

PROTON DYNAMICS AND CANCER

Program

Friday November 18th

8:30-9:00 : Registration

9:00-9:15 : Opening Remarks and Conference Welcome

- **Stefano Fais** (ISPDC President)
- **Jacques Pouysségur** (Head of the local organizing committee)

➤ **Bicarbonate and CO₂ Transport Symposium – Chair: J. Pouysségur**

9:15-10:00 (45 min) : **Plenary Lecture, Walter Boron (USA)**

"Transport of bicarbonate and carbon dioxide across the plasma membrane"

10:00-10:20 (20 min) : **Stine Pedersen (DK)**

"Roles and regulation of NHE1 and NBCn1 in human breast cancer"

10:20-10:35 (15 min) : **Scott Parks (FR)**

"The electrogenic Na⁺/HCO₃⁻ co-transporter (SLC4A4) in tumor cell growth and pH homeostasis"

10:35-10:50 (15 min) : **J. Scholz (DE)**

"Hyperpolarization of ¹³C-bicarbonate for spatial MRI pH-detection"

10:50-11:15 : Coffee

➤ **Carbonic Anhydrase IX Symposium I – Chair: W. Boron**

11:15-11:45 (30 min) : **Silvia Pastorekova (SVK)**

"Upstream regulation and downstream effects of carbonic anhydrase IX in the context of hypoxic tumor phenotype"

11:45-12:00 (15 min) : **Jérôme Doyen (FR)**

"Inhibition of the hypoxia-induced pH_i-regulating enzymes CAIX and CAXII compromises tumor progression in combination with ionizing radiation"

12:00-12:15 (15 min): **Alzbeta Hulikova (UK)**

« The dual role of CO₂/HCO₃⁻ buffer in the regulation of intracellular pH of three dimensional tumor growth. »

12:15-14:15 : LUNCH and POSTER SESSION

➤ **Carbonic Anhydrase IX Symposium II – Chair: S. Pastorekova**

14:15-14:45 (30 min) : Shoukat Dedhar (Canada)

“Tumor Hypoxia, Metastasis and Cancer Stem Cell Plasticity: Critical role of Carbonic Anhydrase IX (CAIX)”

14:45-15:00 (15 min) : Alan McIntyre (UK)

“Carbonic anhydrase IX promotes tumour growth and necrosis *in vivo* and inhibition enhances anti-VEGF therapy”

15:00-15:30 (30 min) : Dario Neri (CH)

“Targeting tumor pH regulation with armed antibodies and small organic ligands”

➤ **Na⁺/H⁺ Exchange (NHE) Symposium – Chair: D. Lagadic-Gossmann**

15:30-15:50 (20 min): Stephan Reshkin (IT)

“NHE1-dependent extracellular acidification regulates protease release and protease-driven ECM degradation at invadopodia”

15:50-16:05 (15 min): Florian Ludwig (DE)

“Focal adhesion contacts: acidic footprints at the leading edge of the cell”

16:05-16:20 (15 min): Shigekuni Hosogi (Japan)

“An inhibitor of Na⁺/H⁺ exchanger (NHE), ethyl-isopropyl amiloride (EIPA), diminishes proliferation of MKN28 human gastric cancer cells by decreasing the intracellular Cl⁻ concentration via DIDS-sensitive pathway”

16:20-16:45 : Coffe

➤ **Tumor acidosis, microenvironment and gene regulation symposium – Chair: L. Counillon**

16:45-17:00 (15 min) : Takao Matsubara (Japan)

“Tumor Micro-environmental Effect of Extracellular pH, pO₂, and Pressure controlled Invasiveness and Survival on Human Osteosarcoma Cells”

17:00-17:15 (15 min) : Laurence Huc (FR)

“Complex II specific dissociation links pH changes to oxidative stress for apoptosis induction”

17:15-17:30 (15 min) : Lasse Leino (Finland)

“Protodynamic drug therapy in cancer: Cis-urocanic acid as the first prototype drug in clinical trials”

17:30-17:45 (15 min): Gertien Smits (NL)

“Yeast as a genetically tractable model to understand pH control of cell division”

➤ **Society Administration**

18:00-19:00 : ISPDC General Assembly

- Stefano Fais (ISPDC President)
- Antonio Chiesi (treasurer)

**20:00 : Dinner for all registered Participants
(Clarion Grand Hotel Aston, Restaurant, 12 avenue Felix Faure)**



Saturday November 19th

➤ **H+/Lactate Transport (MCTs) Symposium & Cancer I – Chair: S. Dehdar**

9:00-9:30 (30 min) : Pierre Sonveaux, (BE) EACR Award Lecture

“Targeting the lactate transporter MCT1 in endothelial cells inhibits lactate-induced tumor angiogenesis”

9:30-9:45 (15 min) : Johanna Chiche (FR)

« The hypoxia-induced H+/Lactate transporter MCT4 is a protumoral factor involved in *in vivo* intracellular pH regulation”.

9:45-10:00 (15 min) : Renaud Le Floch (FR)

“The CD147 subunit of lactate/H⁺ symporters MCT1/MCT4 is critical for energetics and growth of glycolytic tumors”.

10:00-10:15 (15 min) : Christophe De Saedeleer (BE)

“Lactate signaling: inhibition of the lactate transporter MCT1 blocks lactate-induced HIF-1 activation in tumor cells

10:15-10:45 : Coffee

➤ **H+/Lactate Transport (MCTs) Symposium & Cancer II – Chair: O. Feron**

10:45-11:05 (20 min): Fatima Baltazar (Portugal)

“Expression of Monocarboxylate transporters in human Cancers”

11:05-11:20 (15 min): Céline Pinheiro (Portugal)

“Co-expression of monocarboxylate transporter 1 (MCT1) with CD147 is associated with lower survival in GIST patients”

11:20-11:40 (20 min): Susan Critchlow (UK)

“Pre-clinical Targeting of the Metabolic Phenotype of Lymphoma by AZD3965, a selective inhibitor of Monocarboxylate Transporter 1 (MCT1).”

11:40-11:55 (15 min): Jonathan Coles (UK)

“Where do the protons come from?”

12:00-14:00 : Lunch and Poster Session

➤ **Proton Pump Symposium & Cancer I – Chair : I. Tannock**

14:00-14:20 (20 min): Stefano Fais (IT)

"Proton pump inhibition and cancer: from the bench to the patient's bed".

14:20-14:35 (15 min): Abel García-García (Spain)

"Immunohistochemical Localization of C1 Subunit of the V-ATPase (ATPase C1) in Oral Squamous Cell Cancer and Normal Oral Mucosa"

14:35-14:50 (15 min) : Sofia Avnet (IT)

Acidic extracellular pH and V-ATPase activity modulate cancer survival and stemness of Ewing's sarcoma

14:50-15:05 (15 min): Qian Tan (Canada)

"Inhibition of Autophagy as a Potential Mechanism by which Pantoprazole, a Proton Pump Inhibitor (PPI), Enhances the Therapeutic Effect of Docetaxel Chemotherapy for Solid Tumours"

15:05-15:40 : Coffee

➤ **Proton Pump Symposium & Cancer II – Chair : S. Fais**

15:40-16:00 (20 min): Licia Rivoltini (IT)

"Suppressive effects of acidity on tumor immunity and role of proton pump"

16:00-16:15 (15 min): Angelo De Milito (SE)

"Autophagy protects human melanoma cells from acidic stress induced cell death"

16:15-16:35 (20 min): Salvador Harguindey (Spain)

"Further along a clinical protocol using a cocktail of PTIs in human cancer"

16:35-17:05 (30 min): Ian Tannock, (Canada) Closing Lecture

"Drug resistance and the tumour microenvironment: potential of proton pump inhibitors to increase the clinical benefit of chemotherapy"

17:15 - Prizes for the best short Talks/Posters

END of the Meeting