

# 第 27 回 札幌国際がんシンポジウム

## テーマ

“Glycomics; New Perspectives in Cancer Cell Behavior”

## 日時

2007 年 7 月 12 日～13 日

## 会場

北海道大学 学術交流会館（札幌市北区）

## 代表世話人

谷口 直之（大阪大学）

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## The 27th Sapporo International Cancer Symposium

### Theme:

“Glycomics; New Perspectives in Cancer Cell Behavior”

### Date:

July 12–13, 2007

### Venue:

Hokkaido University Conference Hall, Sapporo, Japan

### Organizer (\*Chairperson):

Naoyuki Taniguchi\*

Sen-ichiroh Hakomori

Tatsuro Irimura

Michael A. Hollingsworth

Reiji Kannagi

Hisashi Narimatsu

## **Program**

### **Plenary Lectures**

Proliferation, invasion, genetic instability and malignant progression

George Vande Woude (Van Andel Research Institute, USA)

Studies on components involved in the proteolysis of misfolded glycoproteins

William J. Lennarz (Stony Brook University, USA)

### **Session 1. N-Glycan 1**

A systems biology approach to decoding the function of N-glycans on cytokine receptors

James W. Dennis (Mount Sinai Hospital, Canada)

Importance of N-glycosylation on integrin biological functions

Jianguo Gu (Tohoku Pharmaceutical University, Japan)

Aberrant glycosylation on TIMP-1 by N-acetylglucosaminyltransferase V reinforces the invasive/metastatic potential of colon cancer cells

Jeong Heon Ko (Korea Research Institute of Bioscience and Biotechnology, Korea)

Inhibition of a specific N-glycosylation activity results in attenuation of breast carcinoma cell invasiveness-related phenotypes

Michael Pierce (The University of Georgia, USA)

### **Session 2. N-Glycan 2**

Fucosylated haptoglobin is a novel marker for pancreatic cancer: A detailed analysis of the oligosaccharide structure and a possible mechanism for fucosylation

Eiji Miyoshi (Osaka University, Japan)

Altered glycosylation in cancer: new approaches to the discovery of disease biomarkers and their origin

Pauline M. Rudd (University College Dublin, New Zealand)

Interaction of highly fucosylated polylactosamine-type N-glycans isolated from human colon cancer cells with mannan-binding protein

Toshisuke Kawasaki (Ritsumeikan University, Japan)

Molecular complex formation based on glycosphingolipids as a functional platform and therapeutic target of cancer cells

Koichi Furukawa (Nagoya University, Japan)

### **Luncheon Seminar**

The functional analysis of N-glycan of the ErbB family

Motoko Takahashi (Sapporo Medical University, Japan)

Functional role of O-GlcNAc modification on tumor suppressor p53

Jin Won Cho (Yonsei University, Korea)

### **Session 3. Mucin/O-glycan 1**

MUC1 is a counter-receptor for myelin-associated glycoprotein (Siglec-4a) and their interaction contributes to adhesion in pancreatic cancer perineural invasion

Michael A. Hollingsworth (University of Nebraska, USA)

Effect of tumor-produced mucins on immune function

Hiroshi Nakada (Kyoto Sangyo University, Japan)

MUC1 apical expression in epithelial cells is stabilized by galectins

Rebecca P. Hughey (University of Pittsburgh, USA)

#### **Session 4. Mucin/O-Glycan 2**

A novel transmembrane mucin MUC21

Tatsuro Irimura (University of Tokyo, Japan)

Expression of mucins in human neoplasms and its relationship with potential for malignancy

Suguru Yonezawa (Kagoshima University, Japan)

Cancer and acquired mutations in O-glycosylation pathways

Richard D. Cummings (Emory University, USA)

O-glycan structure regulates drug-resistance of cancer cells

Hisashi Narimatsu (National Institute of Advanced Industrial Research System, Japan)

Inhibition of tumor metastasis and angiogenesis by NK4, bifunctional inhibitor of HGF-Met and angiogenesis

Kunio Matsumoto (Kanazawa University, Japan)

#### **Session 5. Glycolipid/Sialic Acid**

Mass spectrometry of glycopeptides and neutral glycosphingolipids

Akemi Suzuki (RIKEN, Japan)

Ganglioside GM3 controls colon cancer cells by PTEN-inhibited PI-3K/AKT pathway and induction of p21waf1/p27kip1: activator protein 2  $\alpha$  function in the PTEN gene regulation

Cheorl-Ho Kim (Sungkyunkwan University, Korea)

Expression of sialylated antigens enhances tumorigenicity of breast cancer cells

Philippe Delannoy (Universit? des Sciences et Technologies de Lille, France)

Effect of glycosphingolipid complex on development, oncogenic transformation, and its reversion

Sen-itiroh Hakomori (Pacific Northwest Research Institute, USA)

Hypoxia-induced expression of cancer-associated glycoconjugates

Reiji Kannagi (Aichi Cancer Center, Japan)

Plasma membrane-associated sialidase as a crucial regulator for transmembrane signaling in human cancer

Taeko Miyagi (Miyagi Cancer Center Research Institute, Japan)

### **Session 6. Cancer/Growth Factor/Receptor 1**

The role and transcription regulation of  $\beta$  1, 4-galactosyltransferase I in liver hepatoma development

Jianxin Gu (Shanghai Medical College of Fudan University, China)

The impact of non-fucosylated therapeutic antibodies in human

Mitsuo Satoh (Kyowa Hakko Kogyo Tokyo Research Laboratories, Japan)

The EMARS reaction: A novel method to identify cis-interactions of cell surface molecules in living cells

Koichi Honke (Kochi University, Japan)

### **Luncheon Seminar**

A highly sensitive method for exploring glycoproteins as biomarkers using negative-MALDI-MS n after pyrene derivatization

Junko Amano (The Noguchi Institute, Japan)

### **Session 7. Cancer/Growth Factor/Receptor 2**

Unraveling the role of galectin-1 in immunoregulation and tumor-immune escape

Gabriel Rabinovich (University of Buenos Aires, Argentina)

Midkine is a molecular target for cancer therapy and recognizes oversulfated structures in the receptor complex

Takashi Muramatsu (Aichi Gakuin University, Japan)

Significance of tumor-associated stroma in promotion of tumor angiogenesis: Pivotal role of a hyaluronan-rich tumor microenvironment

Naoki Itano (Shinshu University, Japan)

Competing siglec ligands target B cell lymphoma cells

James C. Paulson (The Scripps Research Institute, USA)