International Conference on the Bioscience of Lipids

Editor

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2016 NEWSLETTER

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Flying in to Guarulhos aiport, and navigating to the domestic gates, was easy but tireing because of the long leg from Europe. Luckily, the last leg to Foz Iguazu airport was sort. I was fortunate to have a taxi waiting for me, so navigating Brazilian and Argentine customs and immigration was speedy and uncomplicated, I did not even leave the cab. The hotel was reached after a very short drive. My first impression was the red soil which cover all unbuilt areas except for paved roads. My second impression was that Puerto Iguazu was a small village/town that apparently lived on tourists, which were nowhere to be seen. Apparently, we were off season! But the climate was very much to my liking.
The reason to have the Argentinian ICBL in Puerto Iguazu was of course due to the Falls and the Iguazy National Park (more on that later!).

Hotel Amerian in Puerto Iguazu.

Most guest stayed at the comfy-looking Amerian, which was next-door to the Iguazu Conference Center. The auditorium was very nice, spacious, and had comfortable seats and good audio/visual eqipment. It promised to be a comfortable 4 days ahead sitting from early morning until late night, listening to presentations by prominent and prominent-to-be scientists from all over the world. The meeting was officially opened on Tuesday evening (Sept 22), and professor Susann Jackowsky introduced the van Deenen lecturer, professor Irvine from Cambridge (UK). After the excellent presentation by professor Irwine, salty snacks and refreshments were served while meeting delegates mingled and greeted each other.

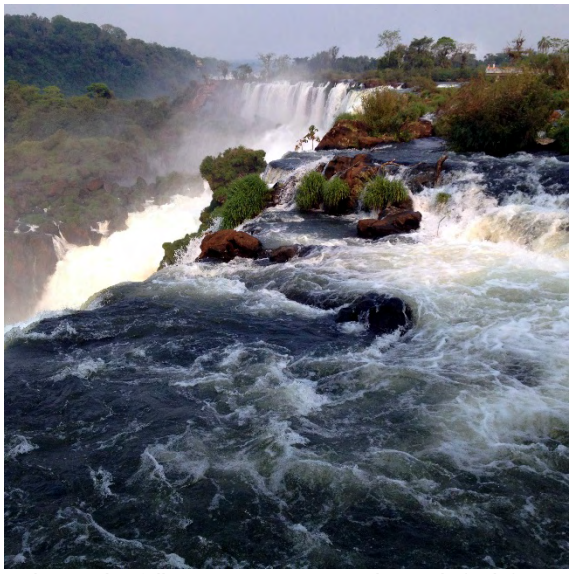
The conference centre – venue of the ICBL meeting

The scientific program on Wednesday morning started 9 am and did not end until after 7pm. The scientific program was interrupted by lunch and a poster session lasting more than 2 h. Thursdays scientific program was planned for only half a day, since the visit to Iguazu Falls and the Iguazu National Park was the program for the afternoon. Buses took us about 15 km/9 miles to the entranc eof the

National park. We walked for 15 min toi reach the djungle trains, which too us to the first Fall of the day – the Devil's Throat (Garganta del Diablo). To reach it we walked ”on water” (see picture) for more than 30 minute while the temperature was above 30 °C/86F and air humidity must have been close to 100%. It was sweaty business!

The walking bridge that too us to Devil's Throat.

The Devil's Throat was impressive and the roar from falling water was awsome. After vieweing and picture taking, we walked back to the train for another ride in the djungle, this time to the "many falls" part of the Falls on the Argentinian side. This time trecking was more comfortable because the weather had cooled a bit, and the number of fellow tourists on the path was markedly reduced.



View of the many falls that could be seen (left) while treckin to the falls at utmost post on the path (right).

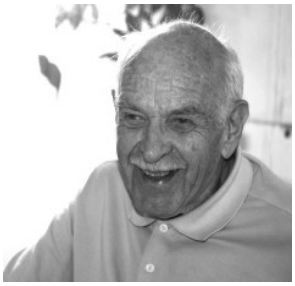
After the long walk in the hot climate it was nice to find the buses airconditioned – they took us swiftly back to our respective hotels.
Friday morning started with presentations at 9 am, and these continued for the whole day until well after 7pm. The Argentinial Barbeque Dinner was originally planned for Saturday afternoon, but the organizers moved it wisely to Friday evening. We all met at the Amerian poolside and enjoyed lovely dinner where barbequed red meet was amply served in all forms. Poster and Young Speaker Awards were announced, and the organizeers were warmly thanked for all their efforts to make the 56th ICBL such a well organized meeting. The finale of the evening was Argentinian Tango, performed by skilled dancers. This piece of art was greatly appreciated by all present.

Saturday started as a bright day, and the number of participants still at the meeting was very high. After the regular scientific presentations, professor Kai Simons (MPI, Dresden) gave the EMBO Keynote Lecture to a very appreciative group of meeting participants. This was followed by a short presentation regarding the next ICBL meeting, which will be organized by professor Michel Lagarde and his local organizing committee in Chamonix Mont Blanc, between September 4-8, 2016 (Note the unusual weekdays!).
After thanking again the local organizers (professor Beatriz Caputto and colleagues) for arrangeing a great and interesting meeting, we took farewell and look forward to participating in the next ICBL in a years time.

J. Peter Slotte
Past President of the ICBL

56th International Conference on the Biosciences of Lipids (ICBL)
Puerto Iguazú, UK, September 22-26, 2015
Scientific Report
"Biochemistry, Biophysics and Transport of Lipids in Health & Disease"

The 56th International Conference on the Bioscience of Lipids (ICBL) was held in Puerto Iguazú, Misiones, Argentina from the 22nd to 26th September 2015 with a main theme of "Biochemistry, Biophysics and Transport of Lipids in Health & Disease". The natural choice for the first ICBL conference that was held in South America was Puerto Iguazú, a very small town located in the extreme northeast of Argentina, some 17 km distance from the Iguazú Falls, one of the seven natural wonders of the world. The Honorary President of the conference was Dr. Rodolfo R. Brenner, an outstanding argentine lipidologist who started attending the ICBL conferences in 1960 and from then on, was an assiduous participant and contributor to the ICBL Meetings and an active promoter of the participation of the Argentinian Lipid community in these meetings. The Local Organizing Committee was represented by various academic departments across Argentina: Beatriz L. Caputto (Chair, Córdoba), Norma Sterin-Speziale (Co-Chair, Buenos Aires), Diego De Mendoza (Rosario), Hugo J.F. Maccioni, José Luis Daniotti, Mario E. Guido and Gerardo Fidelio (Córdoba). The work of the LOC was greatly supported by the ICBL President, Peter Slotte. The conference was attended by ~ 130 scientists and accompanying persons from across the globe, including representation from 15 European Countries, Japan, USA, Canada, Taiwan, México, Israel, Argentina, Brazil and South Africa.



Professor Rodolfo R. Brenner

The venue for the Conference was the Convention Centre of the Amerian Portal del Iguazú Hotel, just facing the triple frontier between Brazil, Argentina and Paraguay, three countries separated by the beautiful Iguazú and Paraná Rivers, all immersed in the impressive rain forest. The venue provided excellent lecture facilities, impressive poster viewing areas and hospitality areas. Hotel accommodation was available at the Amerian Portal del Iguazú Hotel and at a variety of closely located hotels and cabins tailored to suit all budgets.

J. Peter Slotte, President of ICBL, gave kind welcoming words, opening the conference on the evening of the 22nd September. The Opening Ceremony was followed by the 19th Laurence van Deenen Lecture entitled "Adventures with inositides: the enigma of the phosphatidylinositol 5-phosphate 4-kinases" delivered by Professor Robin F. Irvine from the University of Cambridge. Professor Suzanne Jackowski, in representation of Elsevier who kindly sponsored the lecture, introduced Dr. Irvine to the audience. Professor Irvine described his research on the physiological functions of the PI5P4Ks, their substrates, and the physiological relevance of the lipid products formed after which Professor Suzanne Jackowski presented him a plaque. The excellent lecture was followed by a welcome reception for all attendees.

Professor Suzanne Jackowski presents the van Deenen Awardee, Professor Robin Irvine.

The scientific program continued on the 23rd September and consisted of 8 themed sessions, each of which contained a mix of plenary/keynote lectures and oral communications from selected abstracts. In total 24 invited talks plus 8 short talks were given by internationally renowned researchers across all 8 themes along with 13 short communications, of which 5 speakers were entrants for the Young Investigator Award. Over 50 posters were on continuous display throughout the conference, giving ample opportunity for presenters to discuss their data with as many attendees as possible. Generous support from our sponsors also allowed the award of two poster prizes and a special mention, with times allocated for poster judges to visit the 25 posters entered into the competition and discuss the content with the presenters. The judges for both competitions were drawn from the International Scientific Advisory Board.

Session 1: *"Lipid Metabolism and Regulation"*. Chair – Nora Rotstein (Bahía Blanca)

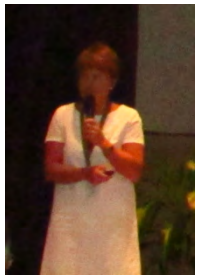
Alfred Merrill discusses sphingoid base metabolism

The session began with a stimulating talk by **Alfred Merrill** (Inst. Technology, Atlanta, USA) on sphingoid base metabolism in LY-B, cells derived from CHO-K1 cells that do not make them. This presentation was beautifully complimented by a subsequent talk by **George Carman** (Rutgers, USA) in which he discussed the regulatory mechanisms involved in the degradation of phosphatidate phosphatase Pah1 by the 20S proteasome. These two invited talks were followed by a fascinating Plenary Lecture by **Yusuf Hannun** (Stony Brook, USA), who illustrated the complexity of bioactive sphingolipids, the regulation of their metabolism, their structural specificity, and how this complexity determines some of their functions,

Yusuf Hannun discussed complexity of bioactive sphingolipids

Session 2: "*Intracellular Lipid Trafficking*". Chair – Horacio Garda (La Plata, Argentina)

Kentaro Hanada (Japan) initiated this session with an elegant description of lipid-transfer proteins with particular emphasis given to CERT, the ceramide transfer protein. Dr. Hanada reviewed the biochemistry, cell biology and molecular architecture of CERT and ended describing how its phosphorylation on two distinct sites can regulate CERT in concert as a response to cellular requirements of sphingomyelin or sphingolipids. **Antonella De Matteis** (Naples, Italy) followed this up with a review in which she presented evidence that homeostatic control system of PtdIns4P at the Golgi complex depends both on FAPP1, one of the first PtdIns4-P-binding proteins identified at the Golgi complex, and the physical integrity of areas of close contact between the Golgi and the ER. **Enrique Politi** (Bahía Blanca, Argentina), gave a short talk describing how the treatment of Müller glial cells that are potentially stem cells, with docosahexaenoic acid plus spingosine-1-phosphate enhance the survival of the photoreceptor neurons generated from the stem cells in culture. These invited talks were followed by a short communication by **Joost Brandsma** (United Kingdom), showing the lipid ´fingerprints´ that are characteristic of the different phenotypes of asthma that can be useful in future drug development. Data were obtained through the lipidomics platform UBIOPRED project combined with ´omics from other platforms and extensive clinical information.



Antonella De Matteis

Session 3: "Lipid Metabolism and Signalling". Chair – Mario Guido (Córdoba, Argentina).

Suzanne Jackowski (St. Jude Children Res Hospital, Memphis, USA) get this session off to a great start with her detailed outline of the complexities of phosphatidylethanolamine biosynthesis studied by selectively inactivating the CDP-ethanolamine pathway in mouse hepatocytes and skeletal muscle. **Lina Obeid** (Stony Brook, NY, USA) then took the audience through a fascinating insight into the role and regulation of the sphingosine kinases/sphingosine-1-P pathway in cancer and on how targeting either one or the other iso sphingosine kinases could be beneficial for controlling growth in tumors with dysregulated tumor suppressor pathways or in EGF-mediated cell invasion. **Benjamin Nichols** (Cambridge, UK) then gave a short talk describing how flotillin proteins are recruitment sites for sphingosine within membranes thus maintaining subcellular pools of sphingosine for the formation of the signaling molecule sphingosine-1-P formation. Next, **Gabriela Salvador** (Bahía Blanca, Argentina), gave another short talk providing evidence that the oligomeric amyloid β peptide triggers the activation of phosphoinositide signalling that results in subsequent activation of neuroprotective mechanisms. The session ended with the presentation of two short communications, the first by **Mark Mahadeo** (Calgary, Canada) who discussed the use of Langmuir monolayers in conjunction with Brewster Angle microscopy to

Lina Obeid discusses tumor growth regulation by sphingosine kinases

study the organization of membrane domains in eukaryotic systems. Finally, **David Majerowicz** (Rio do Janeiro, Brazil) discussed the use of an insect, *Rhodnius prolixux*, as an interesting model to study lipogenesis and lipolysis. After coffee, the day´s activities ending with the **PABMB Plenary Lecture** that was delivered by **Nicolás Bazan** (New Orleans, Louisiana, USA) who gave a challenging dissertation on AdipoR1, a novel molecular switch, that independent of its cognate ligand adiponectin, selectively and specifically controls the docosahexaenoyl lipidome in retina pigment epithelial and photoreceptor cells. The Lecture was chaired by Marta Aveldaño, a former collaborator of Dr. Bazan.

Session 4: Non-Mammalian Lipid Metabolism". Chair – Diego De Mendoza (Rosario, Argentina).

This morning session started with a lecture delivered by **Christian Sohlenkamp** (Cuernavaca, Mexico) who made an excellent overview of our current knowledge of the enzymes involved in ornithine lipid synthesis in bacteria and how the presence of these lipids affects membrane properties. **Teymuras Kurzchalia** (Dresden, Germany) made a complete description of the isolation and structural characterization of a novel class of glycosphingolipids from *C. elegans* together with the demonstration of their pivotal role in intracellular sterol trafficking. The next lecture was by **Hugo Gramajo** (Rosario, Argentina) who discussed how mycobacteria exert an exquisite control over the biosynthesis of their membrane lipids. He also showed the identification of two transcriptional regulators that participate in the regulatory network that controls the biosynthesis of fatty acid and mycolic acid, one of the most important lipids of the mycobacteria outer membrane. The last lecture of the session was by **Charles Rock** (St. Jude Children Res Hospital, Memphis, USA) who discussed the role of fatty acid phosphorylation by the fatty acid kinases to produce acyl-phosphate for the incorporation of exogenous fatty acids into phospholipids. Data show the essential role of fatty acid kinases for the incorporation of host fatty acids by Gram-positive pathogens and for the regulation of virulence factor the transcription in *Staphylococcus aureus*. This excellent session ended with the presentation of two short communications, the first by **Emilio Saita** (Rosario, Argentina) who proposed a mechanism for signal sensing and transduction mediated by the thermosensor histidine kinase DesK from *Bacillus subtilis*. The last short communication was by **Makoto Ito** (Kyushu University, Japan) who discussed sterylglucoside metabolism in *Saccharomyces cerevisiae* and their association with vacuole formation. The rest of the day, all participants picked up a lunch box and went for a visit of the Iguazú Falls at the National Iguazú Park on the Argentinian side of the falls.

Christian Solenkamp discusses ornithine lipid synthesis

Teymuras Kurzchalia describes novel C. elegans glycosphingolipids

Charles Rock talks bacterial fatty acids

All the participants hopped into the train that took them to the Iguazú Falls

The boat took participants well into the falls and refreshed them with its spray on a very hot day.

Session 5: *"Chemistry and physic of Lipids I & II"*. Chairs – Betina Córsico (La Plata, Argentina) and Marta Aveldaño (Bahía Blanca, Argentina).

The session was opened by **Francisco Barrantes** (Buenos Aires, Argentina) who gave a plenary lecture outlining the influence of lipids such as cholesterol on the supramolecular organization, dynamics, and trafficking of neuronal and muscle-type nicotinic acetylcholine receptors. The next lecture was by **Richard Proia** (NIH, Bethesda, USA) who discussed the usefullness of genetically modified mice to map sphingolipid-mediated signalling pathways and the identification of temporal signaling activity in inflammatory disease models. The following talk was by **J Peter Slotte** (Turku, Findland) who gave an interesting presentation on the role and importance of hydrogen bonding for the stabilization of the interaction of sphingomyelins with cholesterol and bilayer proteins. There was also an interesting short talk by **Ana Ves-Losada** (La Plata, Argentina) on the metabolism of nuclear lipid droplets and their role on the homeostasis of nuclear lipids. The first part of the session finished with a short communication by **Gwendolyn Barceló-Coblijn** (Palma, Spain) who described the lipid composition and distribution across human colonoscopic biopsis determined by mass-spectrometry-based imaging techniques. After a coffee break, the session continued with the presentation by **Edgar Kooijman** (Kent, Ohio) who highlighted the crucial funtions of DGPP and DGPP-binding proteins during the stress response in plants. **Yuki Nakamura** (Taipei, Taiwan) the EMBO Young Investigator Lecturer presented novel data on the modulation of flowering time by the binding of phosphatidylcholine to FLOWERING LOCUS T protein, a long range signal that initiates flowering. Finally, **Dov Lichtenberg** (Tel Aviv, Israel) made a critical appraisal of the use of the term "oxidative stress" and its application as a criterion to implement antioxidant supplementation.

Session 6: *"Protein Lipidation"*. Chair - José Luis Daniotti (Córdoba, Argentina).

The session started with a main presentation from **Maurine Linder** (Ithaca, USA) who discussed the emerging biomedical importance of members of the protein acyltransferases, the catalytic mechanism of these proteins and their regulation in diseases such as Huntington Disease and cancer. Next there was a short lecture from **Javier Valdez-Taubas** (Córdoba, Argentina) who, by means of mutational analyses of yeast S-acyltransferases, proposed a model for the structure of catalytically relevant domains within the enzyme. The session was completed by the presenation of three oral communications that were selected from the abstracts. The first communication was from **Joachim Fuellekrug** (Heidelberg, Germany) who discussed the hypothesis that the subcellular localization of specific long chain fatty acid acyl-CoA synthetases is relevant for the determination of the channeling of fatty acids. **Elena Posse de Chaves** (Alberta, Canada) talked about the importance of protein prenylation for autophagy as i.e. in Alzeimer´s disease, autophagic defects are due, at least in part, to inhibition of protein prenylation. In the final short talk of this session, **Maurizio Crestani** (Milano, Italy) presented his work showing that the selective inhibition of class I histone deacetylases improves obese and diabetic phenotypes in a genetic model of type 2 diabetes suggesting a central role for deacetylases in adipose tissue physiology, by reprogramming adipocyte fate.

Maurine Linder highlights the importance of protein acyl transferases in diseases

Session 7: "Lipid and Disease". Chair María Gonzalez-Baró (La Plata, Argentina).

After a coffee break, the final session of the afternoon started with the plenary lecture from **Kohey Yuyama** (Hokkaido, Japan) who showed that neuronal exosomes that are abundant in glycosphingolipids contribute to the clearance of the amyloid-ß peptide (Aß). As these exosomes act as potent scavengers for Aß, he hypothesized that the exogenous administration of exosomes or the up-regulation of endogenous ones could be a novel strategy for Alzeimer´s Disease. **Jelske Van der Veen** (Edmonton, Canada) by using genetically modified mice, then showed the importance of hepatic phosphatidylethanolamine N-methyltransferase as a


Jelske Van der Veen

potential therapeutic target for the treatment of diabetes and obesity. **Jean-Marie Ruysschaert** (Brussels, Belgium) showed that by designing cationic liposomes, it is possible to control their capacity to activate pathways that result pro-apoptotic or pro-inflammatory upon the association of these liposomes to human or plant cells. The session closed with the presentation of three oral communications selected from the abstracts. The first talk from **Ana Racca** (Córdoba, Argentina) discussed the possibility of using peptides derived from the lipid activating proteins c-Fos and Fra-1, as dominant negative peptides to treat breast cancer cells without affecting normal breast cells. The following oral communication was given by **Mónica Pickholz** (Buenos Aires, Argentina) whom, using computer simulations, highlighted how encapsulation of antimigraine drugs such as Sumatriptan, into poloxamer micelles can improve their therapeutic efficacy. The afternoon session ended with the excellent presentation by **Gabor Tigy** (Tennessee, USA) discussing the efficacy of LPA2 agonists that are effective to protect against radiation-induced cell death.

Session 8: "Lipid and Membrane Dynamics". Chair-Gerardo Fidelio (Córdoba, Argentina).

The session was initiated by an challenging conference by **Felix Goñi** (Bilbao, Spain) who proposed a novel form of plots called "temperature-solubilization diagrams" to evidence the origin of the resistance of certain membranes to detergent solubilization. Next, **Massimo Aureli** (Milan, Italy) discussed the importance of the composition of plasma membrane sphingolipids for the regulation of plasma membrane-mediated cell signaling. The quality of the talks continued, with a presentation by **László Vigh** (Szeged, Hungary) on how specific interactions between stress proteins and membrane lipids can control major attributes of the membrane such as curvature or fluidity and hence, the generation of stress signals. The session was rounded off by two short lectures by **Ernesto Ambroggio** and **Natalia Wilke** (both from Córdoba, Argentina). Ernesto discussed how membrane physics such as lipid packing and membrane curvature dictates the rules for lipid/protein interactions and/or protein sorting whereas Natalia discussed the determinants of the size and density of domains in membrane monolayers and their effect on membrane dynamics.

After a short break for coffee, the Closing Lecture for the conference, the EMBO Keynote Lecture, was given by **Kai Simons** (Dresden, Germany) who took the audience through a fascinating insight into how the sub-compartmentalization of cell membranes is driven by phase separation showing as a prime example, how this process drives the surface polarization of epithelial cells. J. Peter Slotte chaired the conference.

J.Peter Slotte chairs the Closing Lecture

EMBO Lecturer Kai Simons gives an excellent closing lecture

Prizes:

Oral Communication Prize Winner: Ana Racca (National University of Córdoba, Argentina).
Poster Prize Winners: Cesar Prucca (National University of Córdoba, Argentina – 1st Prize); Bruno Santacreu (National University of Buenos Aires, Argentina – 2nd Prize).

***Sponsors**:*

The organizers of the 56th ICBL would like to extend a huge thank you to our sponsors whose generous support ensured the success of the conference:
Gold Sponsors – Avanti Polar Lipids Inc; EMBO
Silver Sponsors – Ministerio de Ciencia, Tecnología e Innovación Productiva, FONCyT; BBA – Molecular and Cell Biology of Lipids; IBRO – International Brain Research Organization; PABMB – Panamerican Association for Biochemistry and Molecular Biology; Chemistry and Physics of Lipids; JBC/Herb Tabor Young Investigator Award Program.
Bronze Sponsors – BioAnalítica; Facultad de Ciencias Químicas, Universidad Nacional de Córdoba.

Beatriz Caputto
On behalf of the Organizing Committee of the 56th ICBL

The Poster Awards of the 56th ICBL
"Biochemistry, Biophysics and Transport of Lipids in Health & Disease"

The winners of the traditional *Poster Awards* were announced at the conference dinner. Members of the 2015 Poster Award Jury were: Laszlo Vigh (Chairman; Hungary), José Luis Daniotti (Argentina), Gerardo Fidelio (Argentina), Cherry Wainwright (Scotland), Makoto Ito (Japan), Gabor Jozeph Tigyi (USA) and Edgar Kooijman (USA). From the 50 posters submitted, 26 were eligible as finalists by the Poster Award Jury who closely inspected the posters during the Conference poster sessions. Criteria for selecting the top posters were the relevance of the topic, originality of the subject, the quality of the presentation, the visual appearance, and discussions with the presenter. The 56th ICBL two Poster Award prizes were sponsored by Chemistry and Physics of Lipids. The winners of the Poster Award: **Cesar Prucca** (National University of Córdoba, Argentina – 1st Prize) and, **Bruno Santacreu** (National University of Buenos Aires, Argentina – 2nd Prize). The abstracts of the two winning posters are shown below and prizes were presented by Edgar Kooijman (as the member of Editorial Board of Chemistry and Physics of Lipids). The ICBL community is proud of the high quality of the posters presented at the Puerto Iguazú meeting and congratulates the winners.

Laszlo Vigh
Vice President of ICBL

The winners of the Poster Award: **Cesar Prucca** (National University of Córdoba, Argentina – 1st Prize) and, **Bruno Santacreu** (National University of Buenos Aires, Argentina – 2nd Prize).


Edgar Koojiman announces the Poster Prize Winners Cesar Prucca and Bruno Santacreu

N-terminal portion of c-Fos as a negative dominant of phospholipid synthesis activation: a new target for glioblastomas.

César G. Prucca, Fabiola N. Velazquez, Andrés Cardozo-Gizzi and Beatriz L. Caputto
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Glioblastomas are one of the most aggressive types of brain cancer. Newly diagnosed patients with this type of tumors have poor prognosis and a short survival period of ~1 year. The current therapeutic scheme for their treatment consists in reductive surgery followed by radio and chemotherapy. The search for novel strategies and new targets for the treatment of these tumors is very important. Previous results from our laboratory indicate that c-Fos, a well-known AP-1 transcription factor; is highly expressed in this type of tumors of the central nervous system contrasting with the low or absence of its expression in normal tissue. Moreover, it was reported that c-Fos is able to activate phospholipid metabolism by activating key enzymes of their pathway of synthesis. Based on these

observations we decided to exploit these properties as a new target for these tumors. We tested deletion mutants of c-Fos as negative dominants to block its action as an activator of lipids synthesis. The overexpression of NA (aa 1-138), a deletion mutant of c-Fos, interferes in the interaction between c-Fos and one of the enzymes of the metabolism of phospholipid (PI4KIIα) and is able to inhibit the proliferation of human glioblastoma cells (T98G) *in vitro*. In addition, we tested different portions of the NA domain and the results suggest that the interaction of c-Fos with PI4KIIα involves the first 90 amino acids of this domain; the overexpression of two peptides containing this portion diminishes proliferation of T98G cells. The above-mentioned results suggest that the disruption of the phospholipid synthesis activation by c-Fos constitutes a good target for the development of therapeutic strategies for the treatment of this highly malignant tumor.

Sphingosine-1-phosphate maintains tissue homeostasis in differentiated epithelial cells

Bruno J. Santacreu Udovin, LD, Favale, NO and Sterin-Speziale, NB
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Sphingosine 1-Phophate (S1P) is a sphingolipid mediator involved in cellular fate that acts both extracellularly as ligand for cell surface receptors (S1PR) and intracellularly as second messenger. We have demonstrated that hypertonicity induces epithelial cell differentiation which depends on changes in sphingolipid metabolism. Epithelial cell differentiation requires a specific intracellular organization as well as the correct monolayer formation. This process requires an adequate removing of apoptotic cells followed by a rapid closes of empty spaces, thus preserving tissue permeability and integrity. This physiological process is known as cell extrusion and was linked with S1P cellular effects. So, we studied the involvement of sphingosine kinase (SK) activity in MDCK cell differentiation and monolayer architecture preservation. For this, confluent MDCK cells were subjected to hypertonic medium in the presence or absence of SK inhibitors (SKi II or L-threo-dihydrosphingosine). After 48 h, cell phenotype and monolayer architecture were visualized by fluorescence microscopy, evaluating actin cytoskeleton organization and adherens junction formation. By performing a confocal z-plane reconstruction we visualized extruding cells and found that the inhibition of SK evoked an alteration of efficient cell extrusion. This effect was reverted by exogenous S1P. Concomitantly, the inhibition of SK induced an increase in the expression of $S1PR_2$ with a clear plasma membrane distribution. These results suggest that extracellular S1P, by the interaction with $S1PR_2$ could be involved in tissue homeostasis modulating of the correct cell extrusion.

The 56th ICBL Young Investigator Award

The final session of the ICBL meeting was capped off with the presentation of the ***Young Investigator Award***, which was judged by Norma Sterin-Speziale (Chair; Argentina), J. Peter Slotte (Finland), Maurizio Crestani (Italy), Diego de Mendoza (Argentina) and Hugo Maccioni. The Young Investigator Award winner this year was **Ana C. Racca** (National University of Córdoba, Argentina).

George Carman gives Ana Racca the Tabor Award for Oral Communications

Norma Sterin-Speziale
Chair, Young Investigator Awards evaluation committee

Cytoplasmic Fra-1 and c-Fos: potential targets for specific breast cancer therapy

Ana C. Racca, Prucca CG, Caputto BL.
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Breast cancer is the most common cancer in women worldwide and is increasing particularly in developing countries where the majority of cases are diagnosed at late stages. Low survival rates in less developed countries can be partially explained by the lack of early detection programs. Consequently, the development of new therapies to eliminate established tumors is essential. Tumor cells require a high rate of phospholipid synthesis to support high rates of membrane biogenesis necessary for their exacerbated growth. We previously demonstrated that Fra-1 and c-Fos activate phospholipid synthesis sustaining proliferation in breast tumor tissues. These proteins are highly expressed in breast tumors contrasting with their undetectable levels in normal breast tissue. c-Fos activates particular enzymes of the pathway of synthesis of phospholipids at the endoplasmic reticulum, by physically interacting with them. Fra-1 is highly homologous to key domains of c-Fos, which allows us to propose a shared mechanism for phospholipid synthesis activation. Herein, we demonstrate examining *in vitro* enzymatic reactions that Fra-1, like c-Fos, activates the CDP-diacylglycerol synthase (CDS) in a dose dependent manner in MDA-MB-231 cells. Neither c-Fos nor Fra-1 affects phosphatidylinositol synthase activity. Similar experiments performed with deletion mutants indicate that CDS activation is mediated by the basic domain of Fra-1. Moreover, FRET experiments revealed that Fra-1 binds to the enzyme it activates through its N-terminal domain, as occurs with c-Fos.Preliminary results show that the physical association between Fra-1´s N-terminal domain with the enzyme it activates can act as a negative dominant peptide that to prevents breast tumor cell proliferation. These results highlight cytoplasmic Fra-1 and c-Fos as potential targets for a novel breast cancer therapy by inhibition of phospholipid synthesis. As no Fra-1 or c-Fos expression is observed in non-tumor breast cells, this type of therapy should not affect normal breast cells.

News from the Steering Committee

At the ICBL in 2015, which took place in Puerto Iguazú, Argentina, the ICBL Steering Committee for the upcoming year (2016) a new ordinary member was elected.
Professor **Laszlo Vigh**, formerly Vice President of ICBL Steerring Committee was elected President and Professor **Peter Slotte** after finishing his term stepped down as President and became an Advisory Member. Professor **Dennis Vance** from the Department of Biochemistry at the University of Alberta Edmonton, who organized the 2012 ICBL meeting in Banf, Canada, will step down and will be replaced by professor **Beatriz Caputto** (National University of Córdoba). Beatriz organized the 56th ICBL in Puerto Iguazú, Argentina. We thank Dennis for his long service to the ICBL over the years. **Rudi Zechner** from the Institute of Molecular Biosciences, Karl Franzens Universität Graz replaced **Banafshe Larijani** (IKERBASQUE, Basque Foundation for Science Bilbao, Spain). Professor **Christian Wolfrum**, currently Public Relations Officer, was nominated Vice President of the ICBL. We welcome Beatriz and Rudi to the Steering Committee and look forward to fruitful collaboration.


Laszlo Vigh


Peter Slotte


Guenther Daum


Christian Wolfrum


Dennis Vance


Beatriz Caputto


Rudi Zechner


Banafshe Larijani

No other changes to the Steering Committee was made during the Aberdeen meeting. The members of the Steering Committee can be found here.

Laszlo Vigh
President of the ICBL

The 57th International Conference on the Bioscience of Lipids
"Lipidomics: from Structures to Functions"
September 4-8, 2016
Chamonix - Mont Blanc, France

View of Chamonix

Early bird registration deadline: June 15, 2016

Preliminary program of the 57th ICBL

Sunday, September 4, 2016
19th Laurens Van Deenen Lecture: Charles N. Serhan (Boston)
Monday, September 5, 2016
Session 1: Membrane lipids
Session 2: Plasma lipoproteins (co-organized with NSFA)
Tuesday, September 6, 2016
Session 3: Lipolytic enzymes
Session 4: Oxygenated metabolism of PUFA
Wednesday, September 7, 2016
Session 5: Non-enzymatic lipid oxidation
Excursion
Conference Dinner and Award Ceremony
Thursday, September 8, 2016
Session 6: Lipid structures of nutritional interest
Session 7: Lipid Imaging
Presentation of 2017 ICBL Zurich, Switzerland: Christian Wolfrum
Closing Ceremony

Last update: May 31, 2016

Venue

Chamonix - Mont Blanc, France

The conference will be hosted at the congress center LE MAJESTIC. The Chamonix valley is located in the heart of the Alps, on the Italian and Swiss boarders 88 km from the international airport of Geneva, 220 km from Lyon (airport and train station). A very good road access makes Chamonix the easiest alpine resort to reach in Europe

Chair: Michel Lagarde, co-chairs: Nathalie Bernoud-Hubac & Marie-Caroline Michalski

Scientific committee

Nathalie Bernoud-Hubac (Lyon)
Catherine Calzada (Lyon)
Frédéric Carrière (Marseille)
Thierry Durand (Montpellier)
Agnès Girard-Egrot (Lyon)
Toshihide Kobayashi (Lyon/Tokyo)
Marie-Caroline Michalski (Lyon)

Address for correspondence

For any information about the 57th ICBL please contact ICBL Conference Secretariat.
e-mail: Evelyne ROUDIER (evelyne.roudier@chamonix.com), tel: +33 450 53 75 50
Conference web site: http://icbl.chamonix.com.

FUTURE CONFERENCE
58th International Conference on the Bioscience of Lipids
"Lipid signaling in Health and Disease"
10th-14th September 2017
Zurich, Switzerland

View of Zurich

View of Zurich(River Limmat)

Venue: Zurich, Switzerland
The conference will be hosted at the Swiss Federal Institute of Technology (ETH)

Chairs: Christian Wolfrum, Arnold von Eckardstein and Thorsten Hornemann

Preliminary Scientific Program
20th Laurens Van Deenen Lecture: to be announced
Sphingolipids
Sterols + Bile acids
Lipid protein interactions and lipid sorting
Enabling Technologies
Fatty acids and their derivatives
Microorganisms and immunity

Address for correspondence
For information about the 58th ICBL please contact ICBL Conference Secretariat - e-mail: icbl-2017@ethz.ch

Maurizio Crestani
Secretary of ICBL Steering Committee

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