

Poster Presentations

Poster Session 1: Monday Nov. 17, 2014 @ 2:00 PM – 4:00 PM

Topics covered:

- Systems Glycobiology from Chemistry to Biology
- Virus / Inflammation Glycobiology
- Glycan Binding Proteins / Immunology

Set-up: Begin mounting posters starting Sunday, November 16, 2014 @ 4:00PM

Break-down: Immediately after your poster session.

Poster Session 2: Tuesday, Nov. 18, 2014 @ 3:45 PM – 5:45 PM

Topics covered:

- Regulation and Signaling
- Prokaryotic Glycan Assembly
- Stem Cells / iPS
- Glycans, Metabolism and Functions

Set-up: Begin mounting posters starting Monday Nov 17, 2014 @ 4:10PM

Break-down: Immediately after your poster session.

Poster Session 3: Wednesday, Nov. 19, 2014 @ 1:30 PM – 3:30 PM

Topics covered:

- Disease: Mechanism Biomarker and Therapeutics
- Glycan structures and Bioinformatics

Set-up: Begin mounting posters starting Tuesday, Nov 18, 2014 @ 5:55 PM

Break-down: Immediately after your poster session.

Session I: Systems Glycobiology from Chemistry to Biology

Posterboard #: B1 || Abstract #: 59

“Synthetic study and structural analysis of highly glycosylated hydrophilic motif of plant extensins”

Akihiro Ishiwata¹, Sophon Kaeohip², Yoichi Takeda², Yukishige Ito²
¹RIKEN; ²ERATO Glycotrility Project, Japan Sci. and Tech. Agency

Posterboard #: B2 || Abstract #: 60

“Metabolic production of photocrosslinking O-GlcNAc: method improvement and application”

Andrea Rodriguez, Seok-Ho Yu, Bin Li, Jennifer Kohler
UT Southwestern

Posterboard #: B3 || Abstract #: 61

“Noninvasive Molecular Imaging and Targeting Studies of Neo-N-glycoproteins: Significant Effects of N-Glycan Clusterization on Albumin”

Katsunori Tanaka, Akihiro Ogura
RIKEN, Biofunctional Synthetic Chemistry Laboratory

Posterboard #: B4 || Abstract #: 62

“Fucosyl chondroitin sulfate from sea cucumber - chemical synthesis and structural analysis -”;

Jun-ichi Tamura¹, Haruna Tanaka¹, Ayumi Nakamura¹, Ryosuke Toita¹, Yoshinao Z. Hosaka², Ken-ichi Nagamine³, Ayaka Himono³, Naoko Takeda⁴

¹Department of Regional Environment, Tottori University, Tottori, 680-8551 Japan; ²Joint Department of Veterinary Medicine, Tottori University, Tottori, 680-8553 Japan; ³Research & Development Center, Nichirei Biosciences Inc., Higashimurayama, Tokyo, 189-0003 Japan; ⁴JSPS Research Fellow, Tottori University, Tottori, 680-8551 Japan

Posterboard #: B5 || Abstract #: 63

“Glycoform imaging: use of transmembrane FRET to investigate the internalization of glycosylated proteins”

Yoshimi Haga¹, Kumiko Ishii¹, Kayo Hibino², Yasushi Sako², Yukishige Ito³, Naoyuki Taniguchi⁴, Tadashi Suzuki¹

¹Glycometabolome Team, RIKEN Global Research Cluster; ²Cellular Informatics Laboratory, RIKEN; ³Synthetic Cellular Chemistry Laboratory, RIKEN; ⁴Disease Glycomics Team, RIKEN Global Research Cluster

Posterboard #: B6 || Abstract #: 64

“Catalytic Domain of UDP-Glc: Glycoprotein Glucosyltransferase; Functional Analysis using Synthetic Substrates”

Yoichi Takeda¹, Akira Seko¹, Keiichiro Ohara¹, Masakazu Hachisu¹, Kohki Fujikawa¹, Ning Wang¹, Yukishige Ito²

¹ERATO, Japan Science and Technology Agency (JST), Ito Glycotrility Project; ²Synthetic Cellular Chemistry Laboratory, RIKEN / ERATO, Japan Science and Technology Agency (JST), Ito Glycotrility Project

Posterboard #: B7 || Abstract #: 65

“Cell interaction and physicochemical characterization of hyaluronic acid nanoparticles”

Akari Hisada, Keisuke Koizumi, Toshinori Sato
Keio University

Posterboard #: B8 || Abstract #: 66

“Analysis of the interaction between peptide aptamers and hemagglutinin”

Rabi Shibata, Teruhiko Matsubara, Toshinori Sato
Keio University

Posterboard #: B9 || Abstract #: 67

“Critical importance of the surface expression of $\alpha 2$, 6-sialosides during early development of medaka fish”

Ken Kitajima¹, Di Wu¹, Katsue Tajima¹, Emi Maruyama¹, Yuko Yasukawa¹, Lan-Yi Chang², Yoshihito Taniguchi³, Yasuhiro Kamei⁴, Tomoko Adachi², Hisashi Hashimoto

¹Biosci. Biotech. Center, Nagoya Univ; ²Grad. Sch. Bioagr. Sci, Nagoya Univ; ³Biosci. Biotech. Center, Nagoya Univ; ⁴Sch. Med., Keio Univ.; ⁴Dept Appl. Life Sci., Nat. Inst. Basic Biol.

Posterboard #: B10 || Abstract #: 68

“Polyploidization triggered by psychosine is modulated by cellular glycosphingolipids and sphingomyelin”

Hiroshi Watanabe¹, Kyohei Okahara², Yasunori Kozutsumi², Shogo Oka¹, Hiromu Takematsu¹

¹Lab. Biol. Chem., Human Health Sci., Grad. Sch. of Medicine, Kyoto Univ.; ²Lab. Membrane Biochem and Biophys, Grad. Sch. of Biostudies, Kyoto Univ.

Posterboard #: B11 || Abstract #: 69

“Protecting-group-free Synthesis and Binding with Influenza Virus of Glycopolymers Bearing Sialyloligosaccharides”

Tomonari Tanaka¹, Hideki Ishitani¹, Yoshiko Miura², Kenta Oishi³, Tadanobu Takahashi³, Takashi Suzuki³

¹Graduate School of Science and Technology, Kyoto Institute of Technology; ²Graduate School of Engineering, Kyushu University; ³School of Pharmaceutical Sciences, University of Shizuoka

Posterboard #: B12 || Abstract #: 70

“Immobilization of Endoglycosidases for Analysis of Glycoproteins”

Aihua Zhang, Inca Ghosh, Guillaume Vinet, John Buswell, James McFarland, Ivan R. Correa Jr., Christopher H. Taron, Christopher J. Noren, Ming-Qun Xu
New England Biolabs, Inc.

Posterboard #: B13 || Abstract #: 71
“Analytical Services And Trainings At The Complex Carbohydrates Research Center”

Roberto Sonon, Stephanie Archer-Hartmann, Mayumi Ishihara, Zhirui Wang, Christian Heiss, Radnaa Naran, Ian Black, Dandan Zhou, Artur Muszynski, Scott Forsberg, Parastoo Azadi
University of Georgia

Posterboard #: B14 || Abstract #: 72
“Mammalian cell-surface lectins can be detected with fluorescent magnetic”

Jiyoung Hyun, Sungjin Park, Gun-Hee Kim, Jaeyoung Pai, Injae Shin
Yonsei University

Posterboard #: B15 || Abstract #: 73
“Detection of Helicobacter pylori with fluorescent magnetic glyconanoparticles”

Jiyoung Hyun, Sungjin Park, Sung-Hyun Park, Jaeyoung Pai, Injae Shin
Yonsei University

Posterboard #: B16 || Abstract #: 74
“ α -Selective glycosidation of using N-acetyl sialyl donors possessing a free hydroxyl group at the C4 position”

Taku Aoyagi, Shuichi Ohira, Hiroshi Tanaka
Tokyo Institute of Technology

Posterboard #: B17 || Abstract #: 75
“Convergent synthesis of biantennary complex type nonasaccharide containing LacdiNAc structure based on the regioselective glycosylation and inversion reactions”

Shinpei Miyazawa, Nozomi Ishii, Takashi Utsui, Masaki Hamada, Ichiro Matsuo
Division of Molecular Science, Gunma University

Posterboard #: B18 || Abstract #: 76
“A study toward understanding cellular dynamics of glycosphingolipid based on chemical engineering approach”

Kenta Arai¹, Hiroshi Kimura², Kazuya Kabayama³, Osamu Kanie⁴
¹Tokai University, Graduate School of Engineering; ²Tokai University, Faculty of Engineering; ³Osaka University, Graduate School of Science; ⁴Tokai University, Institute of Glycoscience

Posterboard #: B19 || Abstract #: 77
“Glycoprotein folding influences on its association with lectin-like molecular chaperone calreticulin”

Kiichiro Totani, Makoto Hirano, Yuka Adachi
Seikei University

Posterboard #: B20 || Abstract #: 78
“Chemical synthesis of misfolded glycoproteins as substrates of folding sensor enzyme UGGT”

Masayuki Izumi¹, Rie Kuruma¹, Ryo Okamoto¹, Akira Seko², Yukishige Ito³, Yasuhiro Kajihara⁴
¹Osaka University; ²JST ERATO; ³JST ERATO and RIKEN; ⁴JST ERATO and Osaka University

Posterboard #: B21 || Abstract #: 79
“Synthesis of 3-deoxy-GlcNAc and its application to transglycosylation using Endo-M”

Tetsuya Kitsunezuka¹, Yuki Iwayama², Katsuji Haneda³, Toshiyuki Inazu¹
¹School of Engineering, Tokai University, Institute of Glycoscience, Tokai University; ²Institute of Glycoscience, Tokai University; ³School of Engineering, Tokai University

Posterboard #: B22 || Abstract #: 80
“High-throughput determination of non-human epitope Gal-alpha-(1→3)-Gal on glycoproteins using a specific antibody fragment in a microarray format”

Michelle Kilcoyne, Stephen Cunningham, Jared Gerlach, Lokesh Joshi
National University of Ireland Galway

Posterboard #: B23 || Abstract #: 81
“Biological function of endomannosidase activity found in the endoplasmic reticulum”

Makoto Hirano¹, Chie Watanabe¹, Karen Kubo¹, Yukishige Ito², Spencer J. Williams³, Kiichiro Totani¹
¹Seikei Univ.; ²RIKEN, ERATO-JST; ³Univ. of Melbourne

Posterboard #: B24 || Abstract #: 82
“Novel Strategy to Release and Tag Glycans from Glycoproteins and Glycosphingolipids for Functional Glycomics”

Xuezheng Song, Hong Ju, Chunmei Zhao, Yi Lasanajak, David F. Smith, Richard D. Cummings
Emory University

Posterboard #: B25 || Abstract #: 83
“Proteomics analysis of sialylated glycoproteins identifies substrates for sialyltransferases and sialidases”

Yibing Wang, Janet E. McCombs, Jennifer J. Kohler
University of Texas Southwestern Medical Center

Posterboard #: B26 || Abstract #: 84
“Proteomics and Genomics Provide Novel Insights Into Streptomyces Lectin Biochemistry”

Markus Kalkum, Teresa Hong, Karine Bagramyan, Yoko Fujita-Yamaguchi
Beckman Research Institute of City of Hope

Posterboard #: B27 || Abstract #: 85
“Multiple modes of (glyco)peptide substrate recognition/binding by the ppGalNAc-T’s”

Leslie Revoredo, Thomas Gerken
Case Western Reserve University

Posterboard #: B28 || Abstract #: 86
“The chemical synthesis of various N-linked oligosaccharides as the substrates for endo- β -N-acetylglucosaminidase Endo-M or its mutated enzyme (Endo-M-N-175Q) toward production of glycoproteins having homogenous N-glycans”

Hideki Ishida, Yoshihide Nishikawa, Mikiyo Ishihara, Takashi Ota, Kenta Iino, Miyuki Saburoumaru, Yuji Matsuzaki
Tokyo Chemical Industry Co., Ltd

Posterboard #: B29 || Abstract #: 87
“NMR and MS Based Analysis of Glycans of Glycoproteins”

Bernd Meyer, Henning Behnken, Meike Fellenberg, Raffael Jirman, Tim Nagel, Alena Wiegandt
Organic Chemistry, University of Hamburg, 20146 Hamburg, Germany

Posterboard #: B30 || Abstract #: 88

“N-Glycan Replacement of a Therapeutic Antibody with Structure-defined Glycan by Chemoenzymatic Glycoengineering using Endo-M and Glycosynthase”

Junichi Kumada¹, Masato Habu¹, Takahiro Tanji¹, Noriyuki Yuasa¹, Jun Iwaki¹, Toshihiko Kato², Kenji Yamamoto², Yuji Matsuzaki¹

¹Tokyo Chemical Industry Co., LTD.; ²Research Institute for Bioresources and Biotechnology, Ishikawa Prefectural University

Posterboard #: B31 || Abstract #: 89

“Synthetic study of branched inner-core oligosaccharides of LPS/LOS”

Ruiqin Yi, Tsuyoshi Ichibanagi

Tottori University

Posterboard #: B32 || Abstract #: 90

“Analysis of substrate specificity for endo-M and its mutants using synthetic glycans”

Nozomi Ishii¹, Shogo Iwamoto¹, Jyunichi Kumada², Yuji Matsuzaki², Ichiro Matsuo¹

¹Faculty of Science and Technology, Gunma University;

²Tokyo Chemical Industry Co., Ltd.

Posterboard #: B33 || Abstract #: 91

“Biological activities of the homogeneous glycosylated chemokines CCL1 and Ser-CCL1 prepared by total chemical synthesis”

Ryo Okamoto¹, Kalyanswer Mandal², Morris Ling³, Andrew Luster³, Michael Sawaya⁴, Todd Yeates⁴, Yasuhiro Kajihara¹, Stephen Kent¹

¹Osaka University; ²University of Chicago; ³Massachusetts General Hospital, Harvard Medical School; ⁴University of California

Posterboard #: B34 || Abstract #: 92

“A synthetic study of a homogeneous hematopoietic glycoprotein bearing three biantennary sialyloligosaccharides”

Masumi Murakami, Ryo Okamoto, Masayuki Izumi, Yasuhiro Kajihara
Graduate School of Science, Osaka University

Posterboard #: B35 || Abstract #: 93

“Synthetic Study of Erythropoietin Having High Mannose-type Oligosaccharide by Chemical Methodology”

Tatsuto Kiuchi¹, Ryo Okamoto¹, Masayuki Izumi¹, Akira Seko², Yukishige Ito³, Yasuhiro Kajihara¹

¹Osaka University; ²JST ERATO; ³RIKEN

Posterboard #: B36 || Abstract #: 94

“The Synthesis of Sialo-containing Glycopolymers by π -Allyl Nickel Catalyzed Coordination Polymerization”

Shuichi Ohira¹, Yu Yasuda², Chihiro Sato², Ken Kitajima², Ikuyoshi Tomita³, Takashi Takahashi⁴, Hiroshi Tanaka¹

¹Department of Applied Chemistry, Tokyo Institute of Technology;

²Graduate School of Bioagricultural Sciences and Bioscience and Biotechnology Center, Nagoya University; ³Department of Electronic Chemistry, Tokyo Institute of Technology; ⁴Yokohama College of Pharmacy

Posterboard #: B37 || Abstract #: 95

“Analysis of glycan processing in the endoplasmic reticulum based on selective inhibition of mannosidases”

Taiki Kuribara, Makoto Hirano, Kiichiro Totani

Seikei University

Posterboard #: B38 || Abstract #: 96

“Synergistic improvement in chemical synthesis of high-mannose glycans”

Masaaki Shiba, Kodai Iwata, Yuki Shinoda, Makoto Hirano, Kiichiro Totani
Seikei University

Posterboard #: B39 || Abstract #: 97

“Integrated Proteomic and Glycoproteomic Analyses of Prostate Cancer Cells Reveals Glycoprotein Changes in Protein Expression, Glycosylation Occupancy and Glycosite Heterogeneity”

Punit Shah, Xiangchun Wang, Weiming Yang, Shadi Toghi Eshghi, Shuang Yang, Shisheng Sun, Hui Zhan

Johns Hopkins University

Posterboard #: B40 || Abstract #: 98

“Synthesis of glucosylated N-glycans using transglycosylation activity of Golgi endo- α -mannosidase”

Shogo Iwamoto¹, Yoichi Takeda², Akira Seko², Yukishige Ito³, Ichiro Matsuo¹

¹Gunma University, Division of Molecular Science, Faculty of Science and Technology; ²ERATO-JST; ³ERATO-JST, RIKEN, Synthetic Cellular Chemistry Laboratory

(Late-breaking Abstracts)

Posterboard #: LB1 || Abstract #: 369

“Synthesis of Inositol Phospholipid as an NKT Cell Modulator”

Toshihiko Aiba¹, Masaki Sato¹, Daichi Umegaki¹, Shou Nakagawa¹, Shinji Tanaka², Masato Kitamura³, Shinsuke Inuki⁴, Koichi Fukase¹, Yukari Fujimoto⁴

¹Department of Chemistry, Graduate School of Science, Osaka University; ²Research Center for Material Science, Nagoya University;

³Department of Basic Medicinal Science, Graduate School of Pharmaceutical Science, Nagoya University; ⁴Department of Chemistry, Faculty of Science and Technology, Keio University

Posterboard #:LB2 || Abstract #: 370

“Human proteome microarray-based substrate profiling of ppGalNAc-T2 reveals intracellular proteins O-GalNAc modification”

Zhijue Xu, Xing Li, Li Chen, Sheng-ce Tao, Yan Zhang

Ministry of Education Key Laboratory of Systems Biomedicine, Shanghai Center for Systems Biomedicine (SCSB), Shanghai Jiao Tong University

Posterboard #:LB3 || Abstract #: 371

“Study on oligosaccharides delivery system with supercritical carbon dioxide”

Matsunori Nara

Tokyo University of Science, Suwa

Posterboard #:LB4 || Abstract #: 372

“Glycolipid biosurfactant enhanced biodegradation of aromatic”

Camila A. Ortega Ramirez, Abraham Kwan, Qing X. Li
University of Hawaii at Manoa

Posterboard #:LB5 || Abstract #: 373

“Antibody free genome-wide chemical mapping suggests O-GlcNAc confers polycomb responsive element-independent silencing”

Ta-Wei Liu¹, Daniel Fornika², Yanping Zhu¹, Samy Cecioni¹, Kevin Beja², Don Sinclair², Ryan Morin², David Vocadlo¹

¹Dept. of Chemistry, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada; ²Dept. of Molecular Biology and Biochemistry, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada

Posterboard #:LB6 || Abstract #:374

“A proteoglycan system controlling growth factor activity, stem cell fate and neurogenesis in the adult brain”

Monique Chyba
University of Hawaii

Session II: Virus / Inflammation Glycobiology

Posterboard #: B41 || Abstract #: 10

“Development of highly sensitive diagnostic system for dengue viruses using the interaction between sulfated sugar-chain and viral particle”

Yasuo Suda¹, Budi Saksono², Beti Ernawati Dewi³, Leonardo Nainggolan⁴
¹Kagoshima University and SUDx-Biotech Corporation; ²Kagoshima University and Indonesian Institute of Sciences; ³Universitas Indonesia; ⁴Universitas Indonesia and Cipto Mangunkusumo Hospital

Posterboard #: B42 || Abstract #: 11

“Molecular regulation of antigen-specific antibody glycosylation following B cell activation”

Wen-Han Yu¹, Doug Lauffenburger², Galit Alter³
¹Ragon Institute of Massachusetts General Hospital, Massachusetts Institute of Technology, and Harvard University Department of Biological Engineering, Massachusetts Institute of Technology; ²Department of Biological Engineering, Massachusetts Institute of Technology; ³Ragon Institute of Massachusetts General Hospital, Massachusetts Institute of Technology, and Harvard University

Posterboard #: B43 || Abstract #: 12

“In vivo blockade of sialylation with a global sialyltransferase inhibitor causes irreversible kidney dysfunction”

Matthew Macauley¹, Britni Arlian¹, Cory Rillahan¹, Poh-Choo Pang², Nikki Bortell¹, Maria Cecilia Marcondes¹, Stuart Haslam², Anne Dell², James Paulson¹

¹The Scripps Research Institute; ²Imperial College London

Posterboard #: B44 || Abstract #: 99

“Nonencapsulated group A Streptococcus associated with human invasive disease”

Anna Henningham¹, Masaya Yamaguchi¹, Ramy Aziz¹, Kirsten Kuipers¹, Samira Dahesh¹, Yuka Yamaguchi¹, Lisa Seymour², Nouri Ben Zakour², Lingjun He³, Helen Smi
¹University of California San Diego; ²University of Queensland; ³San Diego State University; ⁴Queensland Health Forensic and Scientific Services

Posterboard #: B45 || Abstract #: 100

“Beyond Sweet Attractions: The role of glycans in Rotavirus Infection”

Thomas Haselhorst¹, Raphael Böhm¹, Fiona Fleming², Vi Dang², Mark von Itzstein¹, Barbara Coulson²
¹Institute for Glycomics, Griffith University Gold Coast Campus; ²Dept. of Microbiology and Immunology, The University of Melbourne

Posterboard #: B46 || Abstract #: 101

“Antigenic Potential of a Highly Conserved Lipopolysaccharide Inner Core Structure Defined by Synthetic Approach”

Anika Reinhardt¹, You Yang², Heike Claus³, Clancy L. Pereira², Andrew D. Cox⁴, Ulrich Vogel³, Chakkumkal Anish², Peter H. Seeberger¹
¹Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, 14424 Potsdam, Germany and Institute for Chemistry and Biochemistry Freie Universität Berlin, Arnimallee 22, 14195 Berlin, Germany; ²Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces, 14424 Potsdam, Germany; ³Institute for Hygiene and Microbiology, University of Würzburg, 97080 Würzburg, Germany; ⁴Vaccine Program, Human Health Therapeutics Portfolio, National Research Council, 100, Sussex Drive, Ottawa ON K1A 0R6, Canada

Posterboard #: B47 || Abstract #: 102

“Enzymatically active extracellular hyaluronidase (HylA) of group A Streptococcus promotes intracellular survival and virulence”

Masaya Yamaguchi¹, Yuka Yamaguchi², Masanobu Nakata³, Anna Henningham⁴, Joshua Olson², Samira Dahesh², Jason Cole⁴, Shigetada Kawabata³, Ajit Varki⁵, Victor

¹Graduate School of Dentistry, Osaka University; Department of Pediatrics, School of Medicine, University of California, San Diego;

²Department of Pediatrics, School of Medicine, University of California San Diego; ³Graduate School of Dentistry, Osaka University; ⁴Department of Pediatrics, School of Medicine, University of California San Diego; The School of Chemistry and Molecular Biosciences, and The Australian Infectious Diseases Research Centre, The University of Queensland; ⁵Departments of Medicine, and Cellular and Molecular Medicine, University of California San Diego; ⁶Department of Pediatrics, School of Medicine, and Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California San Diego

Posterboard #: B48 || Abstract #: 103

“TREG1 (DNase III) Prevents Dysregulation Of Oligosaccharyltransferase”

Mark Lehrman, Maroof Hasan, Ningguo Gao, Charles Fermaintt, Nan Yan
UT Southwestern Medical Center

Posterboard #: B49 || Abstract #: 104

“Superficially-Located Enlarged Lymphoid Follicles Characterize Nodular Gastritis”

Takuma Okamura¹, Yasuhiro Sakai², Hitomi Hoshino², Yugo Iwaya³, Eiji Tanaka³, Motohiro Kobayashi²

¹Department of Molecular Pathology, Shinshu University Graduate School of Medicine, Matsumoto, Japan; ²Division of Tumor Pathology, Department of Pathological Sciences, Faculty of Medical Sciences, University of Fukui, Eiheiji, Japan; ³Division of Gastroenterology and Hepatology, Department of Internal Medicine, Shinshu University School of Medicine, Matsumoto, Japan

Posterboard #: B50 || Abstract #: 105

“Agalactosylated antibodies with enhanced binding to MUC16 may contribute to mucosal protection against HIV transmission”

Bronwyn Gunn¹, Maryam Shansab¹, Jeffrey Schneider², Anna Licht¹, Ivan Zvonar¹, Marcus Karim¹, Alison Mahan¹, Jacqueline Tedesco¹, Thomas Hope², Galit Alter

¹Ragon Institute of MGH, MIT, and Harvard; ²Dept of Cell and Molecular Biology, Feinberg School of Medicine, Northwestern University

Posterboard #: B51 || Abstract #: 106

“Mechanism of up-regulation of a glycoprotein: Angpt-1 in Kaposi’s sarcoma-associated herpesvirus infected primary effusion lymphoma cell lines”

Xin Zheng, Eriko Ohsaki, Keiji Ueda

Division of Virology, Department of Microbiology and Immunology, Osaka University Graduate School of Medicine

Posterboard #: B52 || Abstract #: 107

“N-glycosylation of plasma proteins during systemic inflammatory response provoked by surgery”

Olga Gornik¹, Mislav Novokmet², Frano Vučković², Toma Keser¹, Manuela De Gregori³, Massimo Allegrì³, Gordan Lauc¹

¹University of Zagreb Faculty of Pharmacy and Biochemistry; ²Genos Ltd. Glycobiology Division; ³University of Pavia, Italy

Posterboard #: B53 || Abstract #: 108

“Fucosyltransferase deficiency enhances during acute neutrophil infiltration into the lung airway inflammation”

Alexander Buffone, Jr.¹, Amit Lugade¹, Mehrab Nasirikenari¹, Yasmin Thanavala¹, Sriram Neelamegham², Joseph Lau¹

¹Roswell Park Cancer Institute; ²State Univeristy of New York at Buffalo

Posterboard #: B54 || Abstract #: 109

“Galectin-8 in the experimental Trypanosoma cruzi infection”

Carla Pascuale¹, Adriano Bertelli¹, Hernan Garcia Rivello², Virginia Tribulati¹, Gabriela Levy¹, Oscar Competella¹, Maria Susana Leguizamon¹

¹Instituto de Investigaciones Biotecnológicas -Universidad Nacional de San Martín. Buenos Aires. Argentina; ²Servicio de Patología. Hospital Italiano. Buenos Aires, Argentina

Posterboard #: B55 || Abstract #: 110

“Structural and functional insights into Group A Streptococcus gacA: An essential dTDP-4-dehydrorhamnose reductase (RmlD)”

Samantha L. van der Beek¹, Yoann Le Breton², Andrew T. Ferenbach³, Daan M.F. van Aalten³, Iva Navratilova⁴, Kevin McIver², Nina M. van Sorge¹, Helge C. Dorfmüller⁵

¹University Medical Center Utrecht, Medical Microbiology, Heidelberglaan 100, 3584 CX Utrecht, The Netherlands; ²Department of Cell Biology and Molecular Genetics, University of Maryland, 3124 Biosciences Research Building, College Park, MD 20742, United States of America; ³Division of Molecular Microbiology, University of Dundee, College of Life Sciences, Dow Street, DD1 5EH, Dundee, United Kingdom; ⁴Division of Biological Chemistry and Drug Discovery, University of Dundee, College of Life Sciences, Dow Street, DD1 5EH, Dundee, United Kingdom; ⁵Rutherford Appleton Laboratory, Research Complex at Harwell, Didcot OX11 0FA, United Kingdom / Division of Molecular Microbiology, University of Dundee, College of Life Sciences, Dow Street, DD1 5EH, Dundee, United Kingdom

Posterboard #: B56 || Abstract #: 111

“Enhanced expression of Siglec-8 and Siglec-9 counter-receptors in inflamed human airways”

Yi Jia¹, Huifeng Yu², Steve M. Fernandes², Yadong Wei², Anabel Gonzalez Gil², Mary Motari², Robert C. Kern³, Robert P. Schleimer³, Ronald L. Schnaar⁴

¹Third Military Medical University, ChongQing, China & Johns Hopkins University School of Medicine; ²Johns Hopkins University School of Medicine; ³Northwestern University Feinberg School of Medicine; ⁴Johns Hopkins School of Medicine

Posterboard #: B57 || Abstract #: 112

“Structure-guided discovery of potent, dual acting human parainfluenza virus haemagglutinin-neuraminidase inhibitors”

Larissa Dirr, Patrice Guillon, Ibrahim El-Deeb, Moritz Winger, Benjamin Bailly, Thomas Haselhorst, Jeffrey C. Dyason, Mark von Itzstein

Institute for Glycomics, Griffith University, Gold Coast, Queensland 4222, Australia

Posterboard #: B58 || Abstract #: 113

“3-Substituted-Neu5Ac2en derivatives: novel influenza A virus sialidase inhibitors and probes of 150-loop flexibility”

Mauro Pascolutti, Raphael Böhm, Andrea Maggioni, Jeffrey C. Dyason, Robin J. Thomson, Mark von Itzstein

Institute for Glycomics, Griffith University, Gold Coast, Australia

Posterboard #: B59 || Abstract #: 114

“Galectin-1 Inhibits Dengue Virus Type 1 Infectivity”

Karina Alves Toledo¹, Marise Lopes Fermino², Camillo del Cistia-Andrade², Thalita Bachelli Riul², Lilian Rodrigues³, Renata Renata Alves², Vanessa Danielle Menjon Muller², Raquel Rinaldi Russo², Sean R. Stowell⁴, Richard D. Cummings⁵, Victor Hugo Aquino², Marcelo Dias-Baruffi²

¹Department of Biological Sciences, Universidade Estadual Paulista – UNESP (FCL-Assis), Assis, SP 19806-900, Brazil and School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP 14040-903, Brazil; ²School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP 14040-903, Brazil; ³School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP 14040-903, Brazil and Department of Pathology, Emory University School of Medicine, Atlanta, GA 30322; ⁴Department of Pathology, Emory University School of Medicine, Atlanta, GA 30322; ⁵Department of Biochemistry and the Glycomics Center, Emory University School of Medicine, Atlanta, GA 30322

Posterboard #: B60 || Abstract #: 115

“Rational Design and Development of Novel Multi-target Inhibitors for Influenza Virus”

Erika Ishitsubo¹, Takumi Hosozawa¹, Manabu Igarashi², Karl N. Kirshner³, Nongluk Sriwilajjaroen^{4,5}, Hiromasa Yokoe⁶, Masayoshi Tubuki⁶, Yasuo Suzuki⁵, Hiroaki Tokiwa^{1,7}

¹Department of Chemistry, Rikkyo University, Tokyo, Japan; ²Research Center for Zoonosis Control, Hokkaido University, Sapporo, Japan; ³Fraunhofer Institute SCAI, Sankt Augustin, Germany; ⁴Faculty of Medicine, Thammasat University, Pathumthani, Thailand, Health Science Hills, Chubu University, Kasugai, Japan; ⁵Institute of Medicinal Chemistry, Hoshi University, Tokyo, Japan; ⁶Health Science Hills, Chubu University, Kasugai, Japan; ⁷Department of Chemistry, Rikkyo University, Tokyo, Japan Research Center for Smart Molecules, Rikkyo University, Tokyo, Japan; ⁸Research Center for Smart Molecules, Rikkyo University, Tokyo, Japan

(Late-breaking Abstracts)

Posterboard #: LB7 || Abstract #:375

“Mouse Siglec-E Engages Hyaluronan and Modulates Group A Streptococcal Infection”

Anel Lizcano¹, Ismael Secundino², Jason Cole¹, Victor Nizet¹, Ajit Varki¹

¹University of California, San Diego; ²Universidad Nacional Autónoma de México

Session III: Glycan Binding Proteins/ Immunology

Posterboard #: B61 || Abstract #: 18

“Galectin-3 protects intracellular Listeria monocytogenes by suppressing autophagy activation via inhibition of nitric oxide production and bacterial ubiquitination”

I-Chun Weng¹, Huan-Yuan Chen¹, Hung-Lin Chen¹, Daniel K. Hsu², Fu-Tong Liu³

¹Academia Sinica; ²University of California, Davis; ³Academia Sinica & University of California, Davis

Posterboard #: B62 || Abstract #: 19

“Functional evaluation of sialoglycans expressed in activated T cells”

Hiromu Takematsu¹, Yuko Naito-Matsui², Takeshi Tsubata³, Shogo Oka¹

¹Kyoto Univ, Grad Sch Medicine; ²Kyoto Univ, Grad Sch Biostudies; ³Tokyo Medical and Dental Univ

Posterboard #: B63 || Abstract #: 116

“Implication of a galectin switch in the regulation of luteal function in women”

Junko Nio-Kobayashi¹, Toshihiko Iwanaga¹, W. Colin Duncan²

¹Laboratory of Histology and Cytology, Hokkaido University Graduate School of Medicine; ²MRC Centre for Reproductive Health, The Queen's Medical Research Institute, The University of Edinburgh

Posterboard #: B64 || Abstract #: 117

“The role of N-glycosylation on Paracoccidioides brasiliensis biological process and on the biological activities of underglycosylated fungal components”

Fausto Dos Reis Almeida, Maria Cristina Roque-Barreira

University of Sao Paulo

Posterboard #: B65 || Abstract #: 118

“Deciphering Glycan-Antibody Interactions: towards a Carbohydrate-based Vaccine against Clostridium difficile”

Felix Broecker, Christopher Martin, Jonas Hanske, Christoph Rademacher, Clancy Pereira, Chakkumkal Anish, Peter Seeberger

Max Planck Institute of Colloids and Interfaces, Berlin, Germany

Posterboard #: B66 || Abstract #: 119

“Novel Interactions of Human Milk Glycans with Human Galectins”

Alexander Noll, Ying Yu, Yi Lasanajak, Jean-Phillipe Gourdine, David Smith, Richard Cummings

Emory University School of Medicine

Posterboard #: B67 || Abstract #: 120

“CD44 is a major E-selectin ligand on human activated T-cells”

Amal Ali, Jasmeen Merzaban

King Abdullah University of Science and Technology

Posterboard #: B68 || Abstract #: 121

“Immunotherapy by targeting pathogens-surface glycans-induced immunosuppressions”

Xiao-Lian Zhang

State Key Laboratory of Virology, Hubei Province Key Laboratory of Allergy and Immunology, Department of Immunology, Wuhan University School of Medicine

Posterboard #: B69 || Abstract #: 122

“Role of endothelial sialic acid expression on xenogenic neutrophil adhesion”

Beth French, Donald Harris, Prabh Benipal, Robin Pierson, Agnes Azimzadeh

University of Maryland Baltimore

Posterboard #: B70 || Abstract #: 123

“Atomic details of the glycosylation-dependent and independent ligand interactions of C-type lectin-like receptor-2 (CLEC-2)”

Masamichi Nagae¹, Kana Morita-Matsumoto¹, Masaki Kato¹, Mika Kaneko², Yukinari Kato², Yoshiki Yamaguchi¹

¹Structural Glycobiology Team, RIKEN; ²Tohoku University

Posterboard #: B71 || Abstract #: 124

“The use of RNA-Seq to identify a transcript encoding an N-acetylglucosamine-binding lectin from the edible Kurokawa (Boletopsis) mushroom”

Mehul Ganatra, Jeremiah Read, Colleen McClung, Daniela Munafo, Brad Langhorst, Anthony Francis, Brett Robb, Jack Benner, Nathan VerBerkmoes, Christopher Taron

New England BioLabs, 240 County Road, Ipswich, MA 01938

Posterboard #: B72 || Abstract #: 125

“Intracellular trafficking of MytiLec, a Gb3-specific R-type mussel lectin with cytotoxic activity”

Imtiaz Hasan¹, Yuki Fujii², Yukiko Ogawa², Shigeki Sugawara³, Masahiro Hosono³, Yasuhiro Koide¹, Sultana Rajia⁴, Sarkar M. A. Kawsar⁵, Robert Kanaly¹, Toshi

¹Graduate School of Yokohama City University, Yokohama, Japan;

²Graduate School of Nagasaki International University, Sasebo, Nagasaki, Japan;

³Institute of Molecular Biomembrane and Glycobiology, Tohoku Pharmaceutical University, Sendai, Japan;

⁴Varendra University, Rajshahi, Bangladesh; ⁵University of Chittagong, Chittagong, Bangladesh

Posterboard #: B73 || Abstract #: 126

“Influence of SIGLEC9 polymorphisms on the phenotypes of chronic obstructive pulmonary disease (COPD)”

Takashi Angata¹, Takeo Ishii², Takashi Motegi², Congxiao Gao³, Kazuaki Ohtsubo³, Shinobu Kitazume³, Akihiko Gemma⁴, Kozui Kida², Naoyuki Taniguchi³

¹Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan;

²Systems Glycobiology Research Group, Global Research Cluster, RIKEN, Saitama, Japan;

³Respiratory Care Clinic, Nippon Medical School, Tokyo, Japan;

⁴Division of Pulmonary Medicine, Infectious Diseases and Oncology, Nippon Medical School, Tokyo, Japan;

⁵Systems Glycobiology Research Group, Global Research Cluster, RIKEN, Saitama, Japan;

⁶Division of Pulmonary Medicine, Infectious Diseases and Oncology, Department of Internal Medicine, Nippon Medical School, Tokyo, Japan

Posterboard #: B74 || Abstract #: 127

“Synthetic β -1,3-Oligoglucans as Probes to Study for Hydrolysis and Recognition of Endo- β -1,3-Glucanase”

Atsushi Miyagawa¹, Masayuki Oda², Hatsuo Yamamura¹

¹Nagoya Institute of Technology; ²Kyoto Prefectural University

Posterboard #: B75 || Abstract #: 128

“A new role for N-glycans: allosteric regulation of protein activity through an intramolecular interaction between immunoglobulin G1 polypeptide and Asn297-linked glycan residues”

Adam Barb, Ganesh Subedi, Quinlin Hanson

Iowa State University

Posterboard #: B76 || Abstract #: 129

“Selective cross-reactivity and functionality displayed by antibodies against the inner core of Neisseria meningitidis lipooligosaccharide”

Matthew J. Parker¹, Kathryn Gomery¹, Gabrielle Richard², C. Roger Mackenzie², Andrew D. Cox², James C. Richards², Stephen V. Evans¹

¹Department of Biochemistry and Microbiology, University of Victoria, Victoria, BC, V8P 3P6 Canada;

²Human Health Therapeutics Portfolio, National Research Council, 100, Sussex Drive, Ottawa, ON, K1A 0R6, Canada

Posterboard #: B77 || Abstract #: 130

“NMR interaction analysis of intestinal soluble lectin ZG16p with mycobacterium phosphatidylinositol mannosides”

Shinya Hanashima¹, Mayumi Kanagawa¹, Sebastian Götze², Yan Liu³, Akemi Ikeda¹, Daniel Varón Silva², Ten Feizi³, Peter Seeberger², Yoshiki Yamaguchi¹

¹Structural Glycobiology Team, RIKEN; ²Department of Biomolecular Systems, MPI; ³Department of Medicine, Imperial College London

Posterboard #: B78 || Abstract #: 131

“Integrating glycan array data and computer modeling: extending the Influenza species specificity paradigm”

Oliver C. Grant¹, Jodi A. Hadden¹, Hannah M. K. Smith², Wenjie Peng³, Robert De Vries³, Ryan McBride³, James C. Paulson³, Robert J. Woods¹

¹Complex Carbohydrate Research Center, University of Georgia, Athens, GA, USA; ²School of Chemistry, National University of Ireland, Galway, Ireland; ³Departments of Cell and Molecular Biology, Chemical Physiology, & Immunology and Microbial Science, The Scripps Research Institute, La Jolla, CA, USA

Posterboard #: B79 || Abstract #: 132

“Structural basis for antibody recognition of lipid A carbohydrate backbone”

Omid Haji-Ghassemi¹, Sven Müller-Loennies², Teresa Rodriguez¹, Lore Brade³, Paul Kosma⁴, Helmut Brade³, Stephen Evans¹

¹University of Victoria, Department of Biochemistry and Microbiology, Victoria, BC, Canada; ²Research Center Borstel, Leibniz-Center for Medicine and Biosciences, Borstel, Germany; ³Research Center Borstel, Leibniz-Center for Medicine and Biosciences, Borstel, Germany; ⁴University of Natural Resources and Life Sciences, Vienna, Austria

Posterboard #: B80 || Abstract #: 133

“Recombinant Human Intelectin-1 expressed in a heart capillary endothelial cell line displays specific pathogen binding”

Jin Kyu Lee, Jonathan Viola, Michael Pierce

Department of Biochemistry and Molecular Biology and Complex Carbohydrate Research Center, University of Georgia, Athens, Georgia 30605

Posterboard #: B81 || Abstract #: 134

“Crystal structure of Surface Layer Homology domains from Paenibacillus alvei S-layer protein SpaA provides insight to secondary cell wall polymer recognition”

Ryan J. Blackler¹, Arturo López-Guzmán², Gudrun Martinz³, Paul Kosma³, Christina Schäffer², Paul Messner², Stephen V. Evans¹

¹Department of Biochemistry & Microbiology, University of Victoria, Victoria, British Columbia, Canada; ²Department of NanoBiotechnology, NanoGlycobiology Unit, Universität für Bodenkultur Wien, Vienna, Austria; ³Department of Chemistry, University of Natural Resources and Life Sciences, A-1190 Vienna, Austria

Posterboard #: B82 || Abstract #: 135

“Developing unique glycan binding reagents using an ancient immune system”

Tanya McKittrick, Jamie Heimburg-Molinaro, Brantley Herrin, David Smith, Max Cooper, Richard Cummings

Emory University

Posterboard #: B83 || Abstract #: 136

“Connecting the microbiota to peripheral immune quiescence by T cell cooperativity”

Mark B. Jones, Jenny L. Johnson, Brian A. Cobb

Case Western Reserve University

Posterboard #: B84 || Abstract #: 137

“Galectin-7 regulates keratinocyte proliferation and differentiation through JNK-miR-203-p63 signaling”

Hung-Lin Chen¹, Po-Cheng Chiang¹, Chia-Hui Lo¹, Yuan-Hsin Lo², Daniel K. Hsu³, Huan-Yuan Chen¹, Fu-Tong Liu³

¹Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan, R.O.C.; ²Graduate institute of immunology, College of Medicine, National Taiwan University, Taipei, Taiwan; ³Department of Dermatology, School of Medicine, University of California-Davis, Sacramento, CA

Posterboard #: B85 || Abstract #: 138

“Hyaluronan as a regulator of macrophage function: implications for inflammation and angiogenesis”

Jamie Rayahin, Yu Zhang, Jason Buhrman, Mary Tang, Richard Gemeinhart

University of Illinois at Chicago

Posterboard #: B86 || Abstract #: 139

“Investigation of organic framework based on carbohydrate-protein interaction”

Atsushi Nakagawa¹, Kazuki Konta², Kento Inoue², Shinobu Komiya³, Osamu Kanie¹

¹Tokai University, Institute of Glycoscience; ²Tokai University, Faculty of Engineering; ³Tokai University, Graduate School of Engineering

Posterboard #: B87 || Abstract #: 140

“Sulfoglycomics of human and murine T lymphocytes reveals additional sulfation common to both despite differences in terminal glycosylation”

Jian-You Chen, Hsin-Hung Huang, Cheng-Te Hsiao, Kay-Hooi Khoo

Institute of Biochemical Sciences, National Taiwan University; and Institute of Biological Chemistry, Academia Sinica, Taiwan

Posterboard #: B88 || Abstract #: 141

“Endogenous airway mucins carry glycans that bind Siglec-F and induce eosinophil apoptosis”

Takumi Kiwamoto¹, Toshihiko Katoh², Christopher Evans³, William Janssen³, Mary Brummet¹, Sherry Hudson¹, Zhou Zhu¹, Michael Tiemeyer², Bruce Bochner¹

¹Division of Allergy and Clinical Immunology, Johns Hopkins University School of Medicine; ²Complex Carbohydrate Research Center, University of Georgia; ³Division of Pulmonary Medicine, University of Colorado School of Medicine

Posterboard #: B89 || Abstract #: 142

“Induction of proinflammatory responses by galectin-3, a soluble lectin that could link the pathogen pattern-associated and damage-associated innate immune responses”

Guillaume St-Pierre, Valérie Milot, Christian St-Pierre, Sachiko Sato

Glycobiology and Bioimaging Laboratory, Research Center for Infectious Diseases, CRCHU de Quebec, Faculty of Medicine, Laval University, Québec, Canada

Posterboard #: B90 || Abstract #: 143

“Purification and characterization of the novel lectin from Ceroplastes ceriferusi”

Satoki Kaneko¹, Ikumi Ochiai², Shun Sato², Koki Kimura², Tatsuya Oda³, Nobumitsu Miyaniishi¹

¹Graduate school of Life Sciences, Toyo University; ²Faculty of Life Sciences, Toyo University; ³Faculty of Fisheries, Nagasaki University

Posterboard #: B91 || Abstract #: 144

“Trypanosoma cruzi trans-sialidase, a virulence factor that modifies immune cells sialylation pattern”

Juan Mucci, Pablo Ruiz Diaz, María Susana Leguizamón, Oscar Campetella

Universidad Nacional de San Martín, Buenos Aires, Argentina

Posterboard #: B92 || Abstract #: 145

“Construction and use of a mammalian lectin microarray for deciphering microbial-host and disease processes”

Michelle Kilcoyne, Marta Utratna, Stephen Cunningham, Jared Gerlach, Lokesh Joshi

National University of Ireland Galway

Posterboard #: B93 || Abstract #: 146

“Galectin-8 induces dendritic cells activation”

Julieta Carabelli, Maria Virginia Tribulatti, Oscar Campetella
Universidad Nacional de San Martin, Buenos Aires, Argentina

Posterboard #: B94 || Abstract #: 147

“Comprehensive syntheses of sialyl galactoside regioisomers”

Kenta Kurimoto, Hatsuo Yamamura, Atsushi Miyagawa
Nagoya Institute of Technology

Posterboard #: B95 || Abstract #: 148

“Functional and biochemical characterization of a modified Galectin-8 protein”

Matias Schroeder¹, Julieta Carabelli¹, Valentina Cattaneo¹, Julio Caramelo², Oscar Campetella³, Maria Virginia Tribulatti³

¹Universidad Nacional de San Martin, Buenos Aires, Argentina; ²Instituto Leloir, Buenos Aires, Argentina; ³Universidad Nacional de San Martin

Posterboard #: B96 || Abstract #: 149

“Alteration of the carbohydrate-binding specificity of the C-type lectin CEL-I by site-directed mutagenesis”

Hiroshi Moriuchi, Hideaki Unno, Shuichiro Goda, Tomomitsu Hatakeyama
Graduate School of Engineering, Nagasaki University

Posterboard #: B97 || Abstract #: 150

“Characterization of sparsely labeled glycosylated proteins by NMR”

James Prestegard, Qi Gao
University of Georgia

Posterboard #: B98 || Abstract #: 151

“Expression and characterization of the recombinant lectin SUL-1 derived from the venom of the sea urchin *Toxopneustes pileolus*”

Ayaka Ichise¹, Hideaki Unno¹, Shuichiro Goda¹, Hideyuki Nakagawa², Tomomitsu Hatakeyama¹

¹Graduate School of Engineering, Nagasaki University; ²Graduate School of Integrated Arts and Sciences, The University of Tokushima

Posterboard #: B99 || Abstract #: 152

“Biophysical characterization of immunoglobulin G1 Fc bearing an N-glycan consisting of a single (13C)-GlcNAc residue”

Ganesh P. Subedi, Quinlin M. Hanson, Adam W. Barb
Roy J. Carver Department of Biochemistry, Biophysics & Molecular Biology, Iowa State University

Posterboard #: B100 || Abstract #: 153

“Maintenance of circulatory ST6Gal-1 levels requires B cells”

Melissa M. Lee-Sundlov, Joseph T.Y. Lau
Roswell Park Cancer Institute

Posterboard #: B101 || Abstract #: 154

“Galectin-7 Displays Specific Antimicrobial Activity Toward Microbes Expressing Self-like Antigens”

Connie Arthur, Lilian Rodrigues, Carol Xue, Richard Cummings, Sean Stowell
Emory University

Posterboard #: B102 || Abstract #: 155

“Aging-related effects of galectins on neuronal viability and excitability”

Tristan Hedrick, Sonia Bhangoo, Geoffrey Swanson
Northwestern University, Feinberg School of Medicine

Posterboard #: B103 || Abstract #: 156

“Gal-1 modulation of ROS production in neutrophils”

Lilian Rodrigues¹, Luciana Kabeya², Ana Elisa Azzolini², Yara Lucisano Valim², Sean Stowell³, Marcelo Dias-Baruffi²

¹Emory University, Atlanta, GA/University of São Paulo, School of Pharmaceutical Sciences of Ribeirão Preto, Brazil; ²University of São Paulo, School of Pharmaceutical Sciences of Ribeirão Preto, Brazil; ³Department of Pathology, Emory University, School of Medicine, Atlanta, Georgia, USA

Posterboard #: B104 || Abstract #: 157

“Binding activity and specificity of Trans-sialidase lectin domain from *Trypanosoma congolense*”

Mario Waespy¹, Thaddeus Gbem², Leroy Elenchneider¹, Joe Tiralongo³, Thomas Haselhorst³, Jonathan A. Nok², Sørge Kelm¹

¹Centre for Biomolecular Interactions Bremen, University of Bremen, Germany; ²Centre for Biotechnology Training and Research, Ahmadu Bello University, Zaria, Nigeria; ³Institute for Glycomics, Griffith University Gold Coast Campus, Queensland, Australia

Posterboard #: B105 || Abstract #: 158

“The tandem-repeat galectin-8 is widely expressed in the central and peripheral nervous system”

Yomayra Guzman, Tristan Hedrick, Sonia Bhangoo, Geoffrey Swanson
Northwestern University, Feinberg School of Medicine

Posterboard #: B106 || Abstract #: 159

“Investigation into molecular mechanism of synapse elimination mediated by complement C1q and C3”

Kunimichi Suzuki, Michisuke Yuzaki
Department of Neurophysiology, School of Medicine, Keio University

Posterboard #: B107 || Abstract #: 160

“Characterization and interaction analyses of multispecific *Pleurocybella porrigens* lectins”

Ayano Fukasawa¹, Hiroshi Sakagami¹, Kosuke Nakamura¹, Nao Nagasawa¹, Yuki Ohta², Nana Kawasaki², Haruko Ogawa³

¹Graduate School of Humanities and Sciences, Ochanomizu University; ²Division of Biological Chemistry and Biologicals, National Institute of Health Sciences; ³Graduate School of Humanities and Sciences and the Glycoscience Institute, Ochanomizu University

Posterboard #: B108 || Abstract #: 161

“Homogeneous Heparan Sulfate Oligomers for NMR Studies of VACV B18 GAG Binding”

Kari Pederson, Shuo Wang, Kelley W. Moremen, James H. Prestegard
University of Georgia

Posterboard #: B109 || Abstract #: 162

“Galectin-1 Participates On Acute Experimental Trypanosoma cruzi Infection”

Thalita B. Riul¹, Helioswilton S. de Campos¹, Cristina R. Cardoso¹, Cibele Prado², Anderson Sá-Nunes³, Richard D. Cummings⁴, Sean R. Stowell⁵, Marcelo Dias-Baruffi¹

¹School of Pharmaceutical Sciences of Ribeirão Preto, University of São Paulo, 14040-903, Brazil; ²Department of Pathology, School of Medicine of Ribeirão Preto, University of São Paulo 14049-900, Brazil; ³Department of Immunology, Institute of Biomedical Sciences, University of São Paulo, São Paulo 05508-900, Brazil; ⁴Department of Biochemistry and the Glycomics Center, Emory University School of Medicine, Atlanta, GA 30322, United States; ⁵Department of Pathology, Emory University School of Medicine, Atlanta, GA 30322, United States

Posterboard #: B110 || Abstract #: 163

“Modulation of malignant properties of cancer cells by binding of a sialic acid-recognizing lectin Siglec-9 via calpain-mediated degradation of focal adhesion kinase and related proteins”

Koichi Furukawa¹, Ilhamjan Sabit¹, Noboru Hashimoto¹, Yasuyuki Matsumoto¹, Toshiyuki Yamaji², Keiko Furukawa³

¹Department of Biochemistry II, Nagoya University Graduate School of Medicine, Nagoya, 466-0065, Department of Biochemistry; ²Department of Biochemistry and Cell Biology, National Institute of Infectious Diseases, Tokyo 162-8640; ³Department of Biochemistry II, Nagoya University Graduate School of Medicine, Nagoya, 466-0065, Department of Biochemistry and Department of Biomedical Sciences, Chubu University College of Life and Health Sciences, Kasugai 487-8501, Japan

Posterboard #: B111 || Abstract #: 164

“Core Fucosylation: A Key To The Activity of 1918 H1N1 Neuraminidase”

V.N. Reinhold¹, Z.L. Wu², H. Zhou¹, C. Ethen²

¹Glycomics Center, 35 Colovos Road, University of New Hampshire, Durham, NH 03824; ²R&D Systems Inc., 614 McKinley Place NE, Minneapolis, MN 55413

(Late-breaking Abstracts)

Posterboard #: LB8 || Abstract #: 376

“Mechanistic roles for glycoproteins in intestinal cell intoxication by cholera toxin”

Akiko Fujita, Amberlyn Wands, Thuy Nguyen, Janet McCombs, Andrea Rodriguez, Jennifer Kohler

Departments of Biochemistry, UT Southwestern Medical Center

Posterboard #: LB9 || Abstract#: 377

“Modulation of Immune Responses via TLR4/MD-2 with Synthetic Isoprenoids”

Keisuke Mizot¹, Akinori Saeki¹, Hiroe Honda², Naoki Okamoto³, Takahito Kimura⁴, Yoshinori Nagai⁵, Kiyoshi Takatsu², Yukari Fujimoto⁶, Koichi Fukase¹

¹Osaka University; ²University of Toyama, Toyama Prefectural Institute for Pharmaceutical Research; ³University of Toyama, Teika Pharmaceutical Company, Ltd., ⁴Teika pharmaceutical Company, Ltd., ⁵University of Toyama, ⁶Osaka University, Keio University

Posterboard #: LB10 || Abstract#: 378

“High throughput screening and synthetic study of Fut8 inhibitors”

Satomi Kasahara¹, Yoshiyuki Manabe¹, Shinji Takamatsu², Eiji Miyoshi², Koichi Fukase¹

¹Graduate School of Science, Osaka Univ., ²Graduate School of Medicine, Osaka Univ

Posterboard #: LB11 || Abstract #: 379

“Sialylated Glycoconjuate-Specific Binding Lectin from the Helicium erinaceum”

Seonghun Kim

Jeonbuk Branch Institute, Korea Research Institute of Bioscience and Biotechnology, 181 Ipsin-gil, Jeongeup 580-185, Korea; Biosystems and Bioengineering Program, University of Science and Technology (UST), Daejeon 305-350, Korea

Posterboard #: LB12 || Abstract #: 380

“EtpA adhesin engages intestinal mucins to facilitate enterotoxigenic E. Coli host colonization and pathogenesis”

Pardeep Kumar¹, Qingwei Luo¹, Kirandeep Bhullar², Bruce Vallance², Lijun Xia³, James Fleckenstein⁴

¹Department of Medicine, Division of Infectious Diseases, Washington University School of Medicine, St. Louis, Missouri, USA; ²Child and Family Research Institute, University of British Columbia, Vancouver, Canada; ³Oklahoma Medical Research Foundation, Oklahoma, USA; ⁴Department of Medicine, Division of Infectious Diseases, Washington University School of Medicine, St. Louis, Missouri, USA, Medicine Service, Veterans Affairs Medical Center, St. Louis, Missouri, USA

Posterboard #: LB13 || Abstract #: 381

“Synthesis and Evaluation of Monophosphoryl Lipid A Derivatives as Fully Synthetic Self-Adjuvanting Glycoconjugate Cancer Vaccine Carriers”

Zhifang Zhou

Department of Chemistry, Wayne State University

Posterboard #: LB14 || Abstract #: 382

“Reishi Polysaccharides-induced Antibodies Recognize Tumor- Associated Carbohydrate Epitopes”

Shiou-Ting Li¹, Shih-Fen Liao¹, Chi-Hui Liang¹, Hsien-Yeh Hsu², Chung-Yi Wu¹, Chi-Huey Wong¹

¹The Genomics Research Center, Academia Sinica, Taipei, Taiwan; ²Faculty of Medical Technology, Institute of Biotechnology in Medicine, National Yang-Ming University, Taipei, Taiwan

Posterboard #: LB15 || Abstract #: 383

“Lectin Nucleotide Phosphohydrolases (LNPs): a Family of Lectins that May Function as Co-Receptors or Modulators of Oligosaccharide-Signaling Events in Plants”

Marilynn Etzler¹, Nicholas Roberts²

¹University of California, Davis; ²AgResearch Grasslands Research Centre, Palmerston North, New Zealand

Session IV: Regulation and Signaling

Posterboard #: B112 || Abstract #: 25

“The Molecular Mechanisms of Fringe Modification on Drosophila Notch: Examining the Structure and Function of Notch EGF Repeats”

Beth M. Harvey¹, Nadia A. Rana¹, Tong Wang², Huilin Li², Robert S. Haltiwanger¹

¹Department of Biochemistry and Cell Biology, Stony Brook University, Stony Brook, NY 11794-5215; ²Department of Biology, Brookhaven National Laboratory, Upton, NY 11973

Posterboard #: B113 || Abstract #: 26

“An E3 ubiquitin ligase regulates neural-specific glycosylation in the Drosophila embryo”

Nickita Mehta¹, Mary Sharrow¹, Toshiko Katoh¹, Katherine Tiemeyer², Michael Tiemeyer¹

¹CCRC, UGA; ²CCRC

Posterboard #: B114 || Abstract #: 165

“Laminin binding glycan depletion on α -dystroglycan in prostate cancer cells promotes epithelial-mesenchymal transition and enhances tumor formation”

Tohru Yoneyama¹, Shingo Hatakeyama¹, Yuki Tobisawa¹, Motohiro Nonaka², Chikara Ohyama¹, Minoru Fukuda²

¹Department of Urology, Hirosaki University Graduate school of Medicine; ²Glycobiology Unit, Tumor Microenvironment Program, Cancer Center Sanford-Burnham Medical Research Institute

Posterboard #: B115 || Abstract #: 166

“HNK-1 carbohydrate regulates the cell surface expression level of AMPA-type glutamate receptors”

Jyoji Morise, Yusuke Takeuchi, Hiromu Takematsu, Shogo Oka
Human Health Sci., Grad. Sch. of Med., Kyoto Univ.

Posterboard #: B116 || Abstract #: 167

“aCaMKII-positive neurons of the PVN regulates feeding via intrinsic nutrient sensing by the O-GlcNAc transferase”

Olof Lagerlof, Seth Blackshaw, Gerald W. Hart, Richard L. Haganir
Johns Hopkins University

Posterboard #: B117 || Abstract #: 168

“Functional interaction of POMT and DPM synthase in protein O-mannosylation”

Hiroshi Many¹, Takeyuki Yamada¹, Tetsuo Takahashi², Keiko Akasaka-Many¹, Tamao Endo¹

¹Molecular Glycobiology, Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan; ²Dept. of Applied Biochemistry, School of Engineering, Tokai University, Kanagawa, Japan

Posterboard #: B118 || Abstract #: 169

“C-Mannosylated TSR-derived peptides modulate TGF-beta signaling in cultured lung epithelial-derived cells”

Yoshito Ihara¹, Midori Ikezaki¹, Yoko Inai¹, In-Sook Lee Matsui¹, Shino Manabe², Yukishige Ito³

¹Department of Biochemistry, Wakayama Medical University, Japan; ²Advanced Science Institute, RIKEN, Japan; ³RIKEN and ERATO Glycotriology Project (JST), Japan

Posterboard #: B119 || Abstract #: 170

“Deciphering the distribution of O-mannosylated proteins in murine brain”

Markus Bartels¹, Mark Lommel¹, Huayiu Hu², Frank Möhrlen³, Sabine Strahl¹

¹Department of Cell Chemistry, Centre for Organismal Studies (COS), University of Heidelberg, Heidelberg, Germany; ²Department of Neuroscience and Physiology, Upstate Medical University, New York, USA; ³Department of Animal Molecular Physiology, Centre for Organismal Studies (COS), University of Heidelberg, Heidelberg, Germany

Posterboard #: B120 || Abstract #: 171

“A novel HNK-1 epitope in perineuronal nets”

Keiko Yabuno¹, Tomomi Izumikawa², Hiromu Takematsu¹, Hiroshi Kitagawa², Shogo Oka¹

¹Department of Biological Chemistry, Human Health Sciences, Graduate School of Medicine, Kyoto University; ²Department of Biochemistry, Kobe Pharmaceutical University

Posterboard #: B121 || Abstract #: 172

“Signaling-inhibitory effects of sErbB3 is enhanced by single N-glycan deletion”

Motoko Takahashi¹, Yoshihiro Hasegawa¹, Yoshitaka Ikeda², Yoshinao Wada³, Michiko Tajiri³, Shigeru Arika¹, Rina Takamiya¹, Yoshiki Yamaguchi⁴, Naoyuki Taniguchi⁴, Yoshio Kuroki¹

¹Department of Biochemistry, Sapporo Medical University School of Medicine; ²Department of Biomolecular Sciences, Faculty of Medicine, Saga University; ³Department of Molecular Medicine, Osaka Medical Center and Research Institute for Maternal and Child Health; ⁴Systems Glycobiology Research Group, RIKEN-Max Planck Joint Research Center, RIKE

Posterboard #: B122 || Abstract #: 173

“Cytokeratin 1 interacts with the cytoplasmic tail of Core 2 N-acetylglucosaminyltransferase 2/M to retain the enzyme in the Golgi”

Pi-Wan Cheng, Armen Petrosyan, Mohamed Ali

VA Nebraska Western Iowa Health Care System and University of Nebraska Medical Center

Posterboard #: B123 || Abstract #: 174

“Studies in physiological roles of asialoglycoprotein receptors (ASGPRs) variants and application of hepatic-targeted delivery via ASGPRs”

Jing Hu¹, Quan Zhang², Mengji Lu³, Jian Yin²

¹Wuxi Medical School, Jiangnan University, Lihu Avenue 1800, 214122, Wuxi, China; ²Institute of Virology, University Hospital of Essen, 45147, Essen, Germany; ³The Key Laboratory of Carbohydrate Chemistry and Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University, Lihu Avenue 1800, 214122, Wuxi, China; ⁴Institute of Virology, University Hospital of Essen, 45147, Essen, Germany

Posterboard #: B124 || Abstract #: 175

“Epigenetic regulation of colon cancer stem cells by O-GlcNAc protein modification”

Huabei Guo¹, Bing Zhang², Phillip Buckhaults³, Michael Pierce⁴

¹Department of Biochemistry and Molecular Biology, Complex Carbohydrate Research Center, University of Georgia, Athens, GA, 30602; ²Boston Children's Hospital, Harvard, Boston, MA 02115; ³Department of Medicine, Division of Hematology & Oncology, The University of Alabama at Birmingham, Birmingham, AL 35294-3300; ⁴Department of Biochemistry and Molecular Biology, Complex Carbohydrate Research Center, University of Georgia, Athens, GA

Posterboard #: B125 || Abstract #: 176

“Tissue-specific expression of the short O-linked N-acetylglucosamine transferase isoform modulates UDP-GlcNAc levels by balancing hydrolysis and utilization”

Lara K. Abramowitz, John A. Hanover

National Institutes of Health/ National Institute of Diabetes and Digestive and Kidney Diseases

Posterboard #: B126 || Abstract #: 177

“TLR4-Mediated Innate Inflammatory Response is Modulated by Cell Surface Sialic Acid Composition”

Jonathan Okerblom, Yuko Naito-Matsui, Flavio Schwarz, Ajit Varki

Glycobiology Research and Training Center, Departments of Medicine and Cellular & Molecular Medicine, University of California, San Diego

Posterboard #: B127 || Abstract #: 178

“Caveolin-1 up-regulates core-fucosylation and alpha1,6-fucosyltransferase (FUT8) expression level in hepatocarcinoma cells via Wnt/beta-catenin signaling”

Linhua Liu¹, Xiaohan Guo¹, Nanyang Li¹, Lijun Zhang¹, Xixi Chen¹, Jianhui Fan¹, Shujing Wang¹, Jianing Zhang^{*2}

¹Department of Biochemistry, Institute of Glycobiology, Dalian Medical University Dalian 116044, China; ²School of Life Science and Medicine, Dalian University of Technology, Dalian 116024, China

Posterboard #: B128 || Abstract #: 179

“O-GlcNAc proteome revealed proteins important for B cell activation and apoptosis”

Jung-Lin Wu¹, Hsin-Yi Wu², Chun-Hung Lin³, Yu-Ju Chen², Kuo-I Lin¹

¹Genomics Research Center, Academia Sinica; ²Institute of Chemistry, Academia Sinica; ³Institute of Biological Chemistry, Academia Sinica

Posterboard #: B129 || Abstract #: 180

“Super-Resolution Microscopy Mapping Sites of O-GlcNAc modification in the Native Nuclear Pore Complex”

Weidong Yang

Temple University

Posterboard #: B130 || Abstract #: 181

“Control of oxygen sensing in protists by glycosylation-dependent changes in Skp1 protein conformation”

M. Osman Sheikh¹, Christopher M. Schafer¹, Yuechi Xu¹, Steven D. Hartson², John N. Glushka³, James H. Prestegard³, Christopher M. West⁴

¹Dept. of Biochemistry & Molecular Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK; ²Dept. of Biochemistry & Molecular Biology, Oklahoma State University, Stillwater, OK; ³Complex Carbohydrate Research Center, University of Georgia, Athens, GA; ⁴Dept. of Biochemistry & Molecular Biology, Oklahoma Center for Medical Glycobiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

Posterboard #: B131 || Abstract #: 182

“Identification of single O-mannosylated proteins in murine brain”

Patrick Winterhalter¹, Thomas Ruppert², Sabine Strahl³

¹Department of Cell Chemistry, Centre for Organismal Studies (COS), University of Heidelberg, Germany & Department of Mass Spectrometry, Center for Molecular Biology (ZMBH), University of Heidelberg, Germany; ²Department of Mass Spectrometry, Center for Molecular Biology (ZMBH), University of Heidelberg, Germany; ³Department of Cell Chemistry, Centre for Organismal Studies (COS), University of Heidelberg, Germany

Posterboard #: B132 || Abstract #: 183

“Glypican and the heparan sulfate fine structure at the Drosophila neuromuscular junction”

Keisuke Kamimura, Rie Hamada, Nobuaki Maeda

Tokyo Metropolitan Institute of Medical Science

Posterboard #: B133 || Abstract #: 184

“Sulfation patterns of chondroitin sulfate regulate neural development and plasticity”

Shinji Miyata¹, Yukio Komatsu², Yumiko Yoshimura³, Choji Taya⁴, Hiroshi Kitagawa⁵

¹Inst. Adv. Res., Nagoya Univ.; ²Dept. Neurosci., Nagoya Univ.; ³Div. Dev. Neurophysiol., Nat. Inst. Physiol. Sci.; ⁴Lab. Transgenic. Technol., The Tokyo Metro Insti. Med. Sci.; ⁵Dept. Biochem., Kobe Pharma. Univ.

Posterboard #: B134 || Abstract #: 185

“Highly sulfated chondroitin sulfate chains regulate neuronal polarity formation”

Tadahisa Mikami, Miharuru Shida, Hiroshi Kitagawa

Department of Biochemistry, Kobe Pharmaceutical University, Japan

Posterboard #: B135 || Abstract #: 186

“Protein O-GlcNAcylation Regulates Cardiac Mitochondrial Function”

Junfeng Ma¹, Ting Liu², Anchi Wei², Partha Banerjee¹, Brian O'Rourke², Gerald Hart¹

¹Department of Biological Chemistry, The Johns Hopkins University School of Medicine; ²Department of Cardiology, The Johns Hopkins University School of Medicine

Posterboard #: B136 || Abstract #: 187

“Glycosphinglipid CD77 specifically attenuates the CD19-PI3K-Akt pathway of the B cell receptor signaling in model germinal center B cells”

Taishi Yuasa¹, Kumiko Hamano¹, Ryosuke Seki², Shogo Oka³, Hiromu Takematsu³

¹Graduate School of Medicine, Kyoto University, Graduate School of Biostudies, Kyoto University; ²Graduate School of Biostudies, Kyoto University; ³Graduate School of Medicine, Kyoto University

Posterboard #: B137 || Abstract #: 188

“X-inactivation normalizes O-GlcNAc Transferase levels and generates an O-GlcNAc-depleted Barr body”

Stephanie Olivier-Vanstichelen¹, John Hanover²

¹NIH/NIDDK; ²NIDDK, NIH

Posterboard #: B138 || Abstract #: 189

“Expression of the Tn and STn Antigens on Tumor Cells Attenuates their Sensitivity to TRAIL-Induced Apoptosis”

Tongzhong Ju, Wenyi Wang, Sean Stowell, Yingchun Wang, Richard D. Cummings

Emory University

Posterboard #: B139 || Abstract #: 190

“Epigenetic and Transcriptional Regulation of a Core 2 Branching Enzyme during T Cell Activation”

Ayman Abuelela¹, Yanal Ghosheh², Timothy Ravasi², Jasmine Merzaban¹

¹Biological and Environmental Sciences and Engineering Department (BESE), King Abdullah University of Science and Technology (KAUST), Thuwal, 23955, KSA; ²Computational Biology Research Center (CBRC), King Abdullah University of Science and Technology (KAUST), Thuwal, 23955, KSA

Posterboard #: B140 || Abstract #: 191

“Molecular Characterization and Expression Analyses of ST8Sia II, III and IV in Piglets During Postnatal Development: Lack of Correlation Between Transcription and Posttranslational Levels”

Frederic A. Troy II¹, Xi Zhu², Zhiqiang Zheng², Nai Zhang², Yue Chen, Ni Liu², Bing Wang⁴

¹University of California School of Medicine and Xiamen University School of Medicine; ²Xiamen University School of Medicine; ³Xiamen University School of Medicine; ⁴Xiamen University School of Medicine & Charles Sturt University School of Anim. & Vet. Science

Posterboard #: B141 || Abstract #: 192

“Detection of Glycosyltransferase activities with homogenous bioluminescent UDP and GDP detection assays”

Hicham Zegzouti, Laurie Engel, Jacquelyn Hennek, Juliano Alves, Gediminas Vidugiris, Said Goueli

Promega Corporation R&D, 2800 Woods Hollow Rd Madison WI 53711

Posterboard #: B142 || Abstract #: 193

“Exploring consequences of N-glycolylneuraminic acid overexpression in the brain”

Yuko Naito-Matsui¹, Leela Davies¹, Hiromu Takematsu², Hsun-Hua Hsun-Hua Chou¹, Pam Tangvoranuntakul¹, Charles Heyser³, Aaron Carlin¹, Andrea Verhagen¹, Pascal Gagneux¹, Ajit Varki¹

¹Glycobiology Research and Training Center, Departments of Medicine and Cellular & Molecular Medicine, University of California San Diego; ²Glycobiology Research and Training Center, Departments of Medicine and Cellular & Molecular Medicine, University of California San Diego and Graduate School of Medicine, Kyoto University; ³Neuroscience Behavioral Testing Core, University of California San Diego

Posterboard #: B143 || Abstract #: 194

“N-glycosylation of the Reactive Centre Loop of Corticosteroid-Binding Globulin Regulate Neutrophil Elastase-Based Cleavage and Cortisol Release”

Zeynep Sumer-Bayraktar, Nicolle H. Packer, Morten Thaysen-Andersen
Chemistry and Biomolecular Sciences, Macquarie University, Sydney, Australia

Posterboard #: B144 || Abstract #: 195

“Global O-GlcNAc levels modulate adipocytokine transcription during chronic insulin resistance”

Robert Bridger¹, Edith Wollaston-Hayden¹, Ruth Harris², Lance Wells¹

¹CCRC at UGA; ²Georgia Regents University

Posterboard #: B145 || Abstract #: 196

“Non-enzymatic regulation of Skp1 function through a development-dependent association with its α -galactosyltransferase (AgtA)”

Christopher Schafer, Osman Sheikh, Daniel Lin, Christopher West
Oklahoma University Health Sciences Center

Posterboard #: B146 || Abstract #: 197

“Lactosylceramide mediates innate immune responses depending on PAMPs in human neutrophils”

H. Nakayama, K. Iwabuchi

Juntendo University Faculty of Health Care and Nursing, Urayasu-shi, Chiba 279-0023, Japan and Institute for Environmental and Gender-Specific Medicine, Juntendo University Faculty of Medicine, Urayasu-shi, Chiba 279-0021, Japan

Posterboard #: B147 || Abstract #: 198

“Regulatory mechanism of chondroitin sulfate-mediated axon guidance”

Masao Nakamura¹, Jun-ichi Tamura², Hiroshi Kitagawa³, Takuro Tojima⁴, Hiroyuki Kamiguchi¹

¹RIKEN Brain Science Institute; ²Tottori University; ³Kobe Pharmaceutical University; ⁴RIKEN Brain Science Institute PRESTO, Japan Science and Technology Agency

Posterboard #: B148 || Abstract #: 199

“Consecutive detection of sialylation changes of plasma vitronectin by isoelectric points during liver regeneration”

Kanoko Sakuda¹, Naomi Sobukawa¹, Kotone Sano¹, Chihiro Sato², Ken Kitajima², Haruko Ogawa³

¹Graduate School of Humanities and Sciences, Ochanomizu University; ²Bioscience and Biotechnology Center, Nagoya University; ³Graduate School of Humanities and Sciences, and Glycoscience Institute, Ochanomizu University

Posterboard #: B149 || Abstract #: 200

“The role of CMP-Sialic acid synthetase in Drosophila neural transmission”

Hilary Scott¹, Courtney Caster¹, Ilya Mertsalov¹, Michelle Alfert¹, Brooke Howell¹, Mark J. Zoran², Vladislav Panin¹

¹Department of Biochemistry and Biophysics Texas A&M University, College Station, Texas 77843; ²Department of Biology, Texas A&M University, College Station, Texas 77843

(Late-breaking Abstracts)

Posterboard #: LB16 || Abstract #: 384

“Interaction of alpha2,6-linked sialic acids with siglec-2 modulates the adhesion of hepatocarcinoma cells to lymph nodes through FAK signaling pathway”

Shujing Wang¹, Jianing Zhang²

¹Department of Biochemistry, Institute of Glycobiology, Dalian Medical University, Dalian 116044, Liaoning Province, China; ²The College of Life Sciences and Medicine, Dalian University of Technology, Dalian 116000, Liaoning Province, China; Department of Biochemistry, Institute of Glycobiology, Dalian Medical University, Dalian 116044, Liaoning Province, China

Posterboard #: LB17 || Abstract #: 385

“Keeping Track of Sperm Glycans”

Eillen Teclé, Hector Reynoso, Pascal Gagneux

Glycobiology Research and Training Center, Univ. of California, San Diego

Posterboard #: LB18 || Abstract #: 386

“Expression and Functional Characterization of Siglec-9 in Mice”

Li Zhang¹, Tao Zheng¹, Bruce S. Bochner², Ronald L. Schnaar³, James Paulson⁴, Corwin M. Nycholat⁴, Paul R. Crocker⁵, Zhou Zhu¹

¹Yale University; ²Northwestern University; ³Johns Hopkins University; ⁴Scripps Research Institute; ⁵University of Dundee

Session V: Prokaryotic Glycan Assembly

Posterboard #: B150 || Abstract #: 30

“Tannerella forsythia - A sweet periodontal pathogen”

Markus B. Tomek¹, Valentin Friedrich¹, Zoe A. Megson¹, Gerald Posch², Andrea Koerdt¹, Irene Nimeth¹, Philipp Andesner¹, Friedrich Altmann³, Paul Messner¹, Christina Schäffer¹

¹Universität für Bodenkultur Wien, Department of NanoBiotechnology, NanoGlycobiology unit, Muthgasse 11, 1190 Vienna, Austria; ²Universität für Bodenkultur Wien, Department of NanoBiotechnology, NanoGlycobiology unit, Muthgasse 11, 1190 Vienna, Austria. Present address: Alberta Glycomics Centre and Department of Biological Sciences, University of Alberta, Edmonton, A; ³Universität für Bodenkultur Wien, Department of Chemistry, Division of Glycobiology, Muthgasse 18, 1190 Vienna, Austria

Posterboard #: B151 || Abstract #: 31

“Insights into rare Ser/Thr O-glycosylation of heterologous proteins expressed in plants”

Patricia Bubner¹, Heidi Szemenyei¹, Shu-Lun Tang¹, Anthony Iavarone², Stefan Bauer¹, Douglas Clark¹, Chris Somerville¹

¹Energy Biosciences Institute, University of California, Berkeley, CA, USA; ²California Institute for Quantitative Biosciences, University of California, Berkeley, CA USA

Posterboard #: B152 || Abstract #: 32

“Synthesis of biotinylated keratan sulfate oligosaccharides”

Naoko Takeda¹, Jun-ichi Tamura²

¹JSPS Research Fellow, Tottori University, Tottori, 680-8551 Japan; ²Department of Regional Environment, Tottori University, Tottori, 680-8551 Japan

Posterboard #: B153 || Abstract #: 33

“Sweet neurobiology: New insights into the role of alterations in protein glycosylation in Alzheimer’s disease pathology”

Moran Frenkel-Pinter¹, Sharon Tal¹, Yelena Solovey¹, Avnika Singh-Anand¹, Daniela Escobar¹, Shiri Stempler², Yedaël Waldman², Eytan Rupin², Ehud Gazit¹

¹Dept. Molecular Microbiology & Biotechnology, The Interdisciplinary Sagol School of Neurosciences, George S. Wise Faculty of Life Sciences, Tel-Aviv University, Tel-Aviv 69978, Israel; ²The Blavatnik School of Computer Science, Raymond and Beverly Sackler Faculty of Exact Sciences, Tel-Aviv University, Tel-Aviv 69978, Israel

Posterboard #: B154 || Abstract #: 34

“EDEM1/2/3 are α 1,2-mannosidases essential for endoplasmic reticulum-associated degradation of glycoproteins”

Satoshi Ninagawa¹, Tetsuya Okada¹, Yoshiki Sumitomo¹, Yukiko Kamiya², Satoshi Horimoto¹, Tokiro Ishikawa¹, Shunichi Takeda³, Tetsushi Sakuma⁴, Takashi Yamamoto⁴, Koichi Kato², Kazutoshi Mori¹

¹Department of Biophysics, Graduate School of Science, Kyoto University; ²Institute for Molecular Science and Okazaki Institute for Integrative Bioscience, National Institute of Natural Sciences; ³Department of Radiation Genetics, Graduate School of Medicine, Kyoto University; ⁴Department of Mathematical and Life Sciences, Graduate School of Science, Hiroshima University

Posterboard #: B155 || Abstract #: 227

“Sequence Determinants of Linkage Specificity and Polymer Length in Neisserial Polysialyltransferases”

Hazel L. S. Fuchs¹, Timothy G. Keys¹, Sebastian P. Galuska², Jörg Ehrit¹, Friedrich Freiberger¹, Rita Gerardy-Schahn¹

¹Institute for Cellular Chemistry, Medical School Hannover, Carl-Neuberg-Str. 1, 30625 Hannover, Germany; ²Institute of Biochemistry, Justus-Liebig-University, Friedrichstr. 24, 35392 Giessen, Germany

Posterboard #: B156 || Abstract #: 228

“Characterisation and exploitation of the capsule biosynthesis machineries of Neisseria meningitidis serogroups A and X: Towards in vitro vaccine production”

Timm Fiebig¹, Maria Rosaria Romano², Friedrich Freiberger¹, Vittoria Pinto², Daniela Proietti², Barbara Brogioni², Christa Litschko¹, Andrea Bethel¹, Monika Berger¹, Paolo Costantino², Roberto Adamo², Francesco Berti², Rita Gerardy-Schahn¹

¹Institute for Cellular Chemistry, Hannover Medical School, 30625 Hannover, Germany; ²Novartis Vaccines, Research, Via Fiorentina 1, 53100 Siena, Italy

Posterboard #: B157 || Abstract #: 229

“Biosynthesis of the Sialyl-T antigen: Specificity of human ST3Gal1 and comparison to a novel sialyltransferase Wbwa from Escherichia coli O104”

Diana Czuchry¹, Paul Desormeaux¹, Melissa Stuart², Donald Jarvis², Khushi L. Matta³, Walter A. Szarek⁴, Inka Brockhausen¹

¹Queen’s University, Department of Biomedical and Molecular Sciences, Kingston, ON, Canada; ²University of Wyoming, Department of Molecular Biology, Laramie, Wyoming, USA; ³TumorEnd, Baton Rouge, Louisiana, USA; ⁴Queen’s University, Department of Chemistry, Kingston, ON, Canada

Posterboard #: B158 || Abstract #: 230

“Structural and molecular characterization of the S-layer anchoring system of Lactobacillus buchneri”

Eva Smolar¹, Paul Kosma², Christina Schäffer³, Paul Messner¹

¹Universität für Bodenkultur Wien, Muthgasse 11, A-1190 Vienna, Austria; ²Universität für Bodenkultur Wien, Muthgasse 18, A-1190 Wien, Austria; ³Universität für Bodenkultur Wien, Muthgasse 11, A-1190 Wien

Posterboard #: B159 || Abstract #: 231

“Next generation approaches to polysaccharide preparation for Burkholderia pseudomallei vaccine development”

Victoria Mae Baldwin¹, Joann Prior², Nicholas Harmer¹

¹University of Exeter, Exeter, Devon, UK; ²DSTL, Porton Down, Wiltshire, UK

Posterboard #: B160 || Abstract #: 232

“Engineering bacterial polysialyltransferases by directed evolution”

Timothy G Keys, Hazel LS Fuchs, Jörg Ehrit, Friedrich Freiberger, Rita Gerardy-Schahn

Hannover Medical School, Germany

Posterboard #: B161 || Abstract #: 233

“Structure and biosynthesis of bacterial polysialic acid capsules reveals novel retaining Kdo-transferases”

Lisa Willis, Chris Whitfield

Department of Molecular and Cellular Biology, University of Guelph, Canada

Posterboard #: B162 || Abstract #: 234

“Characterization of the UDP-GlcNAc biosynthetic pathway in Archaea by experimental confirmation of each enzymatic activity”

Yutaka Kawarabayasi

Kyushu University, Faculty of Agriculture

Posterboard #: B163 || Abstract #: 235

“Enzymatic Synthesis of Lipid II and Analogues”

Lin-Ya Huang, Ting-Jen Cheng, Chi-Huey Wong

Genomics Research Center, Academia Sinica

Posterboard #: B164 || Abstract #: 236

“Protein N-glycosylation in the thermoacidophilic archaeon Sulfolobus acidocaldarius is essential for cell survival, cell motility, cell-cell interaction, and cellular defence”

Benjamin H. Meyer, Sonja-Verena Albers

Molecular Biology of Archaea, Institute for Biology II, University of Freiburg, Schänzlestrasse 1, 79104 Freiburg

Posterboard #: B165 || Abstract #: 237

“Deciphering the Role of N-Glycan Modifications on Bacterial Proteins”

Christine Szymanski, Harald Nothhaft, Bernadette Beadle, Rajinder Dubb, Cody Thomas, Abofu Alemka

University of Alberta

Posterboard #: B166 || Abstract #: 238

“Hyaluronan synthase assembles activated chitin oligomers with -GlcNAc(α 1 \rightarrow)UDP at the reducing end”

Christopher M. West, Paul H. Weigel, Bruce A. Baggenstoss, Jennifer Washburn

Department of Biochemistry & Molecular Biology and the Oklahoma Center for Medical Glycobiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK 73104

(Late-breaking Abstracts)

Posterboard #: LB19 || Abstract #: 387

“Glycoengineered Outer Membrane Vesicles Displaying O-Polysaccharide Antigens Elicit Protective Antibodies Against Francisella tularensis”

Jenny Baker¹, Linxiao Chen¹, Chung-Jr Huang¹, Christine Endicott¹, David Putnam¹, Bradley Jones², Matthew DeLisa¹

¹Cornell University; ²University of Iowa

Session VI: Stem Cells / iPS

Posterboard #: B167 || Abstract #: 38

“Finding of a Novel Lectin Probe for Pluripotent Stem Cells and its Installation to Regenerative Medicine”

Jun Hirabayashi, Hiroaki Tateno, Yasuko Onuma, Yuzuru Ito, Makoto Asashima

AIST

Posterboard #: B168 || Abstract #: 39

“Glycocalyx Remodeling with Synthetic Proteoglycan Mimetics Promotes Neural Specification in Embryonic Stem Cells”

Kamil Godula, Mia Huang, Raymond Smith, Greg Triegeer

University of California, San Diego

Posterboard #: B169 || Abstract #: 40

“Golgi-resident polysialic acid defines distinct brain cell populations”

Sebastian Werneburg, Falk Buettner, Martina Mühlenhoff, Herbert Hildebrandt

Institute for Cellular Chemistry, Hannover Medical School, Hannover, Germany

Posterboard #: B170 || Abstract #: 239

“Analysis of E-cadherin mediated cell-cell interactions in human pluripotent stem cells”

Hanna Möller, Falk Buettner, Sarah Konze

Medical Research School

Posterboard #: B171 || Abstract #: 240

“O-GlcNAcase is a critical epigenetic regulator of nutrient-responsive Drosophila oogenesis”

Ilhan Akan, Katryn Harwood, Dona Love, John Hanover

National Institutes of Health/ National Institute of Diabetes and Digestive and Kidney Disorders

Posterboard #: B172 || Abstract #: 241

“Whole Transcriptome Analysis of Human Embryonic Stem Cells and Differentiated Cell Populations”

Alison Nairn¹, Mitche dela Rosa¹, Michael Kullik², Stephen Dalton², J. Michael Pierce¹, Kelley Moremen¹

¹University of Georgia & the Complex Carbohydrate Research Center; ²University of Georgia

Posterboard #: B173 || Abstract #: 242

“Interactions of Disialyl Gangliosides GD2/GD3 with Growth Factor Receptors Maintain Phenotypic Properties of Breast Cancer Stem Cells”

Yuh-Jin Liang¹, Li-Tzu Li¹, Chen-Yu Wang¹, Chung-Yu Lin¹, Hsiang-Yao Wu¹, Alice Yu¹, John Yu¹, Sen-itiroh Hakomori²

¹Institute of Stem Cell and Translational Cancer Research, Chang Gung Memorial Hospital, Taiwan; ²Pacific Northwest Research Institute, Division of Biomembrane Research, WA, USA

Posterboard #: B174 || Abstract #: 243

“Novel Carbohydrate-Recognizing Antibodies for Human iPS/ES Cells”

Toshisuke Kawasaki¹, Hiromi Nakao¹, Shogo Matsumoto¹, Hidenao Toyoda², Kenji Kawabata³, Takao Taki⁴, Nobuko Kawasaki¹

¹Research Center for Glycobiotechnology, Ritsumeikan University, Shiga 525-8577, Japan; ²Laboratory of Bio-analytical Chemistry, College of Pharmaceutical Sciences, Ritsumeikan University, Shiga 525-8577, Japan; ³Laboratory of Stem Cell Regulation, National Institute of Biomedical Innovation, Osaka 567-0085, Japan; ⁴Niigata University of Pharmacy and Applied Life Sciences, Niigata 956-0841, Japan

Posterboard #: B175 || Abstract #: 244

“Interaction of ganglioside GD3 and EGF-receptor sustains neurogenesis in adult mouse brain by regulating EGF-induced neural stem cell proliferation”

Robert Yu, Jing Wang

Medical College of Georgia, Georgia Regents University, Augusta, GA 29841, USA

Posterboard #: B176 || Abstract #: 245

“Perturbing circulatory ST6Gal-I alters granulopoiesis in-vivo”

Christopher Dougher, Alexander Buffone, Mehrab Nasirikenari, Joseph Lau

Roswell Park Cancer Institute

Session VII: Glycans, Metabolism and Functions

Posterboard #: B177 || Abstract #: 246

“A crucial role of polysialic acid in developmental migration of cortical interneurons”

Ute Diederichs¹, Tim Kröcher², Iris Röckle¹, Yuchio Yanagawa³, Birgit Weinhold¹, Herbert Hildebrandt¹

¹Institute for Cellular Chemistry, Hannover Medical School, Germany; ²MRC Laboratory for Molecular Cell Biology, University College London, UK; ³Department of Genetic and Behavioral Neuroscience, Gunma University, Japan

Posterboard #: B178 || Abstract #: 247

“Genetic ablation of CMP-sialic acid synthetase results in an asialo phenotype and early embryonic lethality”

Markus Abeln, Anja Münster-Kühnel, Rita Gerardy-Schahn, Birgit Weinhold

Cellular Chemistry

Posterboard #: B179 || Abstract #: 248

“Molecular characterization of hiPSCs from a PMM2-CDG patient revealed aberrant glycosylation”

Christina Müller¹, Dirk Hoffmann¹, Samanta Cajic², René Hennig², Malte Sgodda¹, Laura van Diepen³, Robert Weißmann³, Doris Steinemann¹, Erdmann Rapp², Andreas Kuss³, Tobias Cantz¹, Axel Schambach¹, Falk F. R. Buettner¹

¹Hannover Medical School, Hannover; ²Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg; ³Ernst-Moritz-Arndt University, Greifswald

Posterboard #: B180 || Abstract #: 249

“Functional analysis of the expression of N-glycans in epithelial-mesenchymal transition: Importance of α 2,6 sialylation”

Jianguo Gu¹, Jishun Lu¹, Sanghun Im¹, Tomohiko Fukuda¹, Noritaka Hashii², Daisuke Takakura², Nana Kawasaki², Tomoya Isaji¹

¹Tohoku Pharmaceutical University; ²National Institute of Health Sciences

Posterboard #: B181 || Abstract #: 250

“Effect of a polysaccharides from *Crassostrea gigas* against ethanol induced liver injury”

Wei Li, Huihui Ma, Changqing Tong, Qiao Jin, Min Qu

College of Food Science and Engineering, Dalian Ocean University, Dalian 116023, P. R. China

Posterboard #: B182 || Abstract #: 251

“The crystal structure of human UDP-glucose pyrophosphorylase*UDP-glucose complex gives new insight into substrate binding and enzymatic mechanism”

Jana Führling¹, Johannes Cramer¹, Julia Schneider¹, Petra Baruch², Roman Fedorov³, Rita Gerardy-Schahn¹

¹Institute for Cellular Chemistry, Hannover Medical School, Carl-Neuberg-Strasse 1, 30625 Hannover, Germany; ²Research Division for Structural Analysis, Hannover Medical School, Carl-Neuberg-Strasse 1, 30625 Hannover, Germany; ³Research Division for Structural Analysis / Institute for Biophysical Chemistry, Hannover Medical School, Carl-Neuberg-Strasse 1, 30625 Hannover, Germany

Posterboard #: B183 || Abstract #: 252

“A proteomic approach to investigate CSL effects in yeast cells”

Changqing Tong¹, Shuai Liu², Wei Li¹, Min Qu¹, Qiao Jin¹

¹College of Food Science and Engineering, Dalian Ocean University, Dalian 116023, P. R. China; ²Alkali Soil Natural Environmental Science Center, Northeast Forestry University / Key Laboratory of Saline-alkali Vegetation Ecology Restoration in Oil Field, Ministry of Education, Harbin 150040, P. R. China

Posterboard #: B184 || Abstract #: 253

“Expression Analysis of Hyaluronidases in the Mouse Brain during Development”

Yuka Oiwa, Shuji Mizumoto, Ryoji Kojima, Tadashi Nagamatsu, Shuhei Yamada

Faculty of Pharmacy, Meijo University, Japan

Posterboard #: B185 || Abstract #: 254

“Metabolically programmed quality control system for dolichol-linked oligosaccharides”

Yoichiro Harada¹, Kazuki Nakajima², Yuki Masahara-Negishi¹, Hudson Freeze³, Takashi Angata⁴, Naoyuki Taniguchi⁵, Tadashi Suzuki¹

¹Glycometabolome Team, Systems Glycobiology Research Group, RIKEN-Max Planck Joint Research Center, Global Research Cluster, RIKEN; ²Molecular Membrane Neuroscience, RIKEN Brain Science Institute; ³Sanford Children's Health Research Center, Sanford-Burnham Medical Research Institute; ⁴Institute of Biological Chemistry, Academia Sinica; ⁵Disease Glycomics Team, Systems Glycobiology Research Group, RIKEN-Max Planck Joint Research Center, Global Research Cluster, RIKEN

Posterboard #: B186 || Abstract #: 255

“Seminolipid is required for transfer of MCT4 from Sertoli cells to the spermatocyte plasma membrane where MCT4 forms a functional lactate transporter assembly with basigin”

Koichi Honke¹, Tatsuyuki Yamashita¹, Keiko Nio¹, Kaoru Miyahara¹, Tomoki Kosugi², Kenji Kadomatsu²

¹Kochi University Medical School, Nankoku, Japan; ²Nagoya University Graduate School of Medicine, Aichi, Japan

Posterboard #: B187 || Abstract #: 256

“Fidelity in developmental patterning requires O-GlcNAc transferase”

Michelle Bond, Tetsu Fukushige, Michael Krause, John Hanover

NIDDK, NIH

Posterboard #: B188 || Abstract #: 257

“Heavy metals removal of crab shell powder from scallop byproducts hydrolyzate”

Dandan Ren, Qiukuan Wang, Bailei Li, Yunhai He, Yuefan Song

College of Food Science and Engineering, Dalian Ocean University, Dalian 116023, Liaoning, People's Republic of China

Posterboard #: B189 || Abstract #: 258

“The hypolipidemic effect of fucoidan extracted from *Sargassum fusiforme* with comparison with those from other brown seaweed”

Qiukuan Wang, Yunhai He, Dandan Ren, Yuefan Song, Yafang Wang, Haixia Zhang

Key Laboratory of Aquatic Products Processing and Utilization of Liaoning Province, National R & D Branch Center for Seaweed processing, Dalian Ocean University, Dalian 116023, P. R. China

Posterboard #: B190 || Abstract #: 259

“Evaluation and implementation of iAB-N-glycan analysis for characterization of therapeutic proteins”

Yuetian Chen, Kudrat Goswami, Wilco Brusselaars, Shara Dellatore, Sunnie Kim, Corné Stroop, Daisy Richardson, Mohammed Shameem

Merck

Posterboard #: B191 || Abstract #: 260

“Alcohol-induced impairment of asialoglycoprotein receptors in hepatocytes is triggered by non-muscle Myosin IIA-mediated Golgi fragmentation”

Armen Petrosyan¹, Dahn L. Clemens², Carol A. Casey², Pi-Wan Cheng³

¹Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center; Department of Biochemistry and Molecular Biology University of Nebraska Medical Center, Omaha, NE, USA; ²Department of Research Service, Veterans Affairs Nebraska Western Iowa Health Care System; Department of Internal Medicine, College of Medicine University of Nebraska Medical Center, Omaha, NE, USA; ³Department of Research Service, Veterans Affairs Nebraska Western Iowa Health Care System; Department of Biochemistry and Molecular Biology, Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center, Omaha

Posterboard #: B192 || Abstract #: 261

“Altered N-Glycan Expression Profile between Two Functionally Distinct Human Marrow Stromal Cell Lines Revealed by an Integrated Strategy Using Mass Spectrometry and Glycogene and Lectin Microarray Analysis”

Xiang Li¹, Dongliang Li²

¹Medical School, Jiangnan University, Wuxi, China; ²School of Biotechnology, Jiangnan University, Wuxi, China

Posterboard #: B193 || Abstract #: 262

“Endogenous glucuronyltransferase activity of LARGE or LARGE2 required for functional modification of alpha-dystroglycan in cells and tissues”

Kei-ichiro Inamori¹, Tobias Willer², Yuji Hara², David Venzke², Mary E Anderson², Nigel F Clarke³, Pascale Guicheney⁴, Carsten G Bönnemann⁵, Steven A Moore⁶, Kevin P. Campbell²

¹Howard Hughes Medical Institute, University of Iowa Roy J. and Lucille A. Carver College of Medicine, Iowa City, IA, USA; ²Institute of Molecular Biomembrane and Glycobiology, Tohoku Pharmaceutical University, Sendai, Japan; ³Howard Hughes Medical Institute, University of Iowa Roy J. and Lucille A. Carver College of Medicine, Iowa City, IA, USA; ⁴Institute for Neuroscience and Muscle Research, The Children's Hospital at Westmead, University of Sydney, Sydney, Australia; ⁵Inserm, U1166, Institute of Cardiometabolism and Nutrition, Paris, France; ⁶Sorbonne Universités, Paris, France; ⁷Neurogenetics Branch, National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, USA; ⁸University of Iowa Roy J. and Lucille A. Carver College of Medicine, Iowa City, IA, USA

Posterboard #: B194 || Abstract #: 263

“Mutational studies of an endo-beta-N-acetylglucosaminidase from Ogataea minuta (Endo-Om)”

Satoshi Murakami¹, Akiko Komatsuzaki¹, Toshihiko Kitajima², Yasunori Chiba¹

¹National Institute of Advanced Industrial Science and Technology (AIST); ²Jiangnan University

Posterboard #: B195 || Abstract #: 264

“Epigenetic regulation of glycosyltransferase”

Yasuhiko Kizuka, Shinobu Kitazume, Naoyuki Taniguchi

Disease Glycomics team, RIKEN-Max Planck Joint Research Center, RIKEN

Posterboard #: B196 || Abstract #: 265

“The Enzymes of the O-GlcNAc Cycling: Writers AND Readers of the Histone Code?”

Katryn Harwood, John Hanover

NIH/NIDDK

Posterboard #: B197 || Abstract #: 266

“Generation of immortalized MEF cell lines to study O-GlcNAc metabolism and neurodegeneration”

Melissa M. St. Amand¹, Joseph Shiloach², John A. Hanover³

¹Biotechnology Core, NIDDK National Institutes of Health; ²Biotechnology Core, NIDDK, National Institutes of Health; ³Laboratory of Cell and Molecular Biology, NIDDK, National Institutes of Health

Posterboard #: B198 || Abstract #: 267

“Identification of novel nucleotide sugar transporters in plants and animals”

Berit Ebert¹, Carsten Rautengarten², Alex Schultink³, Markus Pauly³, Thomas Herter², Jenny Mortimer², Ignacio Moreno⁴, Ariel Orellana⁴, Joshua Heazlewood², Henrik Scheller⁵

¹Lawrence Berkeley National Laboratory and University of Copenhagen, Denmark; ²Lawrence Berkeley National Laboratory, Berkeley, California; ³University of California, Berkeley, California; ⁴Universidad Andres Bello, Santiago, Chile; ⁵Lawrence Berkeley National Laboratory and University of California, Berkeley, California

Posterboard #: B199 || Abstract #: 268

“Give up sugar with this one weird trick!”

Nikki Tan, Ulla-Maja Bailey, Fairuz Jamaluddin, Siti Mahmud, Suresh Raman, Benjamin Schulz

The University of Queensland

Posterboard #: B200 || Abstract #: 269

“N-glycan sialylation in silkworm protein expression system and application”

Yukiko Kataoka¹, Hironobu Okazaki¹, Tsuyoshi Nomura¹, Masatoshi Suganuma¹, Yukiko Higa¹, Shyunsuke Hunaguma¹, Takeo Suzuki¹, Akihiro Usami¹, Kazuhito Fujiyama², Hideki Sezutsu³, Ken-ichiro Tatematsu³, Toshiaki Tamura³

¹Systemex Corp.; ²ICBiotech., Osaka Univ.; ³Gen. Mod. Org. Res. Cent., Natl. Inst. Agrobiol. Sci.

Posterboard #: B201 || Abstract #: 270

“Enzymatic properties of Golgi α -1,2 mannosidases toward denatured glycoproteins”

Jun-ichi Aikawa¹, Yoichi Takeda², Akira Seko², Ichiro Matsuo³, Yukishige Ito⁴

¹RIKEN; ²JST ERATO; ³Grad. Sch. Eng., Gunma Univ.; ⁴RIKEN & JST ERATO

Posterboard #: B202 || Abstract #: 271

“Pancreatic α -amylase controls glucose assimilation in duodenum through N-glycan-specific binding, followed by endocytosis and degradation”

Kimie Date¹, Ayano Satoh², Haruko Ogawa³

¹Grad. Sch. Human. Sci., Ochanomizu Univ.; ²Grad. Sch. Natural Sci. & Tech., Okayama Univ.; ³Grad. Sch. Human. Sci., and Glycosci. Inst., Ochanomizu Univ.

Posterboard #: B203 || Abstract #: 272

“Mapping interactions between the soluble domains of glycosylphosphatidylinositol transamidase: A step towards a miniaturized, soluble, active enzyme complex”

Dilani Gamage, Tamara Hendrickson

Wayne State University

Posterboard #: B204 || Abstract #: 273

“The mechanism underlying anti-cancer bioactivity of glycan”

Lei Zhang, Peipei Wang, Kan Ding

Shanghai Institute of Materia Medica, Chinese Academy of Sciences

Posterboard #: B205 || Abstract #: 274

“Discovery of novel monosaccharides in animal glycans: Natural occurrence of N-glycolylhexosamines”

Sandra Diaz, Anne K. Bergfeld, Roger Lawrence, Oliver Pearce, Jeremy Van Vleet, Jeffrey Esko, Biswa Choudhury, Ajit Varki

Glycobiology Research and Training Center, Departments of Medicine and Cellular & Molecular Medicine, University of California, San Diego

Posterboard #: B206 || Abstract #: 275

“Hemicellulose synthesis and function in land plants”

William York, Breeanna Urbanowicz, Maria Peña, Kelley Moremen, Malcolm O'Neill, Heather Moniz, Ameya Kulkarni, Shuo Wang

Complex Carbohydrate Center, University of Georgia

Posterboard #: B207 || Abstract #: 276

“Novel CE system for high throughput N-glycan screening”

Zoltan Szabo, Samnang Tep, Ted Haxo, Michael Kimzey, Sybil Lockhart, Justin Hyche, Aled Jones, Jo Wegstein

ProZyme, Inc.

Posterboard #: B208 || Abstract #: 277

“O-GlcNAc acts as a glucose sensor to epigenetically regulate the insulin gene in pancreatic beta cells”

Sean Durning, Heather Flanagan-Steet, [Lance Wells](#)
CCRC at UGA

Posterboard #: B209 || Abstract #: 278

“Mitochondrial O-GlcNAc transferase and its role in the glycosylation of mitochondrial proteins”

[Juliana Lessa Sacoman](#)¹, Amanda Burnham-Marusich¹, Raul Dagda², Ruben Dagda², Patricia Berninone¹

¹Department of Biology, University of Nevada at Reno, 1664 North Virginia Street, Reno, NV, 89557; ²Department of Pharmacology, University of Nevada at Reno, 1664 North Virginia Street, Reno, NV, 89557

Posterboard #: B210 || Abstract #: 279

“Amino acid sequence and site-specific glycosylation of windmill palm peroxidase”

[Margaret Baker](#), Qing Li
University of Hawaii

Posterboard #: B211 || Abstract #: 280

“Structural basis for glycoprotein quality control mediated by glucose tagging in the endoplasmic reticulum”

Tadashi Satoh¹, Takayasu Toshimori², Takumi Yamaguchi³, Zhu Tong³, Koichi Kato³

¹Grad. Sch. of Pharm. Sci., Nagoya City Univ.; ²Human Health Sci., Grad. Sch. of Med., Kyoto Univ.; ³Okazaki Inst. for Integra. Biosci., Nat. Insti. of Nat. Sci.

Posterboard #: B212 || Abstract #: 281

“Functional studies of cytosolic deglycosylating enzymes in mammalian cells”

[Chengcheng Huang](#)¹, Yoichiro Harada¹, Akira Hosomi¹, Yuki Masahara-Negishi¹, Junichi Seino¹, Haruhiko Fujihira¹, Yoko Funakoshi¹, Takehiro Suzuki², Naoshi Dohmae², Tadashi Suzuki¹

¹Glycometabolome Team, Systems Glycobiology Research Group, RIKEN-Max Planck Joint Research Center for Systems Chemical Biology, RIKEN Global Research Cluster; ²Collaboration Promotion Unit, RIKEN Global Research Cluster

Posterboard #: B213 || Abstract #: 282

“Endosomes-to-TGN retrograde transport mediated by GARP is required for post-Golgi anterograde transport and glycosylation”

Tetsuya Hirata¹, Morihisa Fujita², Shota Nakamura³, Kazuyoshi Gotoh³, Daisuke Motooka³, Yoshiko Murakami⁴, Yusuke Maeda⁴, Taroh Kinoshita⁴

¹Immunology Frontier Research Center, Osaka Univ.; ²JSPS Research Fellow; ³Sch. Biotech., Jiangnan Univ.; ⁴Research Institute for Microbial Diseases, Osaka Univ.; ⁵Immunology Frontier Research Center, Osaka Univ.; Research Institute for Microbial Diseases, Osaka Univ.

Posterboard #: B214 || Abstract #: 283

“Perturbation of autophagic flux is involved in the dystrophic endball formation induced by a proteoglycan gradient”

[Tomoya Ozaki](#), Kazuma Sakamoto, Yuanhao Gong, Kenji Uchimura, Kenji Kadomatsu

Dept. of Biochemistry, Nagoya University Graduate School of Medicine

Posterboard #: B215 || Abstract #: 284

“Identification of minimum essential structure in chondroitin sulfate which is responsible for their interaction with their receptor, PTP sigma and LAR”

[Yuanhao Gong](#)¹, Kazuma Sakamoto², Naoko Takeda³, Tomoya Ozaki², Nao Tsutsumishita-Nakai⁴, Manami Kawano⁴, Jun-ichi Tamura⁴, Kenji Kadomatsu²

¹Department of Biochemistry, Nagoya University Graduate School of Medicine AND PhD Professional program, Nagoya University; ²Department of Biochemistry, Nagoya University Graduate School of Medicine; ³Department of Regional Environment, Tottori University AND JSPS Research Fellow, Tottori University; ⁴Department of Regional Environment, Tottori University

Posterboard #: B216 || Abstract #: 285

“Keratan sulfate is another ligand for PTPσ & LAR, which are involved in axonal regeneration failure after injury”

[Kazuma Sakamoto](#), Yuanhao Gong, Tomoya Ozaki, Kenji Kadomatsu
Department of Biochemistry, Nagoya Univ. Grad. School of Medicine

Posterboard #: B217 || Abstract #: 286

“Developmental roles and pathogenic mechanisms associated with protein O-mannosylation in Drosophila”

Ryan Baker¹, Naosuke Nakamura¹, Dmitry Lyalin¹, Michelle Alfert¹, Agustin Guerrero-Hernández², [Vlad Panin](#)¹

¹Texas A&M University, College Station, Texas; ²CINVESTAV, Mexico City, Mexico

Posterboard #: B218 || Abstract #: 287

“The role of toxoplasma Skp1 prolyl hydroxylation and glycosylation in oxygen sensing”

[Christopher M. West](#)¹, Kazi Rahman², Peng Zhao³, L. Wells³, Hanke van der Wel¹, Ira J. Blader⁴

¹Department of Biochemistry & Molecular Biology, Oklahoma Center for Medical Glycobiology, University of Oklahoma Health Sciences Center, Oklahoma City OK 73104; ²Department of Microbiology & Immunology, and Department of Biochemistry & Molecular Biology, Oklahoma Center for Medical Glycobiology, University of Oklahoma Health Sciences Center, Oklahoma City OK 73104; ³Complex Carbohydrate Research Center, University of Georgia, GA 30602; ⁴Department of Microbiology & Immunology, University at Buffalo, NY 14214

Posterboard #: B219 || Abstract #: 288

“Galactosyloligosaccharides of early human milk attenuate inflammation in human intestine”

[David S. Newburg](#)¹, Jae Sung Ko², Serena Leone¹, N. Nanda Nanthakumar³

¹Program in Glycobiology, Department of Biology, Boston College, Chestnut Hill, MA 02467; ²Department of Pediatrics, Seoul National University Children's Hospital, 101 Daehak-ro, Jongno-gu, Seoul 110-744, Korea; ³Program in Glycobiology, Department of Biology, Boston College, Chestnut Hill, MA 02467; Biomedical Sciences and Pathobiology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24060

(Late-breaking Abstracts)

Posterboard #: LB20 || Abstract #: 388

“Identification of Arabidopsis α1,3-fucosidase acting on plant complex type N-glycans and degradation pathway of plant N-glycans”

[Shun Kato](#)¹, Megumi Hayashi¹, Mai Kitagawa², Takeshi Ishimizu¹

¹Col. Life Sci., Ritsumeikan Univ.; ²Grad.Sch.Sci., Osaka Univ.

Posterboard #: LB21 || Abstract #: 389**“The use of EGALC reveals the presence of a novel ether-linked phytol-containing digalactosylglycerolipid in the marine green alga, *Ulva pertusa*”**Yohei Ishibashi¹, Yusuke Nagamatsu¹, Tomofumi Miyamoto², Naoyuki Matsunaga¹, Nozomu Okino¹, Kuniko Yamaguchi¹, Makoto Ito¹¹Department of Bioscience and Biotechnology, Graduate School of Bioresource and Bioenvironmental Sciences, Kyushu University;²Graduate School of Pharmaceutical Sciences, Kyushu University**Posterboard #: LB22 || Abstract #: 390****“Synthesis of OAADPR Analogs and their Inhibitory Activities to Human Sirtuin Homolog SIRT1”**Zhimeng Wu¹, Brett M. Hirsch², Peter C. Tyler³, Vern L. Schramm²¹Key Laboratory of Carbohydrate Chemistry & Biotechnology Ministry of Education, School of Biotechnology, Jiangnan University, Wuxi City, Jiangsu Province, 214122, China; ²Department of Biochemistry, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461, United States; ³Ferrier Research Institute, Victoria University of Wellington, Gracefield Research Centre, 69 Gracefield Road, Lower Hutt 5010, New Zealand**Posterboard #: LB23 || Abstract #: 391****“O-glycosylation is essential for nuclear pore integrity and maintenance of the pore selectivity filter”**Yanping Zhu¹, Tawei Liu¹, Zarina Madden¹, Scott A. Yuzwa², Kelsey Murray², Samy Cecioni³, Natasha Zachara⁴, David J. Vocadlo¹¹Department of Chemistry and Department of Molecular Biology and Biochemistry, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada; ²Department of Molecular Biology and Biochemistry, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada; ³Department of Chemistry, Simon Fraser University, Burnaby, British Columbia V5A 1S6, Canada; ⁴Department of Biological Chemistry, Johns Hopkins University Medical School, Baltimore, MD 21205, USA**Posterboard #: LB24 || Abstract #: 392****“Human consumption of yeast containing foods has driven adaptations in the gut microbiota”**Max J. Temple¹, Fiona Cuskin¹, Elisabeth C. Lowe¹, Alisdair B. Boraston², Cherie J. Ziemer³, Spencer J. Williams⁴, Gideon J. Davies⁵, D. Wade Abbott⁶, Eric C. Martens⁷, Harry J. Gilbert¹¹Institute of Cell and Molecular Biosciences, Newcastle University, Newcastle Upon Tyne NE2 4HH, UK; ²Biochemistry and Microbiology, University of Victoria, Victoria, British Columbia, Canada; ³USDA, Agricultural Research Service, National Laboratory for Agriculture and the Environment, Ames, Iowa, USA; ⁴School of Chemistry and Bio21 Molecular Science and Biotechnology Institute, University of Melbourne, Parkville, Victoria 3010, Australia; ⁵Department of Chemistry, University of York, York YO10 5DD, U.K.; ⁶Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada; ⁷Department of Microbiology and Immunology, University of Michigan Medical School, Ann Arbor, MI, USA**Posterboard #: LB25 || Abstract #: 393****“Heparan Sulphate Degradation by the Human Gut Symbiotic Bacteroides thetaiotaomicron”**Alan Cartmell

Newcastle University

Session VIII: Disease: Mechanism Biomarker and Therapeutics**Posterboard #: B220 || Abstract #: 52****“Anti-adhesion therapy for urinary tract infections: A study on lead optimization of FimH antagonists”**Lijuan Pang, Simon Kleeb, Said Rabbani, Jacqueline Bezençon, Deniz Eris, Beat Ernst

Institute of Molecular Pharmacy, University of Basel, Basel, Switzerland

Posterboard #: B221 || Abstract #: 53**“Targeted drug delivery to brain tumor vasculature by carbohydrate mimetic peptide in mouse glioma model”**Misa Suzuki-Anekoji¹, Jiunn-Chern Yeh¹, Masatomo Kawakubo², Motohiro Nonaka¹, Toshiaki K. Shibata³, Kazuhiro Sugihara³, Jun Nakayama², Minoru Fukuda¹, Michiko N. Fukuda¹¹Tumor Microenvironment Program, Cancer Center, Sanford-Burnham Medical Research Institute, La Jolla, CA 92037; ²Department of Pathology, Shinshu University Graduate School of Medicine, Matsumoto 390-8621, Japan; ³Department of Gynecology and Obstetrics, Hamamatsu University School of Medicine, Hamamatsu 431-3192, Japan**Posterboard #: B222 || Abstract #: 54****“Transcriptional factor Snail controls neuraminidase-1 and matrix metalloproteinase-9 signaling platform in regulating epidermal growth factor receptor, tumor neovascularization, growth and invasiveness in mouse model of human ovarian carcinoma”**Samar Abdulkhalek, Olivia Geen, Lacey Brodhagen, Fiona Haxho, Farah Alghamdi, Stephanie Allison, Duncan Simmons, Leah O'Shea, Ronald J Neufeld, Myron R Szewczuk

Queen's University, Kingston, ON

Posterboard #: B223 || Abstract #: 55**“MAN1B1-CDG: how stressed-out can the Golgi be?”**Romain Péanne¹, Daisy Rymen², Nathalie Jurisch-Yaksi³, François Foulquier⁴, Wim Annaert⁵, Gert Matthijs¹¹Center for Human Genetics, KU Leuven - Leuven, Belgium; ²Center for Human Genetics, KU Leuven and Center for Metabolic Diseases, University Hospital Gasthuisberg - Leuven, Belgium; ³VIB Center for the Biology of Disease and Center for Human Genetics, KU Leuven - Leuven, Belgium; ⁴Structural and Functional Glycobiology Unit, UMR CNRS/USTL 8576, IFR147, University of Lille 1 - Villeneuve d'Ascq, France; ⁵VIB Center for the Biology of Disease and Center for Human Genetics, KU Leuven - Leuven, Belgium**Posterboard #: B224 || Abstract #: 289****“N-glycan characterization of colorectal cancer tissue reveals the role of cancer and EGFR expression in regulating N-glycosylation phenotype”**Manveen Sethi¹, Morten Thaysen-Andersen¹, Mark Baker¹, Nicole Packer¹, Young-Ki Paik², William Hancock³, Susan Fanayan¹¹Macquarie University, Australia; ²Yonsei University, Korea; ³Macquarie University, Australia; Yonsei University, Korea; Northeastern University, Boston**Posterboard #: B225 || Abstract #: 290****“Suppression of inflammatory response by keratan sulfate disaccharide in the development of COPD model mice”**Congxiao Gao¹, Takayuki Yoshida², Fumi Ota¹, Reiko Fujinawa¹, Keiichi Yoshida¹, Tomoko Betsuyaku³, Naoyuki Taniguchi¹¹Disease Glycomics Team, RIKEN-Max Planck Joint Research Center, Global Research Cluster, RIKEN, 2-1 Hirosawa, Wako, Saitama 351-0198, Japan; ²First Department of Medicine, Hokkaido University School of Medicine, N-15 W-7, Kita-ku, Sapporo, 060-8638, Japan; ³Department of Internal Medicine, Keio University, 35 Shinanomachi, Shinjyuku-ku, Tokyo, 160-8582, Japan**Posterboard #: B226 || Abstract #: 291****“Combination of two glyco-biomarkers could make a noninvasive diagnosis for nonalcoholic steatohepatitis”**Eiji Mlyoshi, Maaya Akita, Kayo Mizutani, Hironobu Fujii, Shinji Takamatsu, Yoshihiro Kamada

Osaka University Graduate School of Medicine, Department of Molecular Biochemistry and Clinical Investigation

Posterboard #: B227 || Abstract #: 292

“Spondyloepimetaphyseal dysplasia and Ehlers-Danlos syndrome caused by mutations of glycosaminoglycan biosynthetic enzymes, GalT-II and DS-epimerase”

Shuji Mizumoto¹, Masahiro Nakajima², Thomas Muller³, Noriko Miyake⁴, Ryo Kogawa⁵, Yoshie Komatsu⁵, Naomichi Matsumoto⁴, Andreas R Janecke³, Shiro Ikegawa², Kazuyuki Sugahara⁵

¹Grad. School of Life Sci., Hokkaido Univ., Japan; Present address, Fac. of Pharmacy, Meijo Univ., Japan; ²Lab. Bone and Joint Diseases, RIKEN, Japan; ³Dept. of Pediatrics I, Innsbruck Med. Univ., Austria; ⁴Grad. School of Med., Yokohama City Univ., Japan; ⁵Grad. School of Life Sci., Hokkaido Univ., Japan

Posterboard #: B228 || Abstract #: 293

“An anti-schizophrenic drug affects the surface expression of polySia-NCAM in IMR-32 human neuroblastoma cells”

Saki Nishimura, Masaya Hane, Yuki Niimi, Ken Kitajima, Chihiro Sato
Bioscience and Biotechnology Center, Nagoya University

Posterboard #: B229 || Abstract #: 294

“Reverted expression of the β 4-galactosyltransferase 2 or 5 gene in cancer cells impairs tumor growth”

Kiyoshi Furukawa¹, Masatoshi Tagawa², Ryo Kuji¹, Takeshi Sato¹, Katsunori Shirane¹

¹Laboratory of Glycobiology, Graduate School of Engineering, Nagaoka University of Technology, Nagaoka, Niigata 940-2188, Japan; ²Division of Pathology and Cell Therapy, Chiba Cancer Research Institute, Chiba 260-8717, Japan

Posterboard #: B230 || Abstract #: 295

“Catalytic mechanism and allosteric regulation of UDP-glucose pyrophosphorylase from *Leishmania major*”

Johannes Cramer¹, Jana Fühling¹, Françoise Routier¹, Petra Baruch², Rita Gerardy-Schahn¹, Roman Fedorov³

¹Institute for Cellular Chemistry, Hannover Medical School, Germany; ²Research Division for Structural Analysis, Hannover Medical School, Germany; ³Institute for Biophysical Chemistry, Hannover Medical School, Germany

Posterboard #: B231 || Abstract #: 296

“A *Drosophila* model of CDG-1a”

William Parkinson, Kendal Broadie
Vanderbilt University

Posterboard #: B232 || Abstract #: 297

“The glycosylation-dependent interaction of perlecan core protein with LDL: Implications for atherosclerosis”

Yuxin Xu¹, David Ashline², Li Liu³, Carlos Tassa⁴, Stanley Shaw⁴, Katya Ravid⁵, Matthew Layne⁶, Vernon Reinhold², Phillips Robbins³

¹Center for Human Genetic Research and Cardiovascular Research Center, Massachusetts General Hospital; ²The Glycomics Center, University of New Hampshire; ³Department of Molecular and Cell Biology, Boston University Henry M. Goldman School of Dental Medicine; ⁴Center for Systems Biology, Massachusetts General Hospital; ⁵Department of Medicine, Boston University School of Medicine; ⁶Department of Biochemistry, Boston University School of Medicine

Posterboard #: B233 || Abstract #: 298

“Sialyl-Tn antigen is a potential target for the development of metastasis specific anti-tumor drugs”

Shusaku Fujii¹, Rina Takamiya², Shinji Takamatsu³, Hiroaki Korekane⁴, Naoyuki Taniguchi⁴, Kazuaki Ohtsubo¹

¹Dept. of Analytical Biochemistry, Faculty of Life Sciences, Kumamoto Univ.; ²Dept. of Biochemistry, School of Medicine, Sapporo Medical University; ³Dept. of Functional Diagnostic Science, Div. of Health Sciences, Osaka Univ.; ⁴Disease Glycomics, System Glycobiology, RIKEN-Max Plank Joint Res. Center

Posterboard #: B234 || Abstract #: 299

“(Dys)regulation of T cell receptor by N-glycosylation in inflammatory bowel disease pathogenesis”

Salomé Pinho¹, Ana Dias², Telmo Catarino², Ricardo Marcos-Pinto³, Alexandra Correia⁴, Catarina Almeida⁵, Sónia Fonseca⁶, Margarida Lima⁶, Manuel Vilanova⁴

¹Institute of Molecular Pathology and Immunology of the University of Porto (IPATIMUP), Portugal; ²Institute of Biomedical Sciences of Abel Salazar (ICBAS), University of Porto, Portugal; ³Institute of Molecular Pathology and Immunology of the University of Porto (IPATIMUP), Portugal; ⁴Department of Gastroenterology, Centro Hospitalar do Porto, Porto, Portugal; ⁵Institute of Biomedical Sciences of Abel Salazar (ICBAS), University of Porto, Portugal; ⁶Hematology Department, Centro Hospitalar do Porto, Porto, Portugal; ⁷Department of Gastroenterology, Portuguese Oncology Institute of Porto, Porto, Portugal; ⁸Institute of Molecular Pathology and Immunology of the University of Porto (IPATIMUP), Porto, Portugal

Posterboard #: B235 || Abstract #: 300

“Clinching the elusive prostate cancer antigen F77”

Chao Gao¹, Akihiro Imamura², Yan Liu¹, Hongtao Zhang³, Yibing Zhang¹, Wengang Chai¹, Makoto Kiso², Mark Greene³, Ten Feizi¹

¹Glycosciences Laboratory, Department of Medicine, Imperial College London; ²Department of Applied Bioorganic Chemistry, Gifu University; ³Department of Pathology and Laboratory Medicine, University of Pennsylvania

Posterboard #: B236 || Abstract #: 301

“Glycomic consequences of TLR4 deficiency in mouse lung”

Tadahiro Kumagai, Peiying Shan², Patty J Lee², Zhou Zhu², Michael Tiemeyer

¹University of Georgia, Complex Carbohydrate Research Center; ²Yale University School of Medicine

Posterboard #: B237 || Abstract #: 302

“Quantification of plasma and red blood cell glycosphingolipids in Amish epilepsy syndrome by NSI mass spectrometry”

Kazuhiro Aoki¹, Tadahiro Kumagai¹, Adam Heaps², Kevin Strauss², Michael Tiemeyer¹

¹Complex Carbohydrate Research Center, University of Georgia; ²Clinic for Special Children, Strasburg, PA

Posterboard #: B238 || Abstract #: 303

“Molecular mechanisms underlying the formation of laminin-binding glycans displayed on α -dystroglycan”

Hirokazu Yagi¹, Naoki Nakagawa², Shogo Oka², Koichi Kato³

¹Grad. Sch. of Pharm. Sci., Nagoya City Univ.; ²Human Health Sci., Grad.Sch. of Med., Kyoto Univ.; ³Okazaki Inst. for Integra. Biosci., Nat. Insti. of Nat. Sci.

Posterboard #: B239 || Abstract #: 304**“Mannose-functionalized mesoporous nanocarriers for targeted drug delivery and tumor imaging”**Zhou Ye, Shuting Wang, Quan Zhang, Jian Yin*The Key Laboratory of Carbohydrate Chemistry and Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University***Posterboard #: B240 || Abstract #: 305****“Galnt1 is required for normal heart valve development and cardiac function”**E Tian¹, Sharon Stevens¹, Yu Guan¹, Stasia Anderson², Danielle Springer², Matthew Starost³, Vyomesh Patel⁴, Kelly Ten Hagen¹, Lawrence Tabak¹¹NIDCR, NIH; ²NHLBI, NIH; ³DVR, NIH; ⁴CRIF, Sime Darby Medical Centre**Posterboard #: B241 || Abstract #: 306****“The molecular morphology of the cytotoxic retrotranslocation by an N-acetylhexosamine-binding lectin isolated from slipper lobster in breast and ovarian cancer cells”**Yuki Fujii¹, Toshiyuki Fujiwara¹, Yukiko Ogawa¹, Shigeki Sugawara², Masahiro Hosono², Imtiaji Hasan³, Yasuhiro Koide⁴, S.M.A Kawsar⁵, Yasuhiro Ozeki⁴, Hideaki Fujita¹¹Department of Pharmacy, Faculty of Pharmaceutical Science, Nagasaki International University; ²Divisions of Cell Recognition Study, Institute of Molecular Biomembrane and Glycobiology, Tohoku Pharmaceutical University; ³Laboratory of Glycobiology and Marine Biochemistry, Graduate School of NanoBio Sciences, Yokohama City University and Department of Biochemistry and Molecular biology, Graduate School of Sciences, University of Rajshahi; ⁴Laboratory of Glycobiology and Marine Biochemistry, Graduate School of NanoBio Sciences, Yokohama City University; ⁵Department of Chemistry, Graduate School of Sciences, University of Chittagong**Posterboard #: B242 || Abstract #: 307****“Fast Immunoglobulin deglycosylation for accurate N-glycan analysis”**

Paula Magnelli, Beth McLeod, Alicia Bielik, Stephen Shi, John Buswell, Ellen Guthrie

*New England Biolabs***Posterboard #: B243 || Abstract #: 308****“Physiological function of deglycosylating enzymes in mice”**Haruhiko Fujihira¹, Yuki Masahara-Negishi¹, Masaru Tamura², Shigeharu Wakana², Chengcheng Huang¹, Gen Kondoh³, Tadashi Yamashita⁴, Yoko Funakoshi¹, Tadashi Suzuki¹Glycometabolome Team, System Glycobiology Research Group, RIKEN-Max Planck Joint Research Center, Global Research Cluster, RIKEN; ²Technology and Development Team for Mouse Phenotypic Analysis, Japan Mouse Clinic, BioResource Center, RIKEN; ³Laboratory of Animal Experiments for Regeneration, Institute for Frontier Medical Science, Kyoto University; ⁴Laboratory of Biochemistry, School of Veterinary Medicine, Azabu University**Posterboard #: B244 || Abstract #: 309****“Mannitol - a BBB disrupter is also a potent alpha-synuclein aggregation inhibitor for treating Parkinson’s disease”**Ronit Shaltiel-Karyo¹, Moran Frenkel-Pinter¹, Edward Rockenstein², Christina Patrick², Yaara Alayouf¹, Michal Levy-Sakin¹, Nirit Egoz-Matia¹, Eliezer Masliah², Ehud Gazit¹, Daniel Segal¹¹Department Molecular Microbiology and Biotechnology, Tel Aviv University, Tel Aviv 69978, Israel; ²Dept. of Neurosciences, School of Medicine, University of California at San Diego, La Jolla, CA 92093, USA**Posterboard #: B245 || Abstract #: 310****“Functional analyses of a novel type of CA19-9 carrier molecules in micro lipid membrane”**Tomomi Minehira¹, Naofumi Uozumi¹, Hitomi Asazawa¹, Atsuko Sawanobori¹, Shinji Takamatsu¹, Yoshihiro Kamada¹, Katsunori Tanaka², Koichi Fukase², Eiji Miyoshi¹¹Department of Molecular Biochemistry and Clinical Investigation, Osaka University Graduate School of Medicine; ²Department of Chemistry, Osaka University Graduate School of Science**Posterboard #: B246 || Abstract #: 311****“Genetic and epigenetic regulation of IgG glycosylation”**Gordan Lauc

Univ. of Zagreb, Zagreb, Croatia; Genos Glycoscience, Zagreb, Croatia

Posterboard #: B247 || Abstract #: 312**“Identification of sialylated glycoproteins in doxorubicin-treated hepatoma cells with glycoproteomic analyses”**Shinji Takamatsu¹, Kanako Azuma¹, Satoshi Serada², Naoko Terao¹, Shunsaku Takeishi³, Yoshihiro Kamada¹, Tetsuji Naka², Eiji Miyoshi¹¹Department of Functional Diagnostic Science, Osaka University Graduate School of Medicine; ²Laboratory for Immune Signal, National Institute of Biomedical Innovation; ³GP BioScience Ltd.**Posterboard #: B248 || Abstract #: 313****“N-glycan deletion mutant of soluble ErbB3 protein attenuates heregulin-induced tumor progression by blockade of HIF-1 pathway”**Rina Takamiya¹, Motoko Takahashi¹, Yoshihiro Hasegawa¹, Yasuaki Uehara¹, Jiro Hashimoto¹, Shigeru Ariki¹, Yoshio Kuroki*Sapporo Medical University School of Medicine***Posterboard #: B249 || Abstract #: 314****“Characterizing molecular mechanisms of cosmc/ T-synthase interactions”**Melinda S. Hanes, Richard D. Cummings*Emory University***Posterboard #: B250 || Abstract #: 315****“Development of IgG antibodies with stage-dependent glycans on the Fc of ALS Tg mice”**Rachel Lichtenstein, Meital Edri-Brami*Avram and Stella Goren-Goldstein Department of Biotechnology Engineering, Faculty of Engineering, Ben-Gurion University of the Negev, Beer-Sheva 84105, Israel***Posterboard #: B251 || Abstract #: 316****“Optogenetic control of the function of the Golgi apparatus in neurons”**Junosuke Endo, Yukari Takeo, Shinji Matsuda, Michisuke Yuzaki*Department of Neurophysiology, School of Medicine, Keio University***Posterboard #: B252 || Abstract #: 317****“Pathophysiological roles for dystroglycan glycosylation in skeletal muscle and gene therapy challenge using glycosylation-deficient muscular dystrophy models”**Motoi Kanagawa¹, Chih-Chieh Yu¹, So-ichiro Fukada², Yoshihisa Ohtsuka¹, Chiyomi Ito¹, Tomoko Chiyoi³, Takashi Okada³, Shin'ichi Takeda³, Tatsushi Toda¹¹Kobe University Graduate School of Medicine; ²Osaka University Graduate School of Pharmaceutical Sciences; ³National Center of Neurology and Psychiatry

Posterboard #: B253 || Abstract #: 318

“Regulatory function of b-series gangliosides in adipose tissues leptin secretion and in central nervous system which controls the lipid metabolism”

Shuting Ji¹, Yuhsuke Ohmi¹, Yuki Ohkawa¹, Keiko Furukawa², Koichi Furukawa¹

¹Department of Biochemistry II, Nagoya University Graduate School of Medicine, Nagoya, Japan; ²Department of Biomedical Sciences, Chubu University College of Life and Health Science, Kasugai, Japan

Posterboard #: B254 || Abstract #: 319

“A sialic acid-binding lectin (SBL)-dependent apoptosis is triggered by sialylated-glycoconjugates in GEM of P388 cells”

Yukiko Ogawa¹, Yuki Fujii¹, Shigeki Sugawara², Masahiro Hosono², Takeo Tatsuta², Kazuo Nitta², Yasuhiro Koide³, Imtiaji Hasan⁴, S.M.A. Kawsar⁵, Hidemitsu Kobayashi¹, Yasuhiro Ozeki³

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Posterboard #: B255 || Abstract #: 320

“OGT isoform expression is an X-linked trait predictive of disease susceptibility”

John Hanover¹, Lara Abramowitz¹, Michelle Bond¹, Amanda Zirzow², Clara Cheng³, Carolyn Bondy³, Ahmed Gharib⁴, Stephanie Olivier-Van Stichelen¹, Dona Love¹

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Posterboard #: B256 || Abstract #: 321

“Initiation of clustered O-glycosylation of IgA1 by GalNAc-transferases in IgA nephropathy: New methods for complex product analysis”

Tyler Stewart¹, Kazuo Takahashi², Qi Bian¹, Zhiqiang Huang¹, Milan Raska³, Matthew Renfrow¹, Jan Novak¹

¹University of Alabama at Birmingham; ²Fujita Health University School of Medicine; ³Palacky University

Posterboard #: B257 || Abstract #: 322

“Dietary intake of non-human sialic acid Neu5Gc promotes tumor growth in human-like mouse models of colorectal cancer”

Frederico Alisson-Silva¹, Annie Samraj¹, Heinz Laubli², Nissi Varki¹, Ajit Varki¹

¹Glycobiology Research and Training Center, Departments of Medicine and Cellular & Molecular Medicine, University of California, San Diego; ²Department of Oncology, Universität Basel

Posterboard #: B258 || Abstract #: 323

“Assessment of O-glycosylation of different molecular forms of IgA1 in sera of patients with IgA nephropathy, an autoimmune renal disease”

Stacy Hall¹, Audra Laube¹, Blake Moore¹, Rhubell Brown¹, Qi Bian¹, Zina Moldoveanu¹, Bruce A. Julian¹, Matthew B. Renfrow¹, Robert J. Wyatt², Jan Novak¹

¹UAB; ²University of Tennessee Health Science Center

Posterboard #: B259 || Abstract #: 324

“AFM observation of beta-amyloid aggregates induced by ganglioside GM1-containing lipid membrane”

Hanaki Yasumori, Masaya Nishihara, Teruhiko Matsubara, Toshinori Sato

Department of Bioscience and Informatics, Keio University, 3-14-1 Hiyoshi, Kohoku-ku, Yokohama 223-8522, Japan

Posterboard #: B260 || Abstract #: 325

“Impaired O-GlcNAc modification in the endoplasmic reticulum by mutated EOGT associated with Adams-Oliver syndrome”

Mitsutaka Ogawa¹, Takami Kawai¹, Daita Nadano², Tsukasa Matsuda², Hirokazu Yagi³, Koichi Kato³, Koichi Furukawa¹, Tetsuya Tetsuya¹

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Posterboard #: B261 || Abstract #: 326

“Development of reverse transfection method using pDNA/polysaccharide complexes”

Takahiro Arai, Toshinori Sato

Department of Biosciences and Informatics, Keio University, 3-14-1 Hiyoshi, Kohoku-ku, Yokohama 223-8522, Japan

Posterboard #: B262 || Abstract #: 327

“Deficiency in C-6 sulfation of GlcNAc within keratan sulfate mitigates Alzheimer’s pathology and memory impairment in mice”

Shiori Ohtake-Niimi¹, Yoshiko Takeda-Uchimura¹, Tahmina Foyez¹, Makoto Michikawa², Kenji Kadamatsu¹, Kenji Uchimura¹

¹Nagoya University Graduate School of Medicine, Japan; ²Nagoya City University School of Medicine, Japan

Posterboard #: B263 || Abstract #: 328

“Fucosylation is a common type of glycosylation in the cancer stem cell-like phenotype of pancreatic cancer under various conditions”

Naoko Terao, Shinji Takamatsu, Tomomi Minehira, Yoshihiro Kamada, Eiji Miyoshi

Department of Molecular Biochemistry and Clinical Investigation, Osaka University Graduate School of Medicine

Posterboard #: B264 || Abstract #: 329

“Heparan sulfate containing unsubstituted glucosaminers: Biosynthesis and heparanase inhibitory activity”

Satomi Nadanaka¹, Eko Purunomo¹, Naoko Takeda², Jun-ichi Tamura³, Hiroshi Kitagawa¹

¹Department of Biochemistry, Kobe Pharmaceutical University, Japan; ²Department of Chemistry and Biotechnology, Graduate School of Engineering, Tottori University, Japan; ³Department of Regional Environment, Faculty of Regional Sciences, Tottori University, Japan

Posterboard #: B265 || Abstract #: 330

“Insight into single nucleotide polymorphisms (SNPs) of the polysialyltransferase ST8SIA2/STX in psychiatric disorders”

Masaya Hane¹, Saki Nishimura², Toshiyuki Hayakawa³, Ken Kitajima¹, Chihiro Sato¹

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Posterboard #: B266 || Abstract #: 331

“Enhanced expression of polysialic acid is correlated with malignant phenotype in breast cancer cell lines and clinical tissue samples”

Xin Wang¹, Yinnan Zeng¹, Xiaomin Yang², Feng Guan¹

¹The Key Laboratory of Carbohydrate Chemistry & Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University, Wuxi, China; ²Department of Oncological Surgery, The First Affiliated Hospital, Medicine School, Xi'an Jiaotong University, China

Posterboard #: B267 || Abstract #: 332

“Analysis of glycans related to metastasis of human cancer cells by saccharide primer method”

Yuki Shibano, Yusuke Konno, Yu Furuichi, Toshinori Sato

Departure of Biosciences and Informatics, Keio University, 3-14-1 Hiyoshi, Kohoku-ku, Yokohama 223-8522, Japan

Posterboard #: B268 || Abstract #: 333

“Study of protein O-GlcNAcylation in the brain tissue in Huntington’s disease”

Nina Ondruskova¹, Marie Rodinova¹, Hana Kratochvilova¹, Stefan Juhas², Zdenka Ellederova², Jiri Klempir³, Radoslav Matej⁴, Jan Motlik², Jiri Zeman¹, Hana Hansikova

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Posterboard #: B269 || Abstract #: 334

“Globo-series glycans as therapeutic targets for cancers”

Yi-Wei Lou¹, Pao-Yuan Wang², Shih-Chi Yeh³, Po-Kai Chuang⁴, Shiou-Ting Li⁵, Chung-Yi Wu⁵, Kay-Hooi Khoo⁶, Michael Hsiao⁵, Tsui-Ling Hsu⁵, Chi-Huey Wong

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Posterboard #: B270 || Abstract #: 335

“Development of recombinant Aleuria aurantia lectins for the detection of cancer specific changes in hepatocellular carcinoma”

Harmin Herrera¹, Mengjun Wang¹, Sandhya Kortagere¹, Patrick Romano², Pamela Norton¹, Mary Ann Comunale¹, Anand Mehta¹

¹Drexel Univ. College of Medicine; ²The Baruch S. Blumberg Institute

Posterboard #: B271 || Abstract #: 336

“Depletion of (neo-) lacto series glycosphingolipids by genome editing of B3GNT5”

Katharina Winkelbach, Reto Kohler, Viola Heinzlmann-Schwarz, Francis Jacob

Gynecological Research Group, Department of Biomedicine, University Hospital Basel, University of Basel, Basel, Switzerland

Posterboard #: B272 || Abstract #: 337

“Identification of fucosylated Fetuin-A as a serum biomarker for cholangiocarcinoma”

Lucy Betesh, Mary Comunale, Mengjun Wang, Timothy Block, Anand Mehta

Drexel University College of Medicine

Posterboard #: B273 || Abstract #: 338

“Overexpression of individual subunits of the glycosylphosphatidylinositol transamidase (GPI-T) induce subunit- and C-terminal signal sequence-specific changes in GPI anchoring of proteins”

Dilani Gamage, Tamara Hendrickson

Wayne State University

Posterboard #: B274 || Abstract #: 339

“O-GlcNAc transferase directs cell proliferation in idiopathic pulmonary arterial hypertension”

Jarrod Barnes¹, Liping Tian¹, Carol Farver², Kewal Asosingh¹, Suzy Comhair¹, Kulwant Aulak¹, Raed Dweik³

¹Department of Pathobiology, Lerner Research Institute, Cleveland Clinic; ²Department of Pathology, Cleveland Clinic; ³Pulmonary and Critical Care Medicine, Respiratory Institute, Cleveland Clinic

Posterboard #: B275 || Abstract #: 340

“Development of novel method for analysis of disease-specific glycosaminoglycans in mucopolysaccharidosis type II”

Yohta Shimada¹, Taichi Wakabayashi¹, Kazumasa Akiyama², Takashi Higuchi¹, Hiroshi Kobayashi¹, Yoshikatsu Eto³, Hiroyuki Ida⁴, Toya Ohashi¹

¹Division of Gene Therapy, Research Center for Medical Sciences, The Jikei University School of Medicine, Tokyo, Japan; ²Department of Pediatrics, Kitasato University School of Medicine, Kanagawa, Japan; ³Advanced Clinical Research Center, Institute of Neurological Disorders, Kanagawa, Japan; ⁴Department of Pediatrics, The Jikei University School of Medicine, Tokyo, Japan

Posterboard #: B276 || Abstract #: 341

“Ligand-mediated Siglec-8 internalization in eosinophils is influenced by the actin cytoskeleton, tyrosine kinases, and sialylated cis ligands”

Jeremy O’Sullivan¹, Daniela Janevska¹, Corwin Nycholat², Michael Tiemeyer³, James Paulson², Bruce Bochner¹

¹Feinberg School of Medicine, Northwestern University; ²The Scripps Research Institute; ³Complex Carbohydrate Research Center, University of Georgia

Posterboard #: B277 || Abstract #: 342

“Heparan sulfate storage alters nervous system development in Sanfilippo syndrome, MPSIIIA”

Chrissa A. Dwyer¹, Nicola J. Allen², Jeffrey D. Esko¹

¹Department of Cellular and Molecular Medicine, University of California, San Diego, La Jolla CA 92093; ²Molecular Neurobiology Laboratory, The Salk Institute, La Jolla, CA 92037

Posterboard #: B278 || Abstract #: 343

“Targeting the Tn antigen of Muc1 in cancer with a chimeric antigen receptor”

Avery Posey, Robert Schwab, Alina Boestaneau, Laura Johnson, Carl June

University of Pennsylvania

Posterboard #: B279 || Abstract #: 344

“Mitigation of Non-typeable Haemophilus influenzae induced acute airway inflammation by manipulating circulatory ST6Gal-1 levels”

Mehrab Nasirikenari¹, Amit Lugade¹, Christopher Dougher¹, Sriram Neelamegham², Yasmin Thanavala¹, Kelley Moremen³, Joseph Lau¹

¹Roswell Park Cancer Institute; ²University at Buffalo; ³Complex Carbohydrate Research Center and Department of Biochemistry and Molecular Biology, University of Georgia, Athens, GA

Posterboard #: B280 || Abstract #: 345

“The sialyltransferase ST6Gal-I is upregulated in ovarian and pancreatic cancer and promotes tumor survival by activating a cancer stem cell phenotype”

Matthew Schultz¹, Charles N. Landen², Karina J. Yoon³, William E. Grizzle⁴, Susan L. Bellis¹

¹Department of Cell, Developmental and Integrative Biology, University of Alabama at Birmingham, Birmingham, AL; ²Department of Obstetrics and Gynecology, University of Alabama at Birmingham, Birmingham, AL; ³Department of Pharmacology, University of Alabama at Birmingham, Birmingham, AL; ⁴Department of Pathology, University of Alabama at Birmingham, Birmingham, AL

Posterboard #: B281 || Abstract #: 346

“Detailed characterization of glycans from Erbitux, Rituxan, and Enbrel using recombinant PNGase F and a panel of exoglycosidases”

Beth McLeod, Paula Magnelli, Alicia Bielik, Stephen Shi, Colleen McLung, Ellen Guthrie

New England Biolabs

Posterboard #: B282 || Abstract #: 347

“The glycosylation profile of metastatic melanoma lymph node tumours”

Jodie L. Abrahams, Matthew P. Campbell, Nicolle H. Packer

Department of Chemistry and Biomolecular Sciences, Macquarie University, Sydney, Australia

Posterboard #: B283 || Abstract #: 348

“High-throughput screening of GnT-III inhibitors using UDP-Glo system to develop a novel drug candidate for Alzheimer’s disease”

Yasuhiko Kizuka¹, Shinobu Kitazume¹, Keiko Sato¹, Tetsuo Ohnuki², Mutsuko Kukimoto-Niino³, Chiemi Mishima-Tsumagari³, Mikako Shirouzu³, Minoru Yoshida², Laurie Engel⁴, Hicham Zegzouti⁴, Naoyuki Taniguchi¹

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Posterboard #: B284 || Abstract #: 349

“Effects of sesamin on the biosynthesis of chondroitin sulfate proteoglycans in human articular chondrocytes in primary culture”

Kazuyuki Sugahara¹, Peraphan Pothacharoen², Sumet Najarus², Jongkolnee Settakorn³, Shuji Mizumoto¹, Prachya Kongtawelert²

¹Proteoglycan Signaling and Therapeutics Res. Group, Fac. of Advanced Life Sci., Hokkaido Univ. Grad. Sch. of Life Sci., Sapporo 001-0021, Japan; ²Thailand Excellence Center for Tissue Engineering and Stem Cells, Dept. of Biochem., Fac. of Med., Chiang Mai Univ., Chiang Mai 50200, Thailand; ³Dept. of Pathol., Fac. of Med., Chiang Mai Univ., Chiang Mai 50200, Thailand

Posterboard #: B285 || Abstract #: 350

“Identification and characterization of a missense mutation in O-GlcNAc transferase that segregates with disease in a family with X-linked intellectual disability”

D. Brent Weatherly¹, Krithika Vaidyanathan¹, Peng Zhao¹, Melanie May², Charles Schwartz², Lance Wells¹

¹CCRC at UGA; ²Greenwood Genetic Center, SC

Posterboard #: B286 || Abstract #: 351

“B4GAT1 is the priming enzyme for the LARGE-dependent functional glycosylation of α -dystroglycan”

Jeremy Praissman¹, David Live¹, Shuo Wang², Annapoorani Ramiah², Kelley Moremen², Lance Wells²

¹UGA at CCRC; ²CCRC at UGA

Posterboard #: B287 || Abstract #: 352

“Ex vivo gene therapy improves the accumulation of glycosaminoglycans in brain from murine model of mucopolysaccharidosis type II”

Taichi Wakabayashi¹, Yohta Shimada², Takashi Higuchi², Hiroshi Kobayashi², Hiroyuki Ida¹, Toya Ohashi²

¹Department of Pediatrics, Jikei University School of Medicine; ²Division of Gene Therapy, Research Center for Medical Sciences, Jikei University School of Medicine

Posterboard #: B288 || Abstract #: 353

“Potential for using lectin sugar chains as diagnostic markers in oral precancerous lesions”

Michiko Ehara¹, Juna Nakao¹, Motohiko Nagayama¹, Masaaki Shiota², Kiyoko F. Aoki-Kinoshita², Jun-ichi Tanuma¹

¹Department of Oral Pathology Asahi University School of Dentistry; ²Graduate School of Engineering, Soka University

Posterboard #: B289 || Abstract #: 354

“Correlating glycosylation and immunoreactivity of HIV GP120”

Peng Zhao¹, Nickita Mehta¹, Galit Alter², Michael Tiemeyer¹, Lance Wells¹

¹CCRC at UGA; ²Ragon Institute, Harvard

Posterboard #: B290 || Abstract #: 355

“Oral N-acetylmannosamine reverses glomerular hyposialylation and ameliorates proteinuria in a mouse model of nephrotic syndrome”

May Christine V. Malicdan¹, Steven Bodine², Veeraya Tanawattanacharoen³, Tadafumi Yokoyama², Petcharat Leoyklang², Patricia M Zerfas⁴, Avi Rosenberg², Shashi Shrivastav⁵, Taichi Murakami³, Koji Okamoto³, Jeffrey B. Kopp³, William A. Gahl⁵, Marjan Huizinga²

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Posterboard #: B291 || Abstract #: 356

“A genome-scale systems biology approach to modeling glycosylation”

Nathan Lewis¹, Anders Bruntse², Philipp Spahn¹, Hooman Hefzi¹

¹University of California, San Diego; ²Technical University of Denmark

Posterboard #: B292 || Abstract #: 357

“Structural analyses of plasma glycoproteins in exacerbation and emphysema model mice as biomarker candidates for chronic obstructive lung disease (COPD)”

Katsunori Shirai¹, Reiko Fujinawa², Satoshi Kobayashi², Fumi Ota², Shinobu Kitazume², Naoyuki Taniguchi², Miyako Nakano¹

¹Graduate School of Advanced Sciences of Matter, Hiroshima University, Hiroshima, Japan; ²Disease Glycomics Team, RIKEN Global Research Cluster, RIKEN-Max Planck Joint Research Center, Saitama, Japan

Posterboard #: B293 || Abstract #: 358

“GNE defects in zebrafish lead to impairment of sialylation and myopathy”

Dino Maglic¹, Leoyklang Petcharat¹, Pongsathorn Chaiyasap¹, Kevin Bishop², Raman Sood², Patricia M. Zervas³, William A. Gahl⁴, Marjan Huizing¹, May Christine Malicdan⁵

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Posterboard #: B294 || Abstract #: 359

“Acquired drug resistance by decrease of sialylated glycans on acute lymphoblastic leukemia cell-membrane glycoproteins”

Miyako Nakano¹, Ryohei Shirai¹, Jun Ito¹, Maria Kavallaris², Nicolle Packer³

¹Graduate School of Advanced Sciences of Matter, Hiroshima University, Hiroshima, Japan; ²Children's Cancer Institute Australia, Lowy Cancer Research Centre, NSW, Australia; ³Biomolecular Frontiers Research Centre, Macquarie University, NSW, Australia

Posterboard #: B295 || Abstract #: 360

“Sialylation of Thomsen-Friedenreich antigen is a noninvasive blood-based biomarker for GNE myopathy”

Marjan Huizing¹, Petcharat Leoyklang¹, Tal Yardeni², Frank Celeste³, Carla Ciccone¹, Xueli Li⁴, Rong Jian⁴, Nuria Carrillo-Carrasco³, Miao He⁴, William A. Gahl⁵, May Christine V. Malicdan¹

¹Medical Genetics Branch, National Human Genome Research Institute, NIH; ²Medical Genetics Branch, National Human Genome Research Institute, NIH; ³Sackler Faculty of Medicine, Tel Aviv University; ⁴Therapeutics for Rare and Neglected Diseases, National Center for Advancing Translational Sciences, NIH; ⁵Department of Human Genetics, Emory University School of Medicine, Atlanta, GA; ⁶Children's Hospital of Philadelphia, University of Pennsylvania, Department of Pathology and Laboratory Medicine, Philadelphia PA; ⁷Medical Genetics Branch, National Human Genome Research Institute, NIH; ⁸Office of the Clinical Director, NHGRI, NIH

Posterboard #: B296 || Abstract #: 361

“Quantitative glycomes analysis of N-glycan patterns in bladder cancer vs. normal bladder cells using an integrated strategy”

Ganglong Yang¹, Zengqi Tan¹, Wei Lu¹, Jia Guo¹, Hanjie Yu², Jingmin Yu², Zheng Li², Feng Guan¹

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Posterboard #: B297 || Abstract #: 362

“Sweet role of platelet endothelial cell adhesion molecule (PECAM) in understanding angiogenesis”

Shinobu Kitazume¹, Rie Imamaki¹, Ayako Kurimoto¹, Kazuko Ogawa¹, Masaki Kato², Yoshiki Yamaguchi², Katsunori Tanaka³, Hideharu Ishida⁴, Hiromune Ando⁵, Makoto Kiso⁵, Noritaka Hashii⁶, Nana Kawasaki⁶, Naoyuki Taniguchi¹

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Posterboard #: B298 || Abstract #: 363

“Binding of langerin/CD207 to keratan sulfate disaccharide, Gal (6SO3) β 1, 4-GlcNAc (6SO3) and its triangle derivative in vitro and in vivo: Possible drug targets for COPD (chronic obstructive pulmonary disease)”

Reiko Fujinawa¹, Fumi Ota¹, Congxiao Gao¹, Tetsuya Hirayama², Hiroki Kabata³, Hiroaki Korekane¹, Shinobu Kitazume¹, Kazuaki Ohtsubo¹, Keiichi Yoshida¹, Yoshiki Yamaguchi¹, R Bernd Lepenies⁴, Christoph Rademacher⁴, Tomoko Betsuyaku³, Kozui Kida⁵, Naoyuki Taniguchi¹

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Posterboard #: B299 || Abstract #: 364

“Development of a sensitive assay method of keratan sulfate disaccharide levels in mice plasma and bronchoalveolar lavage fluid”

Fumi Ota, Reiko Fujinawa, Hiroaki Korekane, Keiichi Yoshida, Naoyuki Taniguchi

Systems Glycobiology Research Group, RIKEN, Wako, Japan

Posterboard #: B300 || Abstract #: 365

“Sialyl Lewis X conjugated nanodiamonds for vascular targeting”

Arun Everest-Dass¹, Nicole Cordina¹, Zhenjun Zhao², Louise Brown¹, Marcus Stoodley², Nicolle Packer¹

¹Department of Chemistry and Biomolecular Sciences, Macquarie University, Sydney, Australia; ²Australian School of Advanced Medicine, Macquarie University, Sydney, Australia

Posterboard #: B301 || Abstract #: 366

“High throughput detection of an alpha2,6-sialylated glycoform of transferrin in cerebrospinal fluid: Application for dementia diagnosis”

Yasuhiro Hashimoto¹, Kyoka Hoshi², Toshie Saito², Hiromi Ito², Yoshinobu Kariya², Takashi Honda³, Yoshiki Yamaguchi⁴

¹Department of Biochemistry and Fukushima Industry-University-Government Research Center, Fukushima Medical University; ²Department of Biochemistry, Fukushima Medical University; ³Department of Human Life Science and Fukushima Industry-University-Government Research Center, Fukushima Medical University; ⁴Structural Glycobiology Team, Systems Glycobiology Research Group, RIKEN-Max Planck Joint Research Center for Systems Chemical Biology, Global Research Cluster, RIKEN

Posterboard #: B302 || Abstract #: 367

“Proteomic analysis of ganglioside-associated microdomain in malignant melanomas”

Noboru Hashimoto¹, Kazunori Hamamura¹, Norihiro Kotani², Keiko Furukawa³, Kei Kaneko¹, Koichi Honke, Koichi Furukawa¹

¹Molecular Biochemistry, Nagoya University; ²Biochemistry, Kochi University; ³Life and Health, Chubu University

Posterboard #: B303 || Abstract #: 368

“Comprehensive N-glycome profiling of cultured human epithelial breast cells identifies unique secretome N-glycosylation signatures enabling tumorigenic sub-type classification”

Susan Fanayan¹, Ling Y. Lee¹, Morten Thaysen-Andersen¹, Mark S. Baker¹, Nicolle H. Packer¹, William S. Hancock²

¹Department of Chemistry and Biomolecular Sciences, Macquarie University, Sydney, NSW 2109, Australia; ²Department of Chemistry and Biomolecular Sciences, Macquarie University, Sydney, NSW 2109, Australia; Barnett Institute and Department of Chemistry and Chemical Biology, Northeastern University, Boston, Massachusetts 02115, USA

(Late-breaking Abstracts)

Posterboard #: LB26 || Abstract #: 394

“Lack of Fc Glycosylation Results in Susceptibility to Selective Free Thiol Formation in the CH2 Domain of an E. coli-expressed Recombinant Monoclonal IgG1 Antibody”

Katherine Hu, Michelle Irwin, Daniel Hewitt, Tomasz Baginski Genentech Inc., Department of Protein Analytical Chemistry, 1 DNA Way, South San Francisco, CA 94080, USA

Posterboard #: LB27 || Abstract #: 395

“Maltohexaose based contrast agents detect bacterial infections”

Xinghai Ning Nanjing University, College of Engineering and Applied Sciences

Posterboard #: LB28 || Abstract #: 396

“Properties of a rare sugar D-allulose (D-psicose)”

Ikuko Tsukamoto¹, Akram Hossain², Fuminori Yamaguchi¹, Youyi Dong¹, Kazuyo Kamitori¹, Li Sui¹, Masaki Ueno¹, Koji Muroa¹, Ryoji Konishi¹, Masaaki Tokuda¹,

¹Fac. of Med., Kagawa Univ. Japan; ²Matsutani Chemical Industry Co., Ltd.

Posterboard #: LB29 || Abstract #: 397

“Bis(β-lactosyl)-fullerene as novel class of glycolipids useful for detection and decontamination of biological toxins in Ricinus communis family”

Hirofumi Dohi¹, Takeru Kanazawa¹, Akihiro Saito², Keita Sato³, Hirotaka Uzawa⁴, Yasuo Seto³, Yoshihiro Nishida¹

¹Department of Nanobiology, Chiba University; ²Department of Materials and Life Science, Shizuoka Institute of Science and Technology; ³National Research Institute of Police Science; ⁴Nanosystem Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)

Posterboard #: LB30 || Abstract #: 398

“Rare sugar D-allulose (D-psicose) prevents progression and development of diabetes in Type 2 Diabetes Mellitus (T2DM) rat model”

Akram Hossain¹, Li Sui¹, Fuminori Yamaguchi¹, Kazuyo Kamitori¹, Youyi Dong¹, Ikuko Tsukamoto¹, Iida Tetsuo², Masaaki Tokuda¹

¹Kagawa University; ²Research and Development, Matsutani Chemical Industries Co. Ltd.

Posterboard #: LB31 || Abstract #: 399

“Large Scale Production of Aggrecan from Salmon Nasal Cartilage and Medical Applications –Special Reference to Aggrecan Micro-needle–”

Takao Taki¹, Kazuyoshi Kawai², Kaoru Kojima³

¹Niigata University of Pharmacy and Applied Life Sciences; ²Tokushima Research Institute, Otsuka Pharmaceutical Co., Ltd.; ³Glycosmo Institute Co., Ltd.

Posterboard #: LB32 || Abstract #: 400

“A New Functional Sweetener D-Psicose (D-Allulose) With Zero Calorie Has High Potential To Change Our Life Style”

Masaaki Tokuda, Akram Hossain, Fuminori Yamaguchi, Kazuyo Kamitori, Li Sui, Youyi Dong, Tetsuo Iida

Kagawa University Faculty Of Medicine

Posterboard #: LB33 || Abstract #: 401

“Increased N-glycosylation of Asn88 in serum pancreatic ribonuclease 1 is a novel diagnostic marker for pancreatic cancer”

Daisuke Nakata

AIA Research Group, Department of Reagent Development, Division of Bioscience, Tosoh Corporation

Posterboard #: LB 34 || Abstract #: 402

“poFUT1 promotes trophoblast cell proliferation through activating MAPK and PI3K/Akt signaling pathways”

Shuai Liu, Jiao Wang, Qin Zheng, Ming Yu, Chang Liu, Xuesong Yang, Qiu Yan

Department of Biochemistry and Molecular Biology, Dalian Medical University, Liaoning Provincial Core Lab of Glycobiology and Glycoengineering, Dalian 116044, People's Republic of China

Posterboard #: LB35 || Abstract #: 403

“The metabolism of glycosphingolipids and sphingolipids in Farber disease”

Shota Sakai¹, Jun-ichi Furukawa¹, Susumu Mitsutake², Shinsuke Maruyama³, Yasuro Shinohara¹, Yasuyuki Igarashi¹

¹Hokkaido University, Japan; ²Saka University, Japan; ³Kagoshima University, Japan

Posterboard #: LB36 || Abstract #: 404

“Glycoprofiling of breast cancer and changes in glycan expression throughout progression of tumour states”

Emila Kurbasic¹, Peter James¹, Valentina Siino¹, Nirma Skrbo², Therese Sorli², Morten Thysen-Andersen³, Nicolle H. Packer³

¹Department of Immunotechnology, Lund University, House 406, Medicon Village, Scheelevägen 223 81, Lund, Sweden; ²Department of Genetics, Institute for Cancer Research, Oslo University Hospital, Norwegian Radium Hospital, Oslo, Norway; ³Department of Chemistry and Biomolecular Sciences, Faculty of Science, Biomolecular Frontiers Research Centre, Macquarie University, Sydney, Australia

Posterboard #: LB37 || Abstract #: 405

“Alteration or adaptation, the two roads for human gastric mucin glycosylation infected by Helicobacter pylori”

Marie Joncquel Chevalier Curt¹, Karine Lecointe¹, Adriana Mihalache², Yannick Rossez¹, Pierre Gosset³, Ivo Boneca⁴, Renaud Léonard¹, Catherine Robbe Masselot¹

¹UGSF, UMR 8576 CNRS/USTL; ²UGSF, UMR 8576 CNRS/USTL; GHICL, Service d'Anatomie Pathologie; ³GHICL, Service d'Anatomie Pathologie; ⁴Institut Pasteur Paris

Posterboard #: LB38 || Abstract #: 406**“Identification of mucin glycans recognized by microorganisms: development of a new adhesion assay”**

Béline Ringot, Karine Lecointe, Marie Joncquel Chevalier Curt, Catherine Robbe Masselot, Renaud Léonard

UGSF, UMR 8576 CNRS/USTL

Posterboard #: LB39 || Abstract #: 407**“A Glycogene mutation map (GlyMAP) for discovery of diseases of glycosylation”**

Eric Paul Bennett¹, Lars Hansen¹, Allan Lind-Thomsen¹, Hiren Joshi¹, Nis Borbye Pedersen¹, Christian Theil Have², Yun Kong¹, Shengjun Wang¹, Thomas Sparsøe², Niels Grarup¹, Shengjun Wang¹, Malene Bech Vester-Christensen¹, Katrine Schjoldage¹, Torben Hansen², Oluf Borbye Pedersen², Bernard Henrissat³, Henrik Clausen¹, Hudson Freeze⁴, Hans Wandall¹

¹University of Copenhagen; ²Novo Nordisk Foundation Center for Basic Metabolic Research; ³Bernard Henrissat, Marseille University; ⁴Burnham Institute

Session IX: Glycan structures and Bioinformatics**Posterboard #: B304 || Abstract #: 201****“Chemical characterization of acidic milk oligosaccharides of the platypus (*Ornithorhynchus anatinus*)”**

Tadasu Urashima¹, Hiroaki Inamori¹, Kenji Fukuda¹, Tadao Saito², Michael Messer³

¹Obihiro University of Agriculture & Veterinary Medicine; ²Tohoku University; ³The University of Sydney

Posterboard #: B305 || Abstract #: 202**“Comparative performance of four methods for high-throughput glycosylation analysis of immunoglobulin G in genetic and epidemiological research”**

Maja Pucic-Bakovic¹, Jennifer E. Huffman², Lucija Klaric¹, René Hennig³, Maurice H. J. Selman⁴, Yurii S. Aulchenko⁵, Erdmann Rapp⁶, Manfred Wuhrer⁷, Gordan Lauc⁸

¹Genos Glycoscience Laboratory, Zagreb; ²MRC Human Genetics Unit, Institute of Genetics and Molecular Medicine, University of Edinburgh; ³Max Planck Institute for Dynamics of Complex Technical Systems, Magdeburg; ⁴glyXera GmbH, Magdeburg; ⁵Center for Proteomics and Metabolomics, Leiden University Medical Center, Leiden; ⁶Institute of Cytology & Genetics SB RAS, Novosibirsk; ⁷“Yurii Aulchenko” consulting, Groningen; ⁸Dynamics of Complex Technical Systems, Magdeburg; ⁹glyXera GmbH, Magdeburg; ⁷Center for Proteomics and Metabolomics, Leiden University Medical Center, Leiden; ⁸Division of BioAnalytical Chemistry, VU University Amsterdam; ⁹Genos Glycoscience Laboratory, Zagreb; ¹⁰University of Zagreb, Faculty of Pharmacy and Biochemistry, Zagreb

Posterboard #: B306 || Abstract #: 203**“High throughput glycomics investigation of the breast cancer progression”**

Zengqi Tan¹, Wei Lu¹, Ganglong Yang¹, Zheng Li², Feng Guan¹

¹The Key Lab of Carbohydrate Chem & Biotech; School of Biotechnology, Jiangnan University, 1800 Lihu Avenue, Wuxi, 214122, China.; ²Laboratory for Functional Glycomics, College of Life Sciences, Northwest University, 229 Taibai Beilu, Xi'an 710069, China

Posterboard #: B307 || Abstract #: 204**“Normalization and batch correction methods for high-throughput glycomics”**

Franjo Vučković¹, Gordan Lauc¹, Yurii Aulchenko²

¹Genos Glycobiology Laboratory, Zagreb, Croatia; ²Institute of Cytology and Genetics SD RAS, Novosibirsk, Russia

Posterboard #: B308 || Abstract #: 205**“Development of novel methods for glycan characterization”**

Renpeng Liu, Paula Magnelli, Elizabeth McLeod, Ellen Guthrie
New England Biolabs, Inc.

Posterboard #: B309 || Abstract #: 206**“A MALDI-TOF MS approach for the quantitative analysis of total N-glycans”**

Kyoung-Jin Kim¹, Yoon-Woo Kim¹, Jangmi Jin², Young Hwan Kim², Yun-Gon Kim¹

¹Department of Chemical Engineering, Soongsil University, South Korea; ²Division of Mass Spectrometry Research, Korea Basic Science Institute, South Korea

Posterboard #: B310 || Abstract #: 207**“GRITS Toolbox - A freely available software suite for the interpretation of glycomics high-throughput MS/MS data”**

Rene Ranzinger, Brent Weatherly, Shah Nawaz Khan, Khalifeh AlJadda, Mindy Porterfield, Michael Tiemeyer, William York

Complex Carbohydrate Research Center, University of Georgia, Athens, GA, USA

Posterboard #: B311 || Abstract #: 208**“Purification of human skin N-deacetylase”**

Maria O. Longas, Jennifer Trinkle-Pereira, Kenya Cheairs, Timothy O. Ojo, Francis Enane, David Warner

Purdue University Calumet

Posterboard #: B312 || Abstract #: 209**“Mass spectrometry-based glycomics of human bone marrow mesenchymal stem cells and their differentiated progenies”**

Yu-Dai Kuo¹, Kay-Hooi Khoo¹, Cheng-Te Hsiao¹, Po-Wei Wang¹, Daniel Hsu², Jean-Cheng Kuo³

¹Institute of Biological Chemistry, Academia Sinica; ²Institute of Biomedical Sciences, Academia Sinica; ³Institute of Biochemistry and Molecular Biology, National Yang Ming University, Taiwan

Posterboard #: B313 || Abstract #: 210**“Development of an advanced glycotope centric LC-MS/MS acquisition method coupled with glycoinformatics tool for high-throughput glycomics”**

Cheng-Te Hsiao, Po-Wei Wang, Yu-Dai Kuo, Hsin-Hung Huang, Jian-You Chen, Chu-Wen Cheng, Kay-Hooi Khoo

Institute of Biochemical Sciences, National Taiwan University; and Institute of Biological Chemistry, Academia Sinica, Taiwan

Posterboard #: B314 || Abstract #: 211**“WURCS: Web3 Unique Representation of Carbohydrate Structures for Semantic Web”**

Issaku Yamada¹, Kiyoko F. Aoki-Kinoshita², Masaaki Matsubara¹, Shinichiro Tsuchiya², Masaaki Kotera³, Kenichi Tanaka⁴, Noriaki Fujita⁴, Toshihide Shikanai⁴, Masaki Kat

¹The Noguchi Institute, Tokyo, Japan; ²Soka University, Tokyo, Japan; ³Tokyo Institute of Technology, Tokyo, Japan; ⁴National Institute of Advanced Industrial Science and Technology (AIST), Ibaraki, Japan; ⁵RIKEN Global Research Cluster, Saitama, Japan; ⁶Database Center for Life Science, Research Organization of Information and Systems, Chiba, Japan

Posterboard #: B315 || Abstract #: 212

“Comprehensive analysis of the N-glycan biosynthetic pathway using bioinformatics”

Yukie Akune¹, Matthew Campbell², Junqi Zhang³, Kiyoko Aoki-Kinoshita², Nicolle Packer³

¹Div. of Bioinform., Grad. School of Eng., Soka Univ., Tokyo, Japan;

²Div. of Bioinform., Eng., Soka Univ., Tokyo, Japan; ³Dept. of Chem. and Biomol. Sci., Macquarie Univ., Sydney, Australia

Posterboard #: B316 || Abstract #: 213

“Variability analysis of N-linked glycans in each growth stage of rice”

Risa Horiuchi, Tsubasa Ensaka, Naoki Hirotsu, Nobumitsu Miyanishi

Graduate school of Life Sciences, Toyo University

Posterboard #: B317 || Abstract #: 214

“Lectin recognition pattern analysis using MCAW”

Masae Hosoda, Yukie Akune, Kiyoko F. Kinoshita

Div. of Bioinformatics, Grad. School of Engineering, Soka University

Posterboard #: B318 || Abstract #: 215

“Characterization of oligosialic acids in cancer”

Lisa Willis, Mark Nitz

University of Toronto

Posterboard #: B319 || Abstract #: 216

“Deep sequencing using an ultra high resolution column and mass spectrometer for isomer separation and structural identification of glycans”

Julian Saba¹, Udayanath Aich², Rosa Viner¹, Xiaodong Liu², Srinivasa Rao², Jeff Rohrer², Andreas Huhmer¹, Chris Pohl², Sergei Snovida³

¹Thermo Fisher Scientific, San Jose, CA; ²Thermo Fisher Scientific, Sunnyvale, CA; ³Thermo Fisher Scientific, Rockford, IL

Posterboard #: B320 || Abstract #: 217

“Carbonyl-reactive tandem mass tag reagents for mass spectrometry-based quantitative glycomics”

Sergei I. Snovida¹, Julian Saba², Rosa Viner², John C. Rogers¹

¹Thermo Fisher Scientific, Rockford, IL, USA; ²Thermo Fisher Scientific, San Jose, CA, USA

Posterboard #: B321 || Abstract #: 218

“Ion-pairing online LC-ESIMS method for profiling mixture of sulfated oligosaccharides”

Zhirui Wang, DanDan Zhou, Stephanie Archer-Hartmann, Christian Heiss, Parastoo Azadi

Complex Carbohydrate Research Center - Analytical Services

Posterboard #: B322 || Abstract #: 219

“Strategies for glycosaminoglycan analysis in human blood platelets”

Stephanie Archer-Hartmann¹, Christian Heiss¹, Curtis Jones², Richard Aster², Anand Padmanabhan², Parastoo Azadi¹

¹Complex Carbohydrate Research Center - Analytical Services;

²Blood Research Institute, Blood Center of Wisconsin

Posterboard #: B323 || Abstract #: 220

“GlycoPAT: An open-source MATLAB based toolbox for glycoproteomics analysis”

Sriram Neelamegham¹, Chi Lo², Kai Cheng², Jun Li³, Jun Qu⁴, Gang Liu²

¹Department of Chemical and Biological Engineering and The NY State Center for Excellence in Bioinformatics and Life Sciences, State University of New York, Buffalo, NY 14260, USA; ²Department of Chemical and Biological Engineering, State University of New York,

Buffalo, NY 14260, USA; ³Department of Pharmaceutical Sciences, State University of New York, Buffalo, NY 14260, USA; ⁴Department of Pharmaceutical Sciences and The NY State Center for Excellence in Bioinformatics and Life Sciences, State University of New York, Buffalo, NY 14260, USA

Posterboard #: B324 || Abstract #: 221

“A streamlined workflow for characterizing low-abundance glycans on therapeutic proteins”

Michael Kimzey, Shiva Pourkaveh, Samnang Tep, Aled Jones, Sybil Lockhart, Justin Hyché, Ted Haxo, Jo Wegstein

ProZyme, Inc.

Posterboard #: B325 || Abstract #: 222

“Next JCGGDB plan for Semantic Web”

Toshihide Shikanai¹, Noriaki Fujita¹, Yoshinori Suzuki¹, Elena Solovieva¹, Kiyoko Aoki-Kinoshita², Madoka Soyama¹, Atsushi Kuno¹, Hiroyuki Kaji¹, Daisuke Shinmachi², Issaku Yamada³, Shujiro Okuda⁴, Toshisuke Kawasaki⁵, Hisashi Narimatsu¹

¹Glycomedicine Technology Research Center, National Institute of Advanced Industrial Science and Technology; ²Soka University; ³The Noguchi Institute; ⁴Niigata University; ⁵Ritsumeikan University

Posterboard #: B326 || Abstract #: 223

“2-Amino benzamide labeling of oligosaccharides: How much sialic acid is lost?”

Jeffrey Rohrer¹, Deanna Hurum², Lipika Basumallick², Sebastian Kandzia³, Udayanath Aich⁴, Srinivasan Rao¹, Chris Pohl¹

¹Thermo Fisher Scientific; ²Genentech; ³GlycoThera; ⁴GSK

Posterboard #: B327 || Abstract #: 224

“Development and application of an intelligent consecutive reaction monitoring (iCRM) method for the analysis of O-glycans”

Stephanie Stalnaker¹, D. Brent Weatherly¹, Christina Dobson¹, Tobias Willer², Kevin Campbell², Lance Wells¹

¹CCRC at UGA; ²HHMI, University of Iowa

Posterboard #: B328 || Abstract #: 225

“UniCarbKB: A glycobioinformatics infrastructure for data discovery using semantics”

Matthew Campbell¹, Robyn Peterson¹, Kiyoko Aoki-Kinoshita², Jodie Abrahams¹, Julien Mariethoz³, Frederique Lisacek³, Nicolle Packer¹

¹Biomolecular Frontiers Research Centre, Macquarie University, Sydney, Australia; ²Department of Bioinformatics, Faculty of Engineering, Soka University, Tokyo, Japan; ³Proteome Informatics Group, Swiss Institute of Bioinformatics, Geneva, Geneva, Switzerland

Posterboard #: B329 || Abstract #: 226

“Analysis of glycosphingolipids using LC-MS and a GSL MS library”

Akemi Suzuki¹, Kunihiro Sano¹, Hideshi Fujiwaki², Yoshikatsu Umemura²

¹Institute of Glycoscience, Tokai University, Hiratsuka, 259-1292;

²Shimadzu Co., Kyoto, 604-8511, Japan

(Late-breaking Abstracts)

Posterboard #: LB40 || Abstract #: 408

“Docking and design of oligosaccharides, glycoproteins, and glycolipids: Expanding the computational tools available to glycoscientists”

Jason W. Labonte, Jeffrey J. Gray

Department of Chemical & Biomolecular Engineering, Johns Hopkins University, Baltimore, Maryland