



UNIVERSIDAD
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Departamento de Biología Molecular y Bioquímica
Facultad de Ciencias
Universidad de Málaga

PROGRAMME

"Metabolic Reprogramming as a Target for Cancer and Other Diseases"

Workshop 2018



15-16 March 2018, Málaga, Spain



ibima Instituto de Investigación
Biomédica de Málaga

ciberer
Centro de Investigación Biomédica en Red
Enfermedades Raras

BIO2014-56092-R

TARCADIS 2018

Thursday 15th March

Accreditation and welcome (in *Salón de Actos*, ground floor)

8:50

Opening

9:00

Miguel Ángel Medina, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain

9:10

Zaida Díaz Cabiale, Director of the Research Secretariat, Vice-Rector for Research and Transfer, University of Malaga, Spain

Session 1-Basic issues (in *Salón de Actos*, ground floor)

Chair: José Luis Urdiales

9:30

Reprogramming metabolism. A foreword for a workshop

Miguel Ángel Medina, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain

10:00

Energy and polyamine metabolism coordination in human neuroblastoma

Francisca Sánchez Jiménez, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, IBIMA (Instituto de Investigaciones Biomédicas de Málaga, ISCIII); and unit 741 of CIBER de Enfermedades Raras (CIBERER, ISCIII), Spain

Session 2– Lipid metabolism (in *Salón de Actos*, ground floor)

Chair: Miguel Ángel Medina

10:40

Brown adipose tissue as therapeutical strategy against obesity-related disorders

María Calderón Domínguez, Facultad de Farmacia, Universidad CEU San Pablo, Madrid, Spain

11:00

Inhibition of de novo fatty acid synthesis induces neuroblastoma differentiation

Maria Victoria Ruiz Pérez, Microbiology, Tumor and Cell Biology (MTC), Karolinska Institutet, Stockholm, Sweden

11:20

The cholesterol transport protein stard5 (steroidogenic acute regulatory protein related lipid transfer domain containing 5) is a novel target for cancer stem cells (csc)

Daniel Rodriguez Agudo, Department of Internal Medicine/Gastroenterology, Virginia Commonwealth University, USA

11:50

COFFE BREAK

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Session 3– Biomedical issues (in *Salón de Actos*, ground floor)

Chairs : Francisca Sánchez Jiménez and Ignacio Fajardo

Postprandial lipemia and tissue hypoxia

12:20 *Pedro Valdivieso Felices, UGC Medicine Internal, Virgen de la Victoria Hospital. IBIMA University of Malaga. Spain*

Deciphering neuronal and glial dysfunction in Alzheimer's disease: from mechanisms to therapeutic opportunities

12:40 *Antonia Gutierrez, Department of Cell Biology, Faculty of Science, University of Malaga. IBIMA. CIBERNED, Spain*

Exosome-mediated uptake of mast cell tryptase into the nucleus of melanoma cells regulates expression of micro-RNA, histone clipping and proliferation

13:00 *Gunnar Pejler, Department of Medical Biochemistry and Microbiology, Uppsala University, Sweden*

Regulatory landscape of endothelial cells in pulmonary arterial hypertension

13:30 *Armando Reyes-Palomares, European Molecular Biology Laboratory, SCB unit, Heidelberg, Germany*

13:50

LUNCH

Session 4– Bioinformatics and computational biology issues (in *Salón de Actos*, ground floor)

Chair: Manuel Gonzalo Claros Díaz

Reprogramming transposon expression in cancer

16:00 *Manuel Gonzalo Claros Díaz, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain*

Breast cancer metabolism implicated in the response to neoadjuvant chemotherapy

16:20 *Aurelio Moya García, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain*

Network medicine applied to the identification of genotype-phenotype associations in patients with rare genomic disorders

16:40 *Juan Antonio García Ranea, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain*

Can Standards Help in Developing Metabolomics?

17:00 *Ismael Navas Delgado, Languages and Computer Systems, Department of Languages and Computer Science, University of Malaga, Spain*

17:20

COFFE BREAK

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17:45- 19:30	<p align="center">Predoc Poster Session (in Sala de Rectores, first floor) Chairs: Beatriz Martínez Poveda and Juan Antonio Guadix</p>
17:45	<p>P01- GR-24, a strigolactone analogue, induces changes in the endothelial cell cytoskeleton and inhibits angiogenesis in vitro and in vivo (poster talk) <u>Paloma Carrillo</u>, M^a Carmen Ocaña, Beatriz Martínez-Poveda, Miguel Ángel Medina, Ana R. Quesada</p>
	<p>P02- Biological activity of toluquinol derivatives <u>José Antonio Torres-Vargas</u>, Paloma Carrillo, Iván Cheng-Sánchez, Miguel Ángel Medina, Francisco Sarabia, Ana R. Quesada</p>
17:55	<p>P03- Glucose and palmitate uptake in the breast carcinoma cell line MDA-MB-231 (poster talk) <u>M^a Carmen Ocaña</u>, Paloma Carrillo, Beatriz Martínez-Poveda, Ana R. Quesada, Miguel Ángel Medina</p>
	<p>P04- Expression of glutaminase isoenzymes regulates oxidative stress in glioma cell lines <u>Juan de los Santos Jiménez</u>, Nieves Urbano Polo, Ana Peñalver, José A. Campos-Sandoval, Javier Márquez, José M. Matés</p>
18:05	<p>P05- GLS2 glutaminase isoform in cancer: subcellular localization and its implication in cancer reversal (poster talk) <u>David Carro Vázquez</u>, Marina García Frutos, Mercedes Martín Rufián, Ana Peñalver Alonso, María C. Gómez García, Laura Castilla Ruiz and Javier Márquez Gómez</p>
	<p>P06- Wt1 is involved in pancreas development and adult pancreatic homeostasis Rita Carmona, <u>Laura Ariza</u>, Beatriz Aguilera, Ana Cañete, Ramón Muñoz-Chápuli</p>
18:15	<p>P07- FSP1/S100A4 specifies distinct myocardial and endothelial cardiac populations (poster talk) <u>Sara Cano-Ballesteros</u>, Juan Antonio Guadix, José M. Pérez-Pomares</p>
	<p>P08- Avian embryonic coronary patterning requires the contribution of different endothelial and endocardial cell populations <u>Paul Palmquist-Gomes</u>, Juan Antonio Guadix, José M. Pérez-Pomares</p>
	<p>P09- Cellular and molecular composition of the pericoronary niche: neurovascular interactions and neurotrophins <u>Cristina Pogontke</u>, Juan Antonio Guadix, José M. Pérez-Pomares</p>
18:25	<p>P10- Bioinformatics approach to unravel the genetic basis of metabolic diseases (poster talk) <u>Elena Rojano-Rivera</u>, F. Moreno-Jabato, P. Seoane, j.R. Perkins and J. A. G. Ranea</p>
	<p>P11- Metabolic reprogramming and structural ecophenotypes in evolving tumor systems <u>Jose J. Serrano</u>, Miguel Ángel Medina, Raúl Montañez</p>
18:35	<p>P12- RPath: A Web-App for Metabolic Pathway Exploration (poster talk) <u>Antonio Benítez-Hidalgo</u>, César Lobato-Fernández, María José Muñoz-González, Daniel Torres-Ramírez, Ismael Navas-Delgado and José F. Aldana-Montes</p>

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	<p>P13- Identification of differentially expressed mobile elements in lung cancer <u>Macarena Arroyo Varela</u>, Rocío Bautista Moreno, Rafael Larrosa Jiménez, José Luis De La Cruz Ríos, Manuel Ángel Cobo Dols, Manuel Gonzalo Claros Díaz</p>
18:45	<p>P14- Inferring gene-disruption by transposons in lung cancer patients using RNA-seq data (poster talk) <u>Carmen María López</u>, Macarena Arroyo, Rocío Bautista, Rafael Larrosa, M. Gonzalo Claros</p>
18:55	<p>P15- Gene-Editing Strategies to Reveal Microglial Degeneration in Alzheimer's Disease (poster talk) <u>Juan Antonio García-León</u>, Francisco Ruíz-Contreras, Javier Vitorica and Antonia Gutiérrez</p>
	<p>P16- Amyloid pathology in the hippocampus of Alzheimer's disease patients and transgenic mice <u>C. Núñez-Díaz</u>, E. Sánchez-Mejías, R. Sánchez-Varo, V. Navarro, A. Gómez-Arboledas, J. Fernández-Valenzuela, M. Vizuete, J.C. Dávila, J. Vitorica, A. Gutiérrez</p>
	<p>P17- Diverse microglial responses in the human Alzheimer's disease brain <u>M. Mejías-Ortega</u>, E. Sánchez-Mejías, V. Navarro, J.C. Dávila, J. Vitorica and A. Gutiérrez</p>
19:05	<p>P18- Decyphering the pathogenic contribution of abeta and tau in transgenic models of Alzheimer's disease (poster talk) <u>JJ. Fernández-Valenzuela</u>, R. Sánchez-Varo, V. Navarro², S. Jiménez, E. Sánchez-Mejías, C. Núñez-Díaz, A. Gómez-Arboledas, M. Vizuete, J.C. Dávila, J. Vitorica and A. Gutiérrez</p>

Sesión formativa – Lección magistral (in *Sala de Juntas*, first floor)
 Presenta: Francisca Sánchez Jiménez

17:45 **El proceso de la carcinogénesis**
Alberto Muñoz, Instituto de Investigaciones Biológicas, CSIC/UAM, Madrid

19:45 **END**



Friday 16 March

Session 5– (Lymph)angiogenesis (in *Salón de Actos*, ground floor)

Chair: José María Pérez Pomares

- 9:00** **Focussing on Aeroplysinin-1: An integrated vision**
Beatriz Martínez Poveda, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain
- 9:20** **Role of ketone body oxidation in lymph-angiogenesis: possible relevance for lymphedema?**
Melissa García Caballero, Laboratory of Angiogenesis and Vascular Metabolism VIB-KU Leuven Center for Cancer Biology (CCB), Department of Oncology, KU Leuven, Belgium
- 9:40** **Metabolic adaptation of tumor to hypoxia induced by anti-angiogenic therapy**
Nor Eddine Sounni, PhD, LBTD, GIGA-Cancer, ULiege, Belgium

INVITED KEYNOTE LECTURE (in *Salón de Actos*, ground floor)

Presenter: Miguel Ángel Medina

- 10:10** **Metabolic regulation of vascular growth and function**
Michael Potente, Max Planck Research Group Leader, Max Planck Institute for Heart and Lung Research, Bad Nauheim, Germany

11:10

COFFE BREAK

Session 6– Medicinal chemistry (in *Salón de Actos*, ground floor)

Chair: Ana Rodríguez Quesada

- 11:40** **Self-assembling drug-conjugates for anti-cancer treatment**
Daniele Passarella, Department of Chemistry, Università degli Studi di Milano, Italy
- 12:10** **Development of kinase and PFKFB3 inhibitors**
Andrej Bohac, Department of Organic Chemistry, Comenius University in Bratislava, Slovakia
- 12:40** **A fruitful strategy for the search of new inhibitors of angiogenesis**
Ana Rodríguez Quesada, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain

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INVITED KEYNOTE LECTURE – *IBIMA CONFERENCE*

(in *Salón de Actos*, ground floor)

Presenter: Ana Rodríguez Quesada

Fuel and oil of the cancer engine

13:00 *Arkaitz Carracedo, IKERBASQUE, ERC investigator, University of the Basque Country, Spain*

13:50

LUNCH

Session 7– Developmental and cancer issues (in *Salón de Actos*, ground floor)

Chair: Ramón Muñoz Chápuli

Precision medicine addressed to the diagnosis, prognosis and prediction of the colorectal cancer associated with obesity

16:10 *Manuel Macías González, UGC Endocrinology and Nutrition of University Hospital Virgen de la Victoria. IMABIS. Málaga, Spain*

The Wilms Tumor Suppressor Gene: novel functions beyond embryonic development

16:30 *Ramón Muñoz Chápuli, Department of Animal Biology. Faculty of Science, University of Málaga, Spain*

Embryonic basis of ventricular remodelling: towards a cell type-specific metabolic profiling of the infarcted heart

16:50 *José María Pérez Pomares, Department of Animal Biology. Faculty of Science, University of Málaga, Spain*

Differentiation of hESC cells into the cardiac ‘venous pole’/‘cardiac inflow’ cell types

17:10 *Juan Antonio Guadix Domínguez, Department of Animal Biology. Faculty of Science, University of Málaga, Spain*

Metabolic Reprogramming in Cancer: Chimera or Bellerophon?

17:30 *José Manuel Matés Sánchez, Department of Molecular Biology and Biochemistry, Faculty of Science, University of Malaga, Spain*

Session 8– Concluding remarks (in *Salón de Actos*, ground floor)

Short round table

17:50 *Lead and moderator: Miguel Ángel Medina
Gunnar Pejler, Daniel Rodríguez Agudo, Andrej Bohac, Daniele Passarella, Nor Eddine Sounni, Ana Rodríguez Quesada*

18.30

END

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Information

Dates

March, 15-16, 2018 (Thursday - Friday)

Venue

Universidad de Málaga - Administrative Building /
Rector's Office (Málaga downtown)

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Organizer and funds:

Prof. Miguel Ángel Medina

Research Project BIO2014-56092-R Grant (MINECO and FEDER)

Dep. Molecular Biology and Biochemistry, University of Málaga

Vicerrectorado de Investigación y Transferencia, Universidad de Málaga

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