





First Focused Meeting on Molecular Mechanisms of PDK1 and Akt/PKB



March 16th - 18th 2023

BARCELONA

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CONGRESS ORGANIZERS:

Dr. José R. Bayascas, INc and Universitat Autònoma de Barcelona, Barcelona, Spain
Dr. Ricardo M. Biondi, IBioBA-CONICET Max Planck Partner, Buenos Aires, Argentina
Dr. Thomas Leonard, Max Perutz Labs, Vienna, Austria
Dr. Sandra Gabelli, Structural Chemistry, Merck, West Point, PA
Dr. José Lizcano, VHIR Research Institute and Universitat Autònoma de Barcelona, Spain

PDK1.Akt.FocussedMeeting2023@gmail.com

VENUE:

VHIO Conference room Vall d'Hebron Barcelona Hospital Campus Centro Cellex, Carrer de Natzaret, 115-117, 08035 Barcelona

https://goo.gl/maps/cXMg1mfdAHhbcc9J8

REGISTRATION:

Registration fee:	Junior participants:	95€
	Group leaders:	200€

Lunches and coffee breaks included.

Registrations must be made through the website: <u>aula.vallhebron.com</u> (future courses section)

TECHNICAL SECRETARY:

Aula Vall d'Hebron inscripcions@aulavallhebron.cat - +34 693785436







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Thursday March 16th

RECEPTION AND WELLCOME COFFEE
Session 1: "25 years of PDK1-PKB/Akt"
MRC Protein Phosphorylation Unit, University of Dundee Discovery and initial characterization of the PDK1 signaling pathway
Calico Labs, South San Francisco, California Identification, characterization and cloning of PDK1
LUNCH
Session 2: "Molecular Mechanisms of Regulation I"
Department of Chemistry and Biochemistry, University of California San Diego, California <i>PKA: Window into cis and trans phosphorylation of AGC kinases</i>
Protein and Structural Chemistry, MSD & Co, West Point, PA AKT1 is activated by multiple distinct mechanisms
Department of Structural and Computational Biology, Max Perutz Labs, Vienna Lipid-mediated activation of Akt in vitro and in vivo
Wellcome-Wolfson Institute, Queen's University Belfast, Northern Ireland Akt regulation in the kidney and beyond
Session Discussion on Molecular Mechanisms of Regulation I
COFFEE BREAK
Session 3: "Molecular mechanisms in diseases: Cancer, Diabetes and Beyond"
Department of Biochemistry and Molecular Biology, UAB, Barcelona Role of PDK1 signaling branches in brain pathology dissected by knock-in mice analysis
INSERM, UMR-S 1124, Université de Paris PDK1 promotes neurodegeneration in prion and Alzheimer's diseases through neutralization of alpha-secretase activity
INSERM, UMR-S 1124, Université de Paris PDK1 role in exosome secretion: implication for neurodegenerative diseases
Curtin Health Innovation Research Institute, Curtin Medical School, Curtin University, Perth <i>Targeting PDK1 for Chemosensitization of Pancreatic Cancer</i>
IBioBA - CONICET - Partner Institute of the Max Planck Society, Buenos Aires Department of Biochemistry and Molecular Biology, UAB, Barcelona PDK1 mechanism in yeast
Plant Developmental Genetics, Institute of Biology Leiden, Leiden University PDK1 signaling in plants
Operation Discoursion on Malandan Maskanians in Discours







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Friday March 17th

9:00-11:10	Session 4: "Molecular Mechanisms of Regulation II"
Carlos J Camacho	Department of Computational and Systems Biology, University of Pittsburgh On the selective pressure of phosphorylation molecular switches to co-evolve within intrinsically disordered regions in metazoans
Morten Frödin	Biotech Research and Innovation Centre (BRIC), University of Copenhagen PDK1 regulation of RSK – a phosphodocking-mediated, mutual activation mechanism
Thomas A Leonard	Department of Structural and Computational Biology, Max Perutz Labs, Vienna New lessons from an old master - insights into PDK1 signaling
Ricardo M Biondi	IBioBA - CONICET - Partner Institute of the Max Planck Society, Buenos Aires Chemical biology to uncover the molecular mechanism of regulation of PDK1
Discussion	Session Discussion on Molecular Mechanisms of Regulation II
11:10-11:30	COFFEE BREAK
11:30-13:15	Session 5: "Substrate targeting mechanisms"
Alexandra Newton	Department of Pharmacology, University of California San Diego, California mTORC2 facilitates PDK1 phosphorylation of AGC kinases with Tor Interaction Motif
Susan S Taylor	Department of Chemistry and Biochemistry, University of California San Diego, California Activation of p90Rsk: Capturing crosstalk between three kinase domains
Thomas A Leonard	Department of Structural and Computational Biology, Max Perutz Labs, Vienna In vitro reconstitution of Sgk3 signaling
Discussion	Session Discussion on Substrate targeting mechanisms
13:15-14:20	LUNCH
14:20-15:20	Session 6: "Clinical trials"

MafaldaBreast Cancer and Melanoma Group, Vall d'Hebron Institute of Oncology, BarcelonaOliveiraClinical development of AKT inhibitors in breast cancer: promises and pitfalls







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15:20-17:30	Session 7: "Innovative Drug Discovery and Allostery"
Daniel	Faculty of Chemistry and Chemical Biology, DDHD, ZIW, Dortmund
Rauh	Targeting Akt with Covalent-Allosteric Inhibitors
Marco	Curtin Health Innovation Research Institute, Curtin Medical School, Curtin University, Perth
Falasca	Development of dual PDK1/AurA kinase inhibitors for cancer therapy
David	Calico Labs, South San Francisco, CA
Stokoe	Identification of a novel drug binding pocket in Ras that prevents activation by sos
Angel	Institute for Research in Biomedicine (IRB), Barcelona
Nebreda	Pathway selective inhibitors of the p38 α protein kinase
Discussion	Session Discussion on Innovative Drug Discovery and Allostery
17:30-17:45	COFFEE BREAK

17:45-19:00 OPEN DISCUSSION SESSION I

Saturday March 18th

9:00-11:00	Session 8: "Methods"
Philip A Cole	Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School Semisynthetic approaches to Akt analysis
Banafshé	Centre for Therapeutic Innovation, University of Bath, UK
Larijani	Oncoprotein activation and dynamics in Cancer: A quantitative molecular imaging approach
Patrick	Department of Biochemistry, The University of Western Ontario, London, Ontario
O´Donoghue	Delivery of AKT1 with programmed phosphorylation to human cells
Catarina	Biotech Research and Innovation Centre (BRIC), University of Copenhagen
Azevedo	Structure-function analysis using fast, simple and conclusive CRISPR-Select
Eduard	Center for Chemistry and Biomedicine (CCB), Innsbruck, Austria
Stefan	KinCon reporter: Tracking mutation and drug-driven alterations of kinase activity conformations
Discussion	Session Discussion on Methods
10:40-11:00	COFFEE BREAK

11:00-12:00 OPEN DISCUSSION SESSION II

