

GlycoT 2012

DORMERO Hotel, Hildesheimer Str. 34-38, Hannover, Germany

5-9 June 2012

Tuesday, 5 June 2012

Chair: *Rita Gerardy-Schahn*

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| 15:30 | Rita Gerardy-Schahn | Opening |
| 15:40 | Naoyuki Taniguchi | Brain specific expression of glycosyltransferase and its epigenetic regulation |
| 16:20 | Klaus Aktories | Glycosylation by bacterial protein toxins |
| 17:00 | <i>Coffee Break</i> | |
| 17:20 | José M. Estevez | Sweet growth of plant cells. New players on the O-glycosylation pathway |
| 18:00 | Anne Harduin-Lepers | Comprehensive analysis of sialyltransferase-related genes evolution in vertebrates: Molecular phylogeny and functional genomics approaches |
| 19:00 | <i>Welcome Reception
(Landesmuseum, Willy-Brandt-Allee 5, Hannover)</i> | |

Wednesday, 6 June 2012

Chair: *Mark von Itzstein*

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| 09:00 | Monica Palcic | Mechanisms of retaining glycosyltransferases |
| 09:30 | Steve Withers | Glycosyltransferases: electrostatics, dynamics and mechanisms through the “eyes” of NMR |
| 10:00 | Christelle Breton | Galactolipid synthases : Structure/Function and Evolution |
| 10:30 | <i>Coffee Break</i> | |

Chair: Yasuhiro Kajihara

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| 11:00 | Kaspar Locher | Structure and reaction mechanism of the bacterial oligosaccharyltransferase PglB |
| 11:30 | Yoshiki Yamaguchi | Structural aspects of protein N-glycosylation |
| 12:00 | Gaëlle Batot | Preliminary kinetic crystallographic study of human blood group B synthase |
| 12:10 | Yasuhiro Kajihara | Chemical synthesis of intentionally misfolded homogeneous glycoprotein: a unique approach for the study of glycoprotein quality control |
| 12:20 | Annika Hult | Forssman expression on human red cells – Biochemical and genetic evidence for a novel histo-blood group system with implications for pathogen susceptibility |

12:30 *Lunch Break*

Chair: Ole Hindsgaul

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| 14:00 | Koichi Furukawa | Involvement of complex carbohydrates in the cancer phenotypes and therapeutic application |
| 14:30 | Hans Bakker | Endoplasmic reticulum localized glycosyltransferases |
| 15:00 | Philippe Delannoy | The ganglioside GD2 induced the constitutive activation of c-Met receptor in MDA-MB-231 breast cancer cell line expressing GD3 synthase |
| 15:10 | Alice Yu | Important role of fucosyltransferase 1 and 2 in breast cancer |
| 15:20 | Xing Li | The regulatory role of UDP-GalNAc: polypeptide N-acetylgalactosaminyltransferases 18 in protein O-Glycosylation |

15:30 *Coffee Break*

Chair: Werner Reutter

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| 16:00 | Henrik Clausen | Mining the elusive O-glycoproteome using Zinc finger nuclease glycoengineered SimpleCells |
| 16:30 | Kelly Ten Hagen | Essential roles for the UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferases during development |
| 17:00 | Thierry Hennet | Collagen glycosyltransferases |
| 17:30 | POSTER SESSION A | |

Thursday, 7 June 2012

Chair: *Irma van Die*

- 09:00** **Taroh Kinoshita** Deficiencies of GPI mannosyltransferase 1 and 2 cause different fates of GPI anchored proteins
- 09:30** **Mike Ferguson** The glycosyltransferases of *Trypanosoma brucei*
- 10:00** **Pradman Qasba** Structure-function analysis of the sugar donor and acceptor binding sites of β 1,4-Galactosyl-transferase

10:30 *Coffee Break*

Chair: *Philippe Delannoy*

- 11:00** **Frederic Bard** The GalNAcTs activation pathway in cancer
- 11:30** **Sakari Kellokumpu** Functional organization of the Golgi N- and O-glycosylation pathways
- 12:00** **Ken Kitajima/
Chihiro Sato** A polysialyltransferase SNP in a schizophrenic patient brings about the production of polysialic acids showing impaired binding and signalling of BDNF and FGF2

12:30 *Lunch Break*

Chair: *Dirk Lefeber*

- 14:00** **Rick Cummings** Functions of O-glycans in development and hemostasis
- 14:30** **Michael Tiemeyer** Cellular and molecular mechanisms regulating tissue-specific glycan expression
- 15:00** **Kei-ichiro Inamori** Xylosyl- and glucuronyltransferase activities of LARGE required for dystroglycan function
- 15:15** **Dirk Lefeber** Loss of complete and partial N-glycans in a novel CDG subtype, restored by dietary intervention

15:30 *Coffee Break*

Chair: *Cheorl-Ho Kim*

- 16:00** **Herta Steinkellner** Glycoengineering in plants towards human like structures
- 16:30** **Lai-Xi Wang** Chemoenzymatic glycosylation engineering of monoclonal antibodies

17:00 Atsushi Kuno Discovery of glycobiomarker for cancer and development of simple assay kit for clinical diagnosis

17:30 POSTER SESSION B

Friday, 8 June 2012

Chair: Martina Mühlenhoff

09:00 Chris Whitfield Glycosyltransferases and chain termination processes in the biosynthesis of bacterial O-antigen polysaccharides

09:30 Christine Szymanski Comparison of bacterial oligosaccharyl-transferases for protein N-glycosylation

10:00 Miguel A. Valvano Aminoarabinose is essential for lipopolysaccharide export and intrinsic antimicrobial peptide resistance in *Burkholderia cenocepacia*

10:30 *Coffee Break*

Chair: Herbert Hildebrandt

11:00 Pamela Stanley Essential roles for glycosyltransferases in development

11:30 Thomas Braulke Defects in GlcNAc-1-phosphotransferase cause neurodegeneration and osteoporosis

12:00 Jianguo Gu Molecular mechanism for the regulation of N-acetylglucosaminyltransferase III expression and its roles in epithelial-mesenchymal transition

12:30 *Lunch Break*

Chair: Rüdiger Horstkorte

14:00 Michael Pierce Expression of a specific glycosyltransferase is essential for embryonic stem cell differentiation

14:30 Shoko Nishihara Glycan function in the maintenance of ES cells

15:00 Salomé Pinho N-acetylglucosaminyltransferases III and V regulate E-cadherin stability at the cell membrane. Implications in the epithelial to mesenchymal transition

15:10 Markus Sperandio ST3Gal-IV and ST3Gal-VI contribute to leukocyte rolling during inflammation

15:20	Cheorl-Ho Kim	Molecular glycobiology of pig CMP-N-acetylneuraminic acid hydroxylase and transcritonal regulation for NeuGc as the xenoantigenic determinant in pig-to-human xenotransplantation
15:30	<i>Coffee Break</i>	
Chair:	Gerd Wagner	
16:00	Tamao Endo	Glycosylation and muscular dystrophy
16:30	John Yu	Human embryonic stem cell differentiation: role of glycosphingolipid structure
17:00	Franz-Georg Hanisch	Peptide cis-control of O-linked LacdiNAc formation and LacdiNAc-specific glycan phosphorylation: post-translational control of extracellular matrix glycoprotein function?
17:10	Cory Rillahan	Global Metabolic Inhibitors of Sialyl- and Fucosyltransferases
17:20	Gerd Wagner	A Novel Class of Glycosyltransferase Inhibitors
17:30	POSTER SESSION C	
19:00	<i>Conference Dinner (Neues Rathaus "Gartensaal", Trammplatz 2, Hannover)</i>	

Saturday, 9 June 2012

Chair: Koichi Furukawa

09:00	Jamey Marth	Glycosylation in the Metabolic Origins of Common Grievous Disease
09:30	Robert S. Haltiwanger	Site-specific glycosylation of EGF repeats in Notch
10:00	Hans Wandall	A neurofibromatosis-like phenotype in <i>Drosophila</i> caused by lack of glucosylceramide extension
10:10	Pi-Wan Cheng	Non-muscle myosin IIA transports a Golgi glycosyltransferase to the endoplasmic reticulum for recycling
10:20	Vaibhav Kapuria	HCF-1 cleavage and glycosylation are distinct activities of OGT dimers
10:30	<i>Coffee Break</i>	

Chair: ***Roland Schauer***

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| 11:00 | Jerry Hart | O-GlcNAcylation's key roles in the diseases of aging |
| 11:30 | Daan Van Aalten | Phosphorylation versus O-glycosylation: yin and yang? |
| 12:00 | Hisashi Narimatsu | A knockout mouse lacking a novel glycosyl-transferase gene which shows a very unique phenotype |
| 12:30 | <i>End of Meeting</i> | |