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Proteoglycans in cancer and embryonic development
International conference 3-5th May, 2023, Uppsala, Sweden
SciLifeLab (BMC), Uppsala University

Program

3rd May

12.00-13.00: Registration and lunch

Session I – Biosynthesis and functions of proteoglycans in development

Chair: Lena Kjellén

13:00 – 13:10

Welcome: Gunnar Pejler

13:10- 14:50

- Ulf Lindahl/Lena Kjellen (Uppsala University, Sweden) – **Enzyme complexes in heparan sulfate biosynthesis** (30 min)
- Jeremy Turnbull (Keele University and University of Copenhagen, UK/Denmark) – **Targeting Heparan Sulfate Functions for Therapeutic Benefit - Next-generation Heparins and Mimetics** (30 min)
- Gunilla Westergren-Thorsson (Lund University, Sweden) - **Glycosaminoglycans: Spatial fingerprint and link to regeneration of the human diseased lung** (30 min)
- Kenton Arkill (Nottingham University, UK) **Glycocalyx imaging in EXT1^{-/-} mice** (10 min)

14:50 – 15:20 Coffee

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15:20 – 17:00

- Cathy Merry (Nottingham University, UK) – **Combining stem cell-based models and synthetic environments to uncover proteoglycan structure-function relationships** (30 min)
- Dulce Papy (Univ of Paris Est-Créteil, France) - **3-O-sulfated heparan sulfates in the AD brain: mechanistic insights for a key role in tau pathology** (30 min)
- Rebecca Miller (University of Copenhagen, Denmark) – **Cell-based libraries of glycosaminoglycans for technological development** (30 min)
- Jonas Nilsson (Gothenburg University, Sweden) - **Glycoproteomics of naturally occurring chondroitin sulfate glycopeptides from aggrecan in urine samples from children** (10 min)

17:30 – Dinner

4th May

Session II - Proteoglycan functions in cancer

Chair: Jin-ping Li

9:00 – 10:40

- Karin Forsberg Nilsson (Uppsala University, Sweden) – **Proteoglycan remodeling in the brain tumor microenvironment** (30 min)
- Mattias Belting (Lund University, Sweden) – **Extracellular Vesicle Uptake in the Stressed Tumor Niche: Opposite Roles for Heparan and Chondroitin Sulfate Proteoglycans** (30 min)
- Anna Bång-Rudenstam (Lund University, Sweden) - **Novel role of chondroitin sulfate in the tumor acidic niche** (10 min)
- Erik Knutsen (The Arctic University of Norway) – **Serglycin in EMT** (30 min)

10:40 – 11:00 Coffee

11:00 – 12:30

- Israel Vlodavsky (Technion, Israel) – **Heparanase-2 (Hpa2) - a new player in protecting against cancer** (30 min)
- Gunnar Pejler (Uppsala University, Sweden) – **Serglycin – The master of the mast cell** (20 min)
- Magnus Åbrink (Swedish University of Agricultural Sciences, Sweden) - **Serglycin expression in canine cancers (mammary, hemangiosarcoma, mastocytoma)** (20 min)
- Beth Coyle (Nottingham University, UK) - **Investigating the role of lumican in medulloblastoma progression** (10 min)

12.30-13.30: lunch

Session III - Animal models for functional proteoglycan studies and therapeutics

Chair: Gunnar Pejler

13:30 – 15:10

- Kan Ding (Shanghai Institute of Materia Medica, China) - **Hepatic glucuronyl C5-epimerase combats obesity via stabilizing GDF15** (30 min)
- Hiroshi Nakato (University of Minnesota, USA) - **The roles of HS chains in glypican functions: Lessons from Drosophila** (30 min)
- Anders Aspberg (Lund University, Sweden) - **Transient skeletal phenotype in osteoadherin (Omd) knock-out mice** (30 min)
- Luice Pejškova (Nofima AS, Norway) – **Shedding of syndecans play a crucial role in the extensive remodeling of the extracellular matrix in skeletal muscle myopathy in chicken** (10 min)

15:10-15:30 Coffee

15:30 – 17:30

- Jaap van den Born (University Medical Center Groningen, the Netherlands) - **Renal Tubular Syndecan-1; Physiology, (Onco-)Pathology and Target for Intervention** (30 min)
- Katalin Dolbra – (Karolinska Institute, Sweden) - **Nuclear Syndecan-1 Regulates Epithelial-Mesenchymal Plasticity in Tumor Cells** (30 min)
- Beata Filipek-Górniok (Uppsala University, Sweden) – **Zebrafish models for proteoglycan research** (20 min)
- Ruman Rahman (Nottingham University, UK) - **Recapitulating post-surgical brain tumour microenvironments** (10 min)
- Andrew Hook (Nottingham University, UK) - **TOF-SIMS glycosaminoglycan analysis** (10 min)
- Jinlin Li (Uppsala University, Sweden) – **Heparan sulfate mimetics inhibit SARS-CoV-2** (10 min)

18.00 - Dinner

5th May

Session IV - Proteoglycan and glycosaminoglycan structure

Chair: Anders Malmström/John Gallagher

9:00 – 10:40

- Shuhei Yamada (Nagoya University, Japan) – **Glycosaminoglycan Structure in Congenital Disorders Caused by Defects in Its Biosynthetic Enzymes** (30 min)

- Fredrik Noborn (Gothenburg University, Sweden) – **Mapping the human chondroitin sulfate glycoproteome reveals an unexpected correlation between glycan sulfation and attachment site characteristics** (30 min)
- Marco Guerrini (Ronzoni Institute, Italy) – **Inhibition of attachment and infection by SARS-COV-2 of sulfated glycosaminoglycan like derivatives: mechanisms and perspectives** (30 min)
- Galina Pavlovskaya (Nottingham University, UK) - **Visualising Glycosaminoglycans in health and disease: Sodium magnetic resonance imaging and spectroscopy** (10 min)

10:40 – 11:00 Coffee

11:00 – 12:00

Special activities devoted to the pioneer scientists: Ulf Lindahl and John Gallagher

12:00 – End of the meeting and lunch