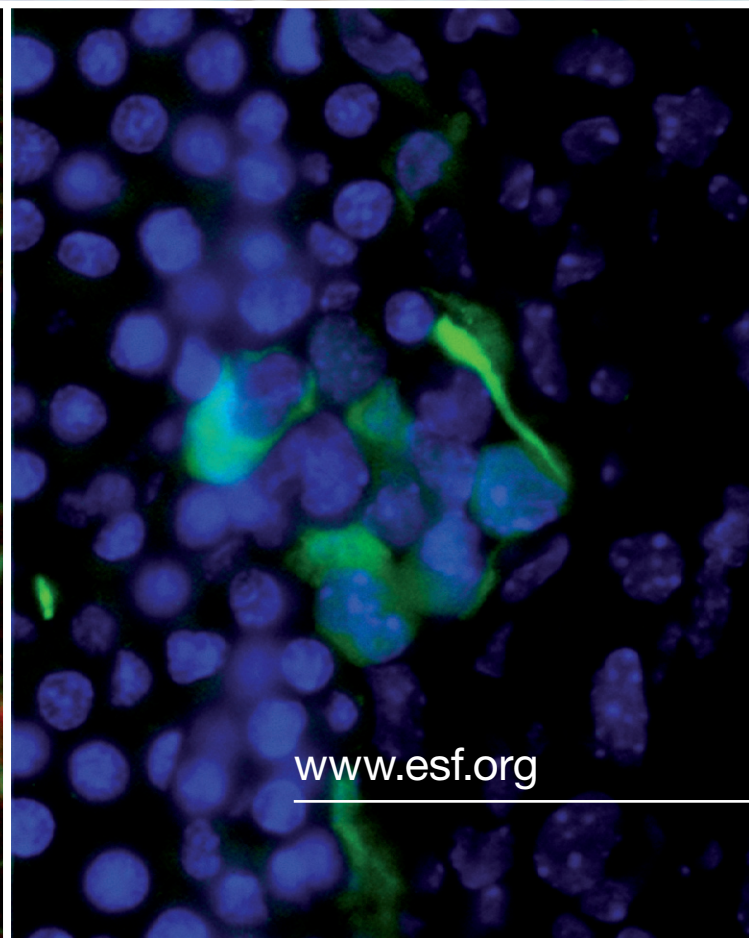
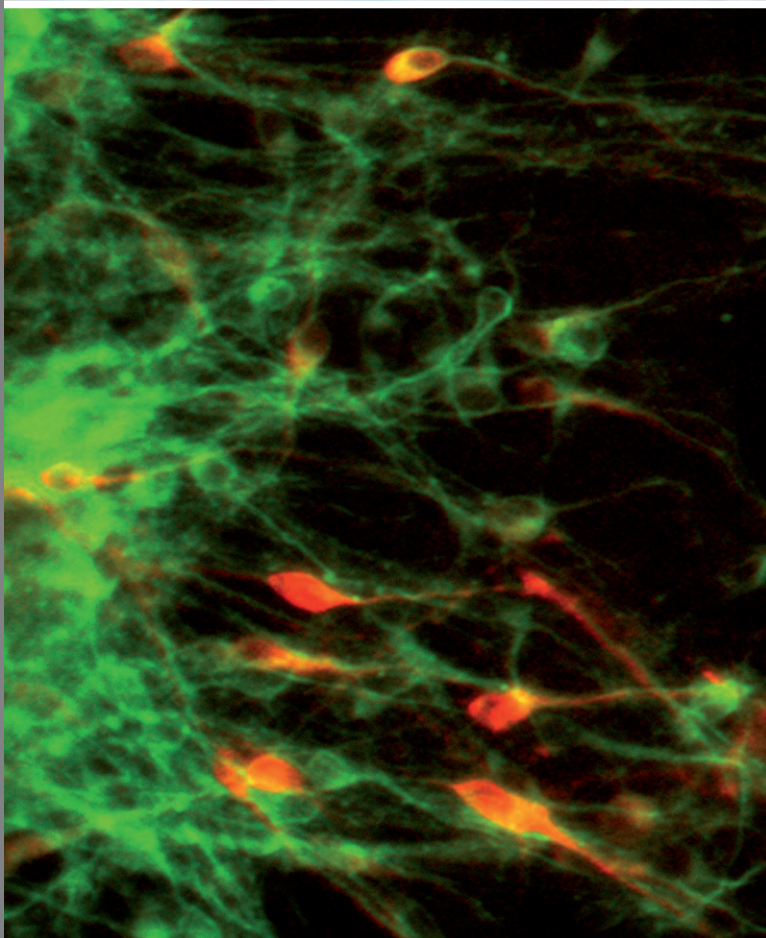
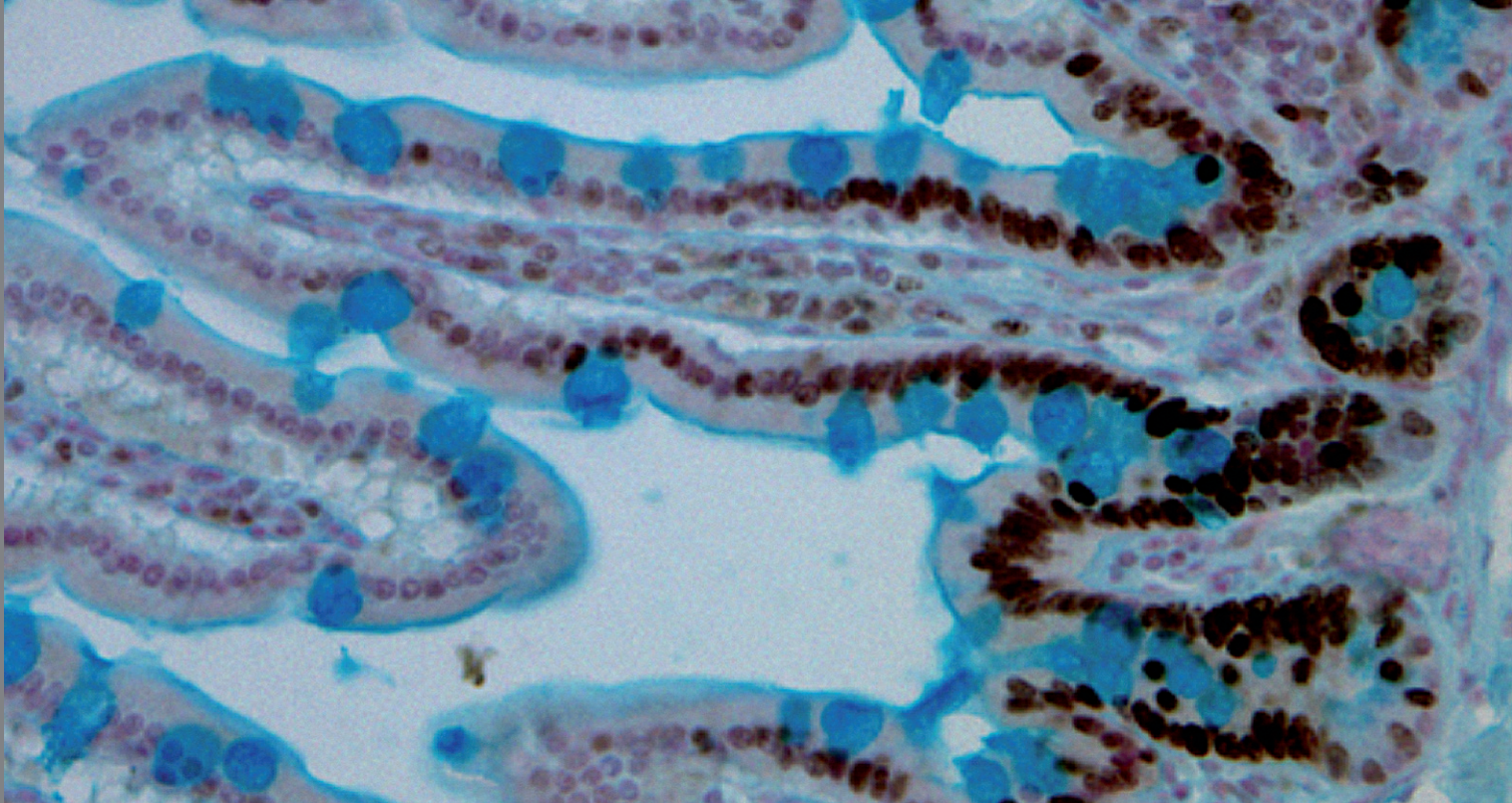


**EuroSTELLS Workshop:
Stem Cell Niches**

January 10-12, Barcelona, Spain



INSTITUT D'INVESTIGACIÓ
BIOMÈDICA DE BELLVITGE



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Scientific Organisers:

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EuroSTELLS Programme Coordinator:

Fiona Kernan: fkernan@esf.org

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Courtesy of Professor Ernest Arenas and Dr. Anna Bigas

Programme

Thursday, January 10, 2008

14:00

Registration at conference venue: Catalonia
Barcelona Plaza, Plaza de España 6-8, 08014,
Barcelona, Spain. Tel: +34 934 262 600

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
haematopoietic 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: Lluís 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 hemopoietic 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*

Programme

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

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, Istituto 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 Cytokinetics, 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

NFK-B and Notch signalling pathways induced by pigment κ 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), Mizrak S C (1), de Rooij D G (1, 2), Repping S (1), van Pelt A M M (1)

1. Center for Reproductive Medicine, Academic Medical Centre, University of Amsterdam, Amsterdam, The Netherlands;
2. Department of Endocrinology, Utrecht University, Utrecht, The Netherlands;
3. Reproductive Biotechnology Research Centre, Avesina Research Institute, Tehran, Iran

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-University 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

Dobrevá 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 bioGun, Parque Tecnológico de Bizkaia, Bilbao, Spain

Expresion 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

Ferrón S R, Mira H, Marqués-Torrejón M A, Andreu-Agulló C, Andreu Z, Fariñas I

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

Holmberg J, Genander M, Halford MM, Anneren C, Sondell M, Chumley MJ, Silvano RE, Henkemeyer M, Frisén J

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

Martín M, Solar M, Cardalda C, Maestro M A, Grau V, Ferrer J

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

Mira H, Andreu Z, Lie C D, Jessberger S, Suh H, Marques-Torres M A, Nakashima K, Consiglio A, Farinas I, Gage F H

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 Pelt 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

Ribeiro D, Castelo-Branco G, Sousa K, Minina E, Bryja V, Kokubu C, Wurst W, Arenas E

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, Hospitalet, Barcelona 08907, Spain;
2. IDIBELL-Institut Catala de Oncologia, Gran Via km 2.7, Hospitalet, 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

Rovira M, Delaspre F, Massumi M, Serra S, Valverde M, Lloreta J, Dufresne M, Payre B, Konieczny S, Savatier P, Real FX, Skoudy A.

Institut Municipal d'Investigació Mèdica (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)

Sánchez P, Ferrón S R, Laguna A, Pozo N, Aranda S, Fillat C, de la Luna S, Arbonés M L, Fariñas I

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

Theofilopoulos S, Sacchetti P, Sousa K, Gustafsson M, Sjoval J, Arenas E.

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

