

Project No. : 17005 Core Institution in Japan: Osaka University
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**JSPS Core-to-Core Program -Strategic Research Networks-
FY2007 Research Report**

Project No.	17005
Research Theme :	Human disease-related functional glycomics initiative
Duration of Project :	2007/4/1 - 2008/3/31
Core Institution in Japan :	Osaka University

Implementing Organizations

Country :	Japan
Core Institution :	Osaka University
Co-Chair (name and title) :	Naoyuki Taniguchi (Endowed Chair Professor, Professor Emeritus)
Number of Cooperating	19
Cooperating Institutions:	The University of Tokyo, Nagoya University, Kochi University, Yamaguchi University, Aichi Cancer Center, Kinki University, RIKEN, Aichi Medical University, National Institute of Advanced Industrial Science and Technology, Tokyo Metropolitan Institute of Gerontology, Ritsumeikan University, Soka University, Tohoku Pharmaceutical University, Osaka Medical Center and Research Institute for Maternal and Child Health, Fukushima Medical University, Kyoto University, Sapporo Medical University, Tokai University, University of Tsukuba

Country :	USA
Core Institution :	The Scripps Research Institute
Co-Chair (name and title) :	James Paulson (Professor)
Number of Cooperating	14
Cooperating Institutions:	The Burnham Institute, University of Washington, The State University of New York at Stony Brook, Johns Hopkins University, University of California, Indiana University, University of Georgia, Albert Einstein College of Medicine, University of Iowa, Yale University, National Institute of Health, University of Hampshire, Boston University School of Medicine, University of Alabama at Birmingham
Matching Fund :	The Consortium for Functional Glycomics (NIH/NIGMS)

Country :	Germany
Core Institution :	German Cancer Research Center
Co-Chair (name and title) :	Wilhelm von der Lieth (Professor)
Number of Cooperating	8
Cooperating Institutions:	Hannover Medical University, University of Muenster, Freie University Berlin, University of Kiel, University Goettingen, University Stuttgart, University of Giessen, Max Plank Institute (Dresden)
Matching Fund :	EUROCarbDB (European Commission)

Result of Program Implementation

The Human Proteome Organization (HUPO), established 6 years ago, is an international consortium of national proteomics research associations, government researchers, academic institutions, and industrial partners. HUPO promotes the development and awareness of proteomics research, advocates on behalf of proteomics researchers throughout the world, and facilitates scientific collaborations between HUPO members and initiatives. The Human Disease Glycomics/Proteome Initiative (HGPI; Naoyuki Taniguchi, Chair) is to define community standards for data representation in functional glycomics in relation to diseases. The goal is to facilitate data comparison, exchange, and verification.

In the year 2007, we held HGPI meeting twice in Germany (6th HGPI meeting, Lubeck) and Korea (7th HGPI meeting, Seoul) together with our partner organizations (NIH consortium for functional glycomics (USA) and Eurocarb (Germany)). Our trans-continental study about validation of protocols for structural elucidation of O-linked glycan chains within the frame of HGPI has been successfully progressed and the result is now being assembled for publication.

Achievements in FY2007 (Self Review)

International standardized protocol for analysis of O-linked glycan chain was reviewed and amended seriously by over 15 mass-spectrometry experts in HGPI committee, based on their independent experiments. This result has a great impact not only for glycobiology, but for other fields which have potentially contact with functional glycomics, such as a research of biomarkers.

Many young investigators and Ph.D.students joined HGPI international meeting (6th HGPI meeting in Germany, 7th HGPI meeting in Korea) and had valuable international experiences by communicating with researchers abroad. Indeed, several international collaborative researches have launched at these meetings.

Future Plan (Measures toward Achieving Research Objectives)

Since the validation study of protocols for structural elucidation of O-linked glycan chains within the frame of HGPI has been successful, we are moving forward onto identification of "glyco-biomarkers" next year. To tighten the relationship with NIH consortium for functional glycomics (USA), we will hold the 9th HGPI meeting in Japan (Ise-Shima) at March/2009 so that we discuss this issue seriously.

The effort to send young investigators and students to international meetings such as HGPI will be continued to have them valuable international experiences.