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Programme

Thursday, January 10, 2008

14:00
Registration at conference venue: Catalonia Barcelona Plaza, Plaza de España 6-8, 08014, Barcelona, Spain. Tel: +34 934 262 800
Poster Set up

15:00 - 15:15
Welcome and Opening
Ernest Arenas, EuroSTELLS, Stockholm, Sweden
Anna Bigas, EuroSTELLS, Barcelona, Spain

The European Science Foundation
EUROCORES Programme
Fiona Kernan, ESF, France

15:15 - 19:15
SESSION I: STEM CELLS
Self-Renewal and Differentiation
Chairs: Robert Feil (EuroSTELLS, France) and Cesare Galli (EuroSTELLS, Italy)

15:15 Juan Carlos Izpisua-Belmonte, CMRB-Salk Institute, Spain-USA
Intrinsic and extrinsic determinants of ES cell pluripotency

15:45 Manel Esteller, Spanish National Cancer Centre (CNIO), Spain
Epigenetics and stem cells

16:15 Weimin Zhong, Yale-New Haven Medical Center, USA
Asymmetric cell division and stem cell homeostasis

16:45 - 17:15 Coffee Break

17:15 Elaine Dzierzak, EuroSTELLS, Erasmus University, The Netherlands
The AGM hematopoietic stem cell microenvironment

17:45 Thomas Graf, The Centre for Genomic Regulation (CRG), Spain
Reprogramming of lymphoid into myeloid cells

18:15 Tariq Enver, EuroSTELLS, The Weatherall Institute, United Kingdom
Molecular regulation of normal and leukaemic human hematopoietic stem cells

18:45 Tsvee Lapidot, The Weizmann Institute of Science, Israel
Regulation of stem cell homing, retention and mobilisation

Evening
Networking Dinner for Invited Speakers and EuroSTELLS Participants

Friday, January 11, 2008

9:00 - 18:00
SESSION II: SIGNALING PATHWAYS CONTROLLING STEM CELL FUNCTION

9:00 - 10:30
1. Notch
Chairs: Lluis Espinosa (Spain) and Lingheng Li (USA)

9:00 Raphael Kopan, Washington University, USA
Mapping the consequence of Notch1 proteolysis in stem cell compartments with NIP-CRE

9:30 Anna Bigas, EuroSTELLS, IDIBELL, Spain
Notch signaling in the AGM hematopoietic stem cells niche

10:00 Urban Lendahl, Karolinska Institute, Sweden
Cross-talk between Notch and hypoxia in stem cells and cancer

10:30 - 11:00 Coffee Break

11:00 - 12:30
2. Wnt
Chairs: Dirk de Rooij (EuroSTELLS, Netherlands) and Stefan Krauss (EuroSTELLS, Norway)

11:00 Claus Nerlov, EMBL, Italy
The effect of canonical Wnt signaling on hematopoietic stem cell maintenance and differentiation

11:30 Ernest Arenas, EuroSTELLS, Karolinska Institute, Sweden
Wnt5a promotes dopaminergic differentiation of stem cells leading to functional engraftment and behavioral recovery of Parkinsonian mice

12:00 Stefan Krauss, Norwegian Center for Stem Cell Research, Norway
A dynamic gradient of Wnt signaling controls initiation of neurogenesis in the mammalian cortex and cellular specification in the hippocampus

12:30 - 14:30 Poster Session and Lunch

14:30 - 16:30
3. BMPs and Hedgehogs
Chairs: Hannu Sariola (EuroSTELLS, Finland) and Pasqualino Loi (EuroSTELLS, Italy)

14:30 Roger Patient, The Weatherall Institute, United Kingdom
Polarisation of the dorsal aorta by hedgehog and BMP signalling drives blood stem cell emergence

15:00 Danny Huylebroeck, Centre of Human Genetics (KULeuven), Belgium
Smad-interacting proteins as versatile regulators of embryonic cell fate, differentiation and function
15:30 Ariel Ruiz i Altaba, University of Geneva, Switzerland
*Hedgehog-Gli signaling in stem cells and cancer stem cells*

16:00 Angelo Vescovi, University of Milan-Bicocca, Italy
*Regulatory mechanisms in cancer stem cells from human glioblastomas*

**16:30 - 17:00 Coffee Break**

17:00 - 18:00
4. **Selected short talks (4 x 15 mins.)**
   Chair: Anna Bigas (EuroSTELLS, Spain)
   - 17:00
     V Rodilla, A Villanueva, G Capella, A Bigas, L Espinosa
     *Notch cooperates with β-catenin to activate a specific gene program*
   - 17:15
     S Aznar Benitah, L Riera, P Janich
     *Epidermal stem cell homeostasis and cancer: role of Rac and Myc*
   - 17:30
     J Beckmann, S Scheitza, J Fischer, B Giebel
     *Asymmetric cell division within the human hematopoietic stem and progenitor cell compartment*
   - 17:45
     S Khatri, G Abelló, J Neves, F Giráldez, B Alsina
     *Acquiring otic neural fate by Sox3 and FGF signalling*

Evening
Networking Dinner for Invited Speakers and EuroSTELLS Participants

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**Saturday, January 12, 2008**

**SESSION III: NORMAL AND PATHOLOGICAL STEM CELL Niches**

9:00 - 11:00
1. **Neural Stem Cells**
   Chair: Ernest Arenas (EuroSTELLS, Sweden)
   - 9:00
     Sam Pleasure, UCSF, USA
     *The timing and progression of cortical neurogenesis is controlled by secreted factors from the meninges*
   - 9:30
     Magdalena Goetz, Institute for Stem Cell Research, GSF, Germany
     *Interplay of extrinsic and intrinsic fate determinants in the adult mouse neural stem cell niche*
   - 10:00
     Isabel Fariñas, Centro de Investigación Príncipe Felipe, Valencia, Spain
     *Self-renewal and multilineage differentiation of adult neural stem cells*
   - 10:30
     Josep M. Canals, University of Barcelona, Spain
     *The role of transcription factors for stem cell differentiation for Huntington’s disease*

11:00 - 11:30 Coffee Break

11:30 - 13:00
2. **Hematopoietic Stem Cells**
   Chairs: Elaine Dzierzak (EuroSTELLS, Netherlands) and Pasqualino Loi (EuroSTELLS, Italy)
   - 11:30
     Linheng Li, Stowers Institute for Medical Research, USA
     *Stem cells, niches, and zones*
   - 12:00
     Catherine Verfaillie, Stem Cell Institute, Belgium
     *Possible mechanisms underlying the greater potency of adult stem cells?*
   - 12:30
     Scott Armstrong, The Children’s Hospital Boston and Dana Farber Cancer Institute, USA
     *Cellular origins of leukemia stem cells*

13:00 - 14:30 Lunch

14:30 - 16:00
3. **Epithelial Stem Cells**
   Chairs: Magnús Karl Magnússon (EuroSTELLS, Iceland) and Paolo Vezzoni (EuroSTELLS, Italy)
   - 14:30
     Eduard Batlle, IRB-PC, Spain
     *Intestinal cell compartmentalisation and colorectal cancer suppression through EphB-ephrinB interactions*
   - 15:00
     Irma Thesleff, EuroSTELLS, University of Helsinki, Finland
     *Fine tuning of signalling pathways in stem cell proliferation and differentiation*
   - 15:30
     Ruggero De Maria, Instituto Superiore di Sanita, Italy
     *Cancer stem cells in colon and lung carcinomas*

16:00 - 16:30 Coffee Break

16:30 - 17:30
4. **Pancreas Stem Cells**
   Chairs: Magnús Karl Magnússon (EuroSTELLS, Iceland) and Paolo Vezzoni (EuroSTELLS, Italy)
   - 16:30
     Henrik Semb, Lund University, Sweden
     *Beta cell development and directed differentiation of hESCs into beta cell progenitors*
   - 17:00
     Bernat Soria, Spain, CABIMER, Spain
     *Insulin producing cells from stem cells*

Closing Remarks
Bernat Soria, Minister for Health, Spain

Evening
Farewell Dinner for all Participants
Poster Presentations

Wnt5a regulates ventral midbrain morphogenesis and the development dopaminergic precursors in vivo
Andersson E R (1), Čajánek L (1), Bryja V (1, 2), Bryjová L (1, 2), Hall A C (3), Arenas E (1)
1. Laboratory of Molecular Neurobiology, Dept. Medical Biochemistry & Biophysics, Karolinska Institute, Stockholm, 171 77 Sweden;
2. Department of Cytotherapy, Institute of Biophysics, Academy of Sciences of the Czech Republic & Institute of Experimental Biology, Faculty of Science, Masaryk University, Brno, Czech Republic (V.B. & L.B.);
3. Division of Cell and Molecular Biology, Imperial College London, United Kingdom

NFκB and Notch signalling pathways induced by pigment x Cooperation of NF epithelium-derived factor modulates neural stem cell renewal
Andreu-Agulló C, Farinas I
University of Valencia, Burjassot, Valencia 46100, Spain

The cyclin-dependent kinase inhibitors p21 and p27 differentially regulate neural stem/progenitor cell populations in the adult hippocampus
Andreu Z, Ferron S, Fariñas I, Mira H
Instituto de Salud Carlos III - ISCIII, Madrid, Spain

Culture of male germ line stem cells from human testes for transplantation
Ardekani H S (1, 3), Korver C M (1), van Daalen S (1), Mizarak S (1), de Rooij D G (1, 2), Repping S (1), van Pelt A M M (1)
1. Center for Reproductive Medicine, Academic Medical Centre, Amsterdam, The Netherlands;
2. Netherlands Bioinformatics Center, Nijmegen, The Netherlands

Epidermal stem cell homeostasis and cancer: role of Rac and Myc
Aznar Benitah S, Riera L, Janich P
Center for Genomic Regulation, Barcelona, Spain

Asymmetric cell division within the human hematopoietic stem and progenitor cell compartment
Beckmann J, Scheitza S, Fischer J and Giebel B
Institute of Transplantation, Diagnostics and Cell Therapeutics, Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany

Wnt-knockout mouse embryonic stem cells – a tool for understanding the role of Wnt pathway in dopaminergic neuron development
Čajánek L, Bryja V, Parish C, Liste I, Arenas E
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

Amnion plasticity: lessons from the mouse
Dobrev M, Pereira P, Bosman E A, Huylebroeck D, Zwijsen A
Flanders Institute for Biotechnology, Leuven, Belgium

Computer modelling of the spermatogonial stem cell niche
de Rooij D G (1), van Beek M E A B (2)
1. Center for Reproductive Medicine, AMC, Amsterdam, The Netherlands;
2. Netherlands Bioinformatics Center, Nijmegen, The Netherlands

Embryonic stromal clones reveal developmental regulators of definitive hematopoietic stem cells
Durand C, Robin C, Bollérot K, Baron M H, Ottersbach K, Dzierzak E
University of Paris, Paris, France

Role of uPAR in stem cells mobilisation
Eden G, Marzorati P, Blasi F
Università degli studi di Milano, Milan, Italy

Alfa-chemokines regulate proliferation and dopaminergic differentiation of ventral midbrain precursors and neurospheres
Edman L, Mira H, Erices A, Andersson E, Arenas E
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

Characterisation of Wnt signalling components in human embryonal carcinoma cells
Elguezabal N, Kypta R
CIC bioGune, Parque Tecnológico de Bizkia, Bilbao, Spain

Expression of angiogenic proteins by neural stem cells
Erices A, Edman L, Arenas E
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

Cell-cycle independent action of p21WAF1/Cip1 on adult neural stem cells self-renewal and multipotency
University of Cambridge, Cambridge, United Kingdom

Acquiring otic neural fate by Sox3 and FGF signalling
Khatri S, Abelló G, Neves J, Giráldez F and Alsina B
Universitat Pompeu Fabra (UPF), Barcelona, Spain
Presentations

**Eph receptors and ephrins regulate proliferation in multiple adult stem cell niches**
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

**Activity-dependent signaling in the control of adult**
Jagasia R, Lie Chichung D
Research Group “Adult Neurogenesis and Neural Stem Cells”, Institute for Developmental Genetics, GSF National Research Center for Environment and Health, Munich-Neuherberg, Germany

**Analysis of the pluripotent capacity of HNF1b-expressing cells in the embryonic and adult pancreas**
August Pi i Sunyer Biomedical Research Institute (IDIBAPS), Barcelona 08036, Spain

**Signalling through BMPR-IA regulates neural stem cell maintenance and neurogenesis in the adult hippocampus**
Instituto de Salud Carlos III – ISCIII, Barcelona, Spain

**Spermatogonial stem cells and their robust potentials**
Mizrak S C (1), van Daalen S (1), Korver C M (1), Ardekani H S (1, 2), de Rooij D G (1, 3), van Peit A M M (1)
1. Center for Reproductive Medicine, Academic Medical Center, Amsterdam, The Netherlands;
2. Reproductive Biotechnology Research Center, Avesina Research Institute, Tehran, Iran;
3. Department of Endocrinology, Utrecht University, Utrecht, The Netherlands

**Bone marrow adipocytes: a novel regulator of the hematopoietic microenvironment**
Naveiras O, Nardi V, Sharma P, Hauschka P, Daley G Q
Division of Hematology, Daley Lab Children’s Hospital, 300 Longwood Avenue Karp 7th, Boston 02115, USA

**In utero stem cell therapy in BrtlIV, a knock in murine model for Osteogenesis Imperfecta**
Panaroni C (1), Frattini A (1), Lupi A (2), Marini J C (3), Rossi A (2), Vezzoni P (1), Forlino A (2)
1. LITA, CNR, Milan, Italy;
2. Department of Biochemistry, University of Pavia, Italy;
3. Bone and Extracellular Matrix Branch (BEMB), NICHD, NIH, Bethesda, USA

**The role of LRP6 in midbrain development**
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

**Notch cooperates with β-catenin to activate a specific gene program**
Rodilla V (1), Villanueva A (2), Capella G (2), Bigas A (1), Espinosa L (1)
1. Centre Oncologia Molecular, IDIBELL-Institut de Recerca Oncologica, Gran Via km 2.7, Hospital, Barcelona 08907, Spain;
2. IDIBELL-Institut Catala de Oncologia, Gran Via km 2.7, Hospital, Barcelona, Spain

**Molecular dissection of the conversion of adult exocrine pancreatic cells into exocrine precursors in vitro**
Rooman I, Pinho A, Merlos A, Bouwens L, Real F X
Free University Brussels, Brussels, Belgium

**Directed-differentiation of embryonic stem cells into pancreatic acinar cells**
Institut Municipal d’Investigació Médica (IMIM), Barcelona, Spain

**Is Wnt signaling involved in AGM hematopoiesis?**
Ruiz-Herguido C, Dzierzak E, Espinosa L, Bigas A
IDIBELL, Barcelona, Spain

**Regulation of dopaminergic neuron development by Nurr1 and β-catenin**
Sacchetti P and Arenas E
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

**Enhanced survival of IKVAV-attached neural stem cells on DHA-modified supported lipid bilayers**
Saltó C (1), Thid D (2), Svedhem S (2), Tigerström A (2), Gold J (2)∗, Arenas E (1)∗
1. Dept. of Medical Biochemistry and Biophysics, Karolinska Institute, 171 77, Stockholm, Sweden;
2. Dept. of Applied Physics, Chalmers University of Technology, 412 96, Göteborg, Sweden

**Levels of Dyrk1A control self-renewal divisions in the Subependymal Zone (SEZ)**
Centro de Investigación Príncipe Felipe, Valencia, Spain
Balance between BMP4 and activin signaling regulates FGF3 expression and epithelial stem cells in mouse incisors
Suomalainen M (1), Wang X P (1, 2), Felszeghy S (1), Zelarayan L C (3), Alonso M T (3, 5), Plikus M V (4), Maas R L (2), Chuong C M (4), Schimmang T (3, 5), Thesleff I (1)

1. Developmental Biology Programme, Institute of Biotechnology, University of Helsinki, Finland;
2. Division of Genetics, Brigham and Women’s Hospital, Harvard Medical School, USA;
3. Center for Molecular Neurobiology Hamburg, University of Hamburg, Germany;
4. Department of Pathology, Keck School of Medicine, University of Southern California, USA;
5. Institute for Biology and Molecular Genetics, Superior Research Council and University of Valladolid, Spain

Identification of endogenous LXR ligands and characterisation of the mechanism of LXR-dependent transcriptional regulation in the mouse
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

Expression of pluripotency marker, UTF1, is restricted to a subpopulation of early A spermatogonia in rat testis
van Bragt M P A (1, 2), Roepers-Gajadien H L (1), Korver C M (2), Bogerd J (1), Okuda A (3), Eggen B J L (4), de Rooij D G (1, 2), van Pelt A M M (2)
1. Department of Endocrinology, Utrecht University, 3584 CH Utrecht, The Netherlands;
2. Center for Reproductive Medicine, AMC, 1105 AZ Amsterdam, The Netherlands;
3. Division of Developmental Biology, Saitama Medical University, Saitama, Japan;
4. Department of Developmental Genetics, University of Groningen, The Netherlands

Smad interacting protein 1 (Sip1) is essential for neural differentiation of murine embryonic stem cell in vitro
Verstappen G, van Grunsven L, Van de Putte T, Umans L, Huylebroeck, D
Flanders Institute for Biotechnology, Leuven, Belgium

Regulation of midbrain dopaminergic neuron development by Wnts
Villaescusa J C, Andersson E and Arenas E
Laboratory of Molecular Neurobiology, MBB, Karolinska Institute, Stockholm, Sweden

Characterisation of hematopoietic clusters in the mouse embryo
Yokomizo T, Dzierzak E
Cell Biology, Erasmus MC, Dr. Molewaterplein 50, Rotterdam 3015 GE, The Netherlands