

Principal Researcher	Naoyuki Taniguchi			Number of Researchers	5	
Research Institution · Department · Title	Osaka University Medical School · Dept of Biochemistry · Professor			Location of Institution	Suita	
Title of Project	Glycomics: comprehensive investigation of carbohydrate chains					
Abstract of Research Project	<p>Many proteins become able to function only after they undergo posttranslational modifications. Among them, modifications by glycosylation are important in that they have diversity and generality. This investigation aims at the establishment of methodology to analyze entirely molecules whose function is altered in a carbohydrate chain-remodeled system, which will be a breakthrough to elucidate a variety of biological roles of carbohydrate chains. To that end, we will develop the methods of <i>Glycoproteomics</i> to identify the whole glycoproteins whose oligosaccharide structures are remodeled. In addition, we will identify molecules whose function is changed and elucidate the effects of the carbohydrate chain-remodeling on the basis of the phenotype in carbohydrate chain-remodeled cells and mice. Taken together, we will clarify the processes to regulate the cellular function by carbohydrate chains in various physiological and pathological events.</p>					
References	<p>Y. Sato, et al. Overexpression of N-acetylglucosaminyltransferase III enhances the EGF-induced phosphorylation of ERK in HeLaS3 cells by upregulation of the internalization rate of the receptors. , J. Biol. Chem., 276, 11956-11962, 2001</p> <p>T. Saito, et al. A Secreted Type of beta 1,6-N-Acetylglucosaminyltransferase V (GnT-V) Induces Tumor Angiogenesis without Mediation of Glycosylation. A NOVEL FUNCTION OF GnT-V DISTINCT FROM THE ORIGINAL GLYCOSYLTRANSFERASE ACTIVITY. , J. Biol. Chem., 277, 17002-17008, 2002</p> <p>S. Ihara, et al. Prometastatic Effect of N-Acetylglucosaminyltransferase V Is Due to Modification and Stabilization of Active Matriptase by Adding beta 1-6 GlcNAc Branching. , J. Biol. Chem., 277, 16960-16967, 2002</p>					
Term of Project	Fiscal years 2001-2005					
Budget Allocation	FY2001	FY2002	FY2003	FY2004	FY2005	Total
(in thousand of yen)	37,600	19,000	20,000	10,000	10,000	96,600
Homepage Address	http://www.med.osaka-u.ac.jp/pub/biochem/index-jp.html					