6th Molecular Cell and Immune Biology Winter Symposium

organized by the
Molecular, Cellular and Immune Biology Doctoral School, University of Debrecen, VÉD-ELEM TÁMOP Program and UD-GenoMed

Galyatető 8-11 January, 2013

TÁMOP-4.2.2.A-11/1/KONV-2012-0023
TÁMOP-4.2.2/B-10/1-2010-0024.

Nemzeti Fejlesztési Ügynökség
www.ujszechenyiterv.gov.hu
06 40 638 638

MAGYARORSZÁG MEGÚJUL

A projektek az Európai Unió támogatásával, az Európai Szociális Alap társfinanszírozásával valósulnak meg.

ÚJ SZÉCHENYI TERV

6th Molecular Cell and Immune Biology Winter School, 2013

Program:

8 January

16:00 pm **Opening:** László Fésüs

16:10-18:35 pm **Section 1:** **Chair: Zoltán Balajthy**

Introductory lectures

16:10-16:30
István Szatmári::
The Nobel Prize in Physiology 2012: cell reprogramming

16:30-16:50
Goran Petrovski:
Stem cells in he eye: Cultivation and characterization of cornea limbal epithelial stem cells on lens capsule in animal material-free medium

Regular talks

16:50-17:05
Zoltán Veréb:
Corneal stroma derived MSCs maintain immunosuppression with wound healing capacity in vitro

17:05-17:20
Zoltán Simándi:
Genes (PRMT1 and PRMT8) & Development (neurogenesis)

17:20-17:35
Erika Takács:
Gene expression profile of macrophage and dendritic cell specific transcription factors in mouse embryonic stem cell- and bone marrow-derived dendritic cells

17:35-17:50
Ildikó Bacskai:
Molecular mechanisms of interaction between mesenchymal stem cells and dendritic cells

17:50-18:05
Ixchelt Cuaranta:
Gene expression analysis during adipocyte differentiation from PPARg knock out iPS cells

18:05-18:20
Endre Kristóf:
Effect of second generation antipsychotic (SGA) drugs on the differentiation program of human adipocytes

18:20-18:35
Gyöngyi Buchan:
Investigation on the role of tissue transglutaminase in human mesenchymal stem cells

18:35-20:00 pm Dinner

20:00-21:40 pm **Section 2:** **Chair: Zsuzsa Nagy**

Introductory lectures

20:00-20:25
Mónika Fuxreiter:
Nobel Prize in Chemistry 2012: G protein-coupled receptors

20:25-20:40
József Bruck:
The role of disordered regions in evolution of new domains

Regular Talks

20:40-20:55
János Mótyán:
Molecular modeling of human NOD-like receptor family CARD domain containing 5 (NLRC5) protein

20:55-21:10
Júlia Koller:
Bioinformatic analysis of exome-capture sequencing data for finding important variations

21:10-21:25
Gergely Nagy:
Genome-wide finding of active enhancers from GRO-seq and ChIP-seq data in mouse macrophages

21:25-21:40
KiruphagaranThangaraju:
Transglutaminase variants in large human populations

9 January

7:00 am Breakfast

8:00-10:25 am **Section 3** **Chair: Attila Bácsi**

Introductory lecture

8:00-8:20
Ilma Korponay-Szabó:
Intracellular transglutaminase 2 – localization and antigenicity

Regular talks

8:20-8:35
Zsófia Simon-Vecsei:
Identification of „early" coeliac epitopes utilizing recombinant transglutaminases from different protein expression systems

8:35-8:50
Kajal Kanchan:
Importance of Valine 224 in transamidation activity and calcium sensitivity of human transglutaminase 2

Introductory lecture

8:50-9:10
Zsuzsa Szondy:
Transglutaminase 2 might promote T cell apoptosis by influencing Ca2+ homeostasis

Regular talks

9:10-9:25
Krisztina Köröskényi:
The involvement of Nur77 in the immune responses triggered by apoptotic cells

9:25-9:40
István Német:
TG2 modulates the energy metabolism of differentiating myeloid cells through repression of key regulators of mitochondrial bio-genesis

9:40-9:55
Róbert Király:
Characterisation of isopeptidase activity of transglutaminase 2

9:55-10:10
Máté Demény:
Is transglutaminase 2 active and what does it do in the intracellular milieu?

10:10-10:25
Elvan Ergülen:
DNAJ as an interacting partner of human TG2

10:25 am-16:00 pm Skiing, swimming, and excursion

16:00-18:35 pm **Section 4:** **Chair: Bálint L. Bálint**

Introductory lecture

16:00-16:20
Zsuzsanna Nagy:
Mapping the STAT6 cistrome in human IL-4 stimulated macrophages

Regular talks

16:20-16:35
Zsolt Czimmerer:
IL-4-dependent rearrangement of cis-regulatory repertoire during mouse alternative macrophage activation

16:35-16:50
Arunima Chatterjee:
The impact of retinoic acid on the response of epithelial cells for inflammatory stimulus

16:50-17:05
Krisztián Bene:
How human monocyte-derived dendritic cells develop and respond to inflammatory stimuli in the gut?

17:05-17:20
Anitta Sárvári:
Characterisation of inflammatory reactions during human adipocyte & macrophage co-incubation

17:20-17:35
Krisztián Horváth:
Inflammatory responses of primary endothelial cells to oxidative DNA damage and viral inflammation

17:35-17:50
Marietta Budai:
Possible molecular differences in the mechanisms of IL-1beta production by human monocyte-derived different macrophages

17:50-18:05
Anikó Csillag:
Exposure to inhomogeneous static magnetic field decreases pollen-induced allergic airway inflammation in a murine model

18:05-18:20
Edina Keresztesi:
Influence of macrophage adenosine A3 receptors on the apoptotic-cell induced inhibition of inflammation

18:20-18:35
Anna Pallai:
mTNFalpha and inhibition of proinflammatory cytokine formation

18:35- 20:00 pm Dinner

20:00-22:00 pm **Section 5:** **Chair: Lóránt Székvölgyi**

Introductory lectures

20:00-20:20
Attila Bácsi:
Novel links between DNA base excision repair and cellular responses

20:20-20:40
Gábor Koncz:
RIP-mediated alternative cell death pathways

20:40-21:00
Zsolt Sarang:
Macrophages engulfing apoptotic cells produce a novel retinoid to enhance phagocytosis

Regular talks

21:00-21:15
Éva Garabuczi:
Glucocorticoids enhance phagocytosis of apoptotic cells by upregulating the expression of both phagocytic receptors and lipid sensing receptors

21:15-21:30
Marika Tóth:
Clearance of dying ARPE-19 cells by professional and non-professional phagocytes in vitro – implications for age-related macular degeneration (AMD)

21.30-21:45
Katalin Tóth:
Involvement of mitochondria in the glucocorticoid-induced cell death of thymocytes

21:45-22:00
Bea Kiss:
Mechanism of retinoid-induced cell death of thymocytes

10 January

7:00 am Breakfast

8:15-10:35am **Section 6:** **Chair: István Szatmári**

Introductory lecture

8:15-8:35
István Balogh:
Introduction of the research group. Molecular testing in monogenic diabetes

Regular talks

8:35-8:50
Katalin Koczok:
Mutational spectrum of Smith-Lemli-Opitz syndrome patients in Hungary

8:50-9:05
Krisztián Csomós:
Exploring mysterious transglutaminase activity in Neutrophil ExtracellularTrap (NET) formation

9:05-9:20
Gergely Buglyó:
WT1 as a marker of prognosis in non-Hodgkin lymphomas and adult acute lymphoblastic leukemia

9:20-9:35
Melinda Paholcsek:
Statistical aspects of Aspergillus diagnosis; Multicenter Aspergillus DNA detection in Whole Blood and Serum

9:35-9:50
Bea Barta Tóth:
Investigation of human umbilical cord-derived muscle and endothelial cells with celiac risk

9:50-10:05
Boglárka Tóth:
Investigation of the role of lipoma-preferred partner protein in coeliac disease

10:05-10:20
Mohamed Mahdi:
Susceptibility of HIV-2 protease to inhibitors in clinical use

10:20-10:35
Ferenc Tóth:
Capsid protein of HIV-1 and its possible role in the early stage of infection

10:35 am-16:00 pm Skiing, swimming, and excursion

16:00-18:10 pm **Section 7:** **Chair: Gábor Koncz**

Introductory lectures

16:00-16:20
Gábor Szabó:
Single-strand discontinuities in the genome of lower and higher eukaryotes

16:20-16:40
Lóránt Székvölgyi:
Interaction between the PHD finger protein Spp1 and the chromosome axis protein Mer2 promotes recombination initiation

Regular talks

16:40-16:55
Imre László:
Nucleosome-DNA cohesion is highly sensitive to certain H3 modifications and to superhelical twist

16:55-17:10
Bea Bozóki:
Studies ont he substrate-specificity of alpha-viral proteins

17:10-17:25
Dániel Bence:
The global view on RXR regulated transcription events in mouse bone marrow derived macrophages.

17:25-17:40
Attila Pap:
Nur77 has a regulatory role in dendritic cell maturation

17:40-17:55
Renáta Laczik:
Effect of different unsaturated fatty acids on dendritic cells

17:55-18:30 pm **Section 8:**

Poster viewing

Renáta Bencsik:
GFP and mCherry overexpression in embryonic stem cell-derived blood cell progenitors

Zsuzsanna Bordán:
A method for the modification of alphaviral oligopeptide substrates expressed in a fusion form

Pál Botó:
Upregulation of DC specific transcription factors during the early stage of hematopoiesis

Erik Czipa:
Computational analysis of ligand dependent RXR-binding in stem cells and neurons

Judit Danos:
Different roles of ATP and P2X7 receptor in the IL-1beta production by monocyte-derived human macrophages

Bence Farkas:
Studies on the inhibition of a gammaretroviral protease

László Halász:
ChIPing the cistrome of RXR, SMRT and NCoR in mouse bone marrow derived macrophages reveals extensive sharing of binding sites

Szabocs Hetey, András Szántó:
Stdudying epigenetic correlations between post-translational histone modifications and higher-order chromatin structures in Saccharomyces cerevisiae

Károly Jambrovics:
Therapeutic Advantages of TG2 silencing in As2O3 (ATO) and All-Trans Retinoic Acid (ATRA) Induced Differentiation Program of Acute Promyelocytic Leukaemia (APL) Cell Line NB4.

Enikő Juhos:
Database of tumor-specific interaction motifs

Gergő Kalló: Determination of Penicillium Antifungal Protein (PAF) concentration in complex biological samples using mass spectrometry based method

Norbert Kassay:
Kinetic characterization of HTLV-3 protease by using oligopeptide substrates

Arnold Markovich:
Laboratory background of pathogen detection

Balázs Nótár:
Screening for putative macrophage-specific PPARg co-regulators

Lilla Ozgyin:
Chip experiments with spike controlls

Zsuzsanna Pató:
Two dimensional electrophoresis of vitreous body from mice with proliferative vitreoretinopathy

Márk Pilling:
Comparison of two protocols for the production of embryonic stem cell-derived dendritic cells

Zsolt Raduly:
The role of intrinsically disordered regions in mis-function of Tau.

Beáta Sípos:
Proteomic analysis of tears from patients with diabetic retinopathy

Éva Sivadó:
Investigation of the effects of coeliac minibodies on transglutaminase activity and epitope mapping studies

Krisztina Szilágyi:
The role of adenosine A2A receptor in the modulation of LPS-induced inflammatory responses of macrophages.

Zsófia Ilona Szojka:
Biochemical and kinetic characterization of HIV-2 protease

Boglárka Újházi:
Live imaging of adhesion complexes handling in coeliac and normal cells

Zsuzsanna Zita Urbán
The adaptor protein HOFI/SH3PXD2B is anti-proliferative in a human melanoma cell line

18:30-20:00 pm Dinner

20:00-21:50 pm **Section 9:** **Chair: István Balogh**

Introductory lecture

20:00-20:20
Éva Csősz:
Proteomics Core Facility annual report – 2012. Antimicrobial peptides - first line defense in body fluids.

Regular talks

20:20-20:35
Péter Lábiscsák:
Citrullination in the oral cavity

20:35-20:50
Bálint L. Bálint:
From sample to data: overview of our pipelines

20:50-21:05
Tibor Gyuris:
Results of the Illumina sequencing laboratory

21:05-21:20
Zsolt Keresztessy:
The THALEN and Zn-finger nuclease technologies: knock-out cell lines

21:20-21:35
Doan Minh:
Proteins' interaction: don't fret, FRET it

21:35-21:50
Katalin Nagy:
Studies on the retroviral-like aspartic protease ASPRV1

11 January

7:00 am Breakfast

8:30-9:55 am **Section 10:** **Chair: Szilvia Benkő**

Introductory lectures

8:30-8:50
Árpád Lányi:
HOFI: An adaptor protein of many duties

8:50-9:10
Katalin Goda:
Studying the catalytic cycle of P-glycoprotein by fluorescence-based techniques

Regular talks

9:10-9:25
Gábor Szalóki:
Substrate binding and transport of wild-type and Walker-A mutant Pgps

9:25-9:40
Zsuzsa Gutayne Tóth:
Pgp: carried with cholesterol or carriage for cholesterol?

9:40-9:55
Péter Brázda
Caught speeding - RXR mobility over various timescales

10:00-11:00 am **Section 11:** **Chair: Lászlo Fésüs**

10:00-10:20
Gábor Zahuczky: The UD-GenoMed development

Open discussion

New trends in R & D policies: University of Debrecen, Hungary, EU…

11:00pm **Concluding remarks:** László Nagy
Éva Rajnavölgyi
József Tőzsér
Zsuzsa Szondy
Gábor Szabó
László Fésüs