D103 Differential distribution of Gal β 1,3(4)GlcNAc α 2,3-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.

Gal β 1,3(4)GlcNAc α 2,3-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 $Gal \beta 1,3(4)GlcNAc$ $\alpha 2,3$ -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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Shankl is a novel protein consisting of PDZ(PSD-95, Disk-large, ZO-1)domain, Ankyrin repeats and SH3 domain. A C.elegans homologue of shank1 (C33B4.3) was found in the BLAST search, showing approximately 40% identity over 1000 amino acids. Shank1 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 Shankl and observing the pattern in C.elegans. Simultaneously, we are RNAi(interference) experiment to elucidate a possible function of shank1 in C.elegans.