for Shank1 and observing the expression pattern in *C.elegans*. Simultaneously, we are conducting RNAi(interference) experiment to elucidate a possible function of *shank*1 in *C.elegans*.