

3rd International Conference on Phospholipases A₂ and Lipid Mediators

Wednesday, May 9th, 2007

13:00 – 18:00 **Registration of Participants**

18:00 – 18:30 **Welcome Address**

E.A. Dennis (*La Jolla, CA, USA*)

S. Nigam (*Berlin, Germany*)

K. Waku (*Kanagawa, Japan*)

M. Triggiani (*Naples, Italy*)

18:30 – 19:15

Opening Lecture

Introduction: G. Marone (*Naples, Italy*)

K.F. Austen (*Boston, MA, USA*)

Innate and adaptive immune functions of the cysteinyl leukotrienes

19:15

Get-Together-Reception

3rd International Conference on Phospholipases A₂ and Lipid Mediators

Thursday, May 10th, 2007

08:30 – 09:55 **Memorial Symposium Simonetta Nicosia**
Chairs: K.F. Austen (*Boston, MA, USA*), **G. Folco** (*Milan, Italy*)

08:30 – 08:40 **Introduction: K.F. Austen** (*Boston, MA, USA*)

08:40 – 09:05 **S.E. Dahlén** (*Stockholm, Sweden*)

09:05 – 09:30 **R.C. Murphy** (*Aurora, CO, USA*)
Studies of leukotriene transcellular biosynthesis in knock-out mouse neutrophils

09:30 – 09:55 **G.E. Rovati** (*Milan, Italy*)
Cross-talk between human CYSLT and P2Y receptors and the pathway to a new common receptor implicated in brain ischemia

09:55 – 10:15 **Coffee Break**

10:15 – 10:45 **Key Lecture**

10:15 – 10:45 **E.A. Dennis** (*La Jolla, CA, USA*)
Integrated understanding of phospholipase A₂ structure, regulation and function resulting from lipid maps eicosanoid lipidomics

Thursday, May 10th, 2007

SESSION 1: sPLA₂S

Chairs:

J.P. Arm (*Boston, MA, USA*)

T.J. Nevalainen (*Turku, Finland*)

10:50 – 13:10

10:50 – 10:55 Introduction by chairmen

10:55 – 11:20 **M.H. Gelb** (*Seattle, WA, USA*)

11:20 – 11:45 **M. Murakami** (*Tokyo, Japan*)
Transgenic and knock-out mice for group V, X and III sPLA₂S

11:45 – 12:10 **G. Lambeau** (*Valbonne, France*)
sPLA₂ and sPLA₂ receptors: some pieces for the puzzle

12:10 – 12:25 **J.D. Bell** (*Provo, UT, USA*)
Mechanism by which apoptotic membranes become susceptible to secretory PLA₂

12:25 – 12:40 **G. Faure** (*Paris, France*)
A surface plasmon resonance study to characterize the neurotoxic and the anticoagulant mechanism of action of PLA₂ from *Viperidae* venom

12:40 – 12:55 **K. Yamamoto** (*Tokyo, Japan*)
Analyses of abnormal skin in group X secretory PLA₂ transgenic mice

12:55 – 13:10 **M.C. Monti** (*Salerno, Italy*)
Molecular basis of human group IIA PLA₂ inhibition by marine natural products

13:10 – 15:00 Buffet Lunch & Poster Viewing

Thursday, May 10th, 2007

SESSION 2: Metabolism and Functions of PAF

Chairs:

F.H. Chilton (*Winston Salem, NC, USA*)

E. Ninio (*Paris, France*)

10:50 – 13:05

10:50 – 10:55 Introduction by chairmen

10:55 – 11:20 **G.A. Zimmerman** (*Salt Lake City, UT, USA*)
Evolving roles for PAF signaling in inflammation and thrombosis

11:20 – 11:45 **M.L. Balestrieri** (*Naples, Italy*)
Transacetylase activity of PAF-acetylhydrolase

11:45 – 12:10 **Y. Hirashima** (*Kanagawa, Japan*)
Neuroprotective role of transgenic PAF-acetylhydrolase II in mouse models of focal cerebral ischemia

12:10 – 12:35 **H. Narahara** (*Oita, Japan*)
The role of PAF in term and preterm delivery

12:35 – 12:50 **S.A.L. Bennet** (*Ottawa, Canada*)
Activation of the G-protein coupled PAF receptor as a result of enhanced synthesis of hexadecyl-PAF inhibits differentiation to a peripheral neuronal phenotype

12:50 – 13:05 **T. Dohi** (*Hiroshima, Japan*)
PAF induces tactile allodynia by disinhibition of glycinergic control through glutamate-cGMP cascade in mouse spinal cord

13:10 – 15:00 Buffet Lunch & Poster Viewing

Thursday, May 10th, 2007

SESSION 3: cPLA₂ and iPLA₂

Chairs:

E.A. Dennis (*La Jolla, CA, USA*)

M.H. Gelb (*Seattle, WA, USA*)

15:00 – 17:15

15:00 – 15:05 Introduction by chairmen

15:05 – 15:30 **A. Yamashita** (*Kanagawa, Japan*)

Lysophospholipase and transacylase actions of human group IVC PLA₂ (cPLA₂γ)

15:30 – 15:55 **W.C. Chang** (*Tainan, Taiwan*)

Nucleolin regulates c-JUN/Sp1-dependent transcriptional activation of cPLA₂ in phorbol ester-treated non-small cell lung cancer A549 cells

15:55 – 16:20 **J. Turk** (*St. Louis, MO, USA*)

Phenotypic properties of mice that do not express group VIA PLA₂ (iPLA₂β)

16:20 – 16:45 **Z.A. Ma** (*New York, NY, USA*)

Inhibition of group VIA Ca²⁺-independent PLA₂ induces phosphorylation of p53 by activating ATR kinase

16:45 – 17:00 **R. Levy** (*Beer Sheva, Israel*)

The cytosolic PLA₂ is anchored to the assembled NADPH oxidase upon stimulation by the cytosolic oxidase subunit P47^{phox}

17:00 – 17:15 **M. Kolko** (*Copenhagen, Denmark*)

Group VIA Ca²⁺-independent PLA₂: possible pharmaceutical target in retinal diseases involving retinal pigment epithelium proliferation and migration

17:15 – 17:30 Coffee Break

Thursday, May 10th, 2007

SESSION 4: Lysophosphatidic acid and Lysophospholipids

Chairs:

J.A. Boyce (*Boston, MA, USA*)

K. Waku (*Kanagawa, Japan*)

15:00 – 17:00

15:00 – 15:05 Introduction by chairmen

15:05 – 15:30 **G. Tigyi** (*Memphis, TN, USA*)

Cyclic phosphatidic acid is a novel second messenger and negative regulator of the nuclear hormone receptor PPAR γ

15:30 – 15:55 **A. Tokumura** (*Tokushima, Japan*)

Physiological and pathophysiological roles of lysophosphatidic acid produced by lysophospholipase D in the reproductive system

15:55 – 16:20 **J. Aoki** (*Tokyo, Japan*)

Autotaxin stabilizes blood vessels and is required for embryonic vasculature by producing lysophosphatidic acid

16:20 – 16:45 **J. Chun** (*La Jolla, CA, USA*)

New biological functions for lysophospholipids

16:45 – 17:00 **J. Morishige** (*Tokushima, Japan*)

Lysophosphatidic acid produced by lysophospholipase D in hen EGG white is relevant to blood vessel formation on chorioallantoic membrane

17:15 – 17:30 Coffee Break

Thursday, May 10th, 2007

SESSION 5: Eicosanoids I

Chairs:

G.E. Rovati (*Milan, Italy*)

A. Yamashita (*Kanagawa, Japan*)

17:30 – 19:15

17:30 – 17:35 Introduction by chairmen

17:35 – 18:00 **J.A. Boyce** (*Boston, MA, USA*)

An interplay of eicosanoids orchestrating mast cell functions

18:00 – 18:25 **T. Yokomizo** (*Fukuoka, Japan*)

Leukotriene B₄ receptors

18:25 – 18:50 **K. Watanabe** (*Yamaguchi, Japan*)

Structure and function of membrane-associated prostaglandin E synthase-2

18:50 – 19:15 **Y. Nakatani** (*Tokyo, Japan*)

Knock-out mice lacking cPGES/p23, a constitutively-expressed PGE₂ synthetic enzyme, is peri-natally lethal

20:00

Serata Napoletana Dinner

Thursday, May 10th, 2007

SESSION 6: Sphingolipids

Chairs:

J. Chun (*La Jolla, CA, USA*)

G. Tigyi (*Memphis, TN, USA*)

17:30 – 19:15

17:30 – 17:35 Introduction by chairmen

17:35 – 18:00 **Y. Takuwa** (*Ishikawa, Japan*)

Transgenic overexpression of sphingosine kinase 1a in mice provokes cardiac fibrosis but not increased spontaneous malignancy

18:00 – 18:25 **Y. Igarashi** (*Sapporo, Japan*)

Identification of sensing-signaling system of membrane lipid asymmetry relating to sphingolipid translocase

18:25 – 18:50 **G. Cirino** (*Naples, Italy*)

Sphingosine-1-phosphate/sphingosine kinase pathway is involved in mouse airway hyper-responsiveness

18:50 – 19:15 **R. De Palma** (*Naples, Italy*)

Sphingosine-1-phosphate affects the priming of antigen-specific immune response by dendritic cells

20:00

Serata Napoletana Dinner

3rd International Conference on Phospholipases A₂ and Lipid Mediators

Friday, May 11th, 2007

09:00 – 10:00 Key Lectures

09:00 – 09:30 **R. Mechoulam** (*Jerusalem, Israel*)
The endocannabinoid system - a personal overview

09:30 – 10:00 **T. Shimizu** (*Tokyo, Japan*)
Cloning and chracterization of acetylCoA:lysoPAF acetyltransferase genes

10:00 – 10:20 Coffee Break

Friday, May 11th, 2007

SESSION 7: sPLA₂s and Immunity

Chairs:

W.R. Henderson, Jr. (*Seattle, WA, USA*)

S. Yedgar (*Jersusalem, Israel*)

10:20 – 13:05

10:20 – 10:25 Introduction by chairmen

10:25 – 10:50 **S. Nigam** (*Berlin, Germany*)

Host-pathogen interaction in candidiasis: interplay between candidal and host cell PLA₂ in pleiotropic expression of genes and enhanced pathogenicity

10:50 – 11:15 **N. Agabian** (*San Francisco, CA, USA*)

11:15 – 11:40 **J.P. Arm** (*Boston, MA, USA*)

Regulation of the innate immune response by group V secretory PLA₂

11:40 – 12:05 **L. Touqui** (*Paris, France*)

Subversion of pulmonary host defence by *Bacillus anthracis*, the agent of Anthrax, through the modulation of type-IIA secreted PLA₂ expression

12:05 – 12:20 **K. Lähdesmäki** (*Helsinki, Finland*)

Acid pH enhances lypolysis of small VLDL, IDL and LDL lipoproteins by human group V secretory PLA₂ and enhances lipoprotein binding to human aortic proteoglycans

12:20 – 12:35 **S.A. Karabina** (*Paris, France*)

Profiling of macrophage gene expression in response to LDL particles modified by human group X secreted PLA₂

12:35 – 12:50 **K.F. Scott** (*Seattle, WA, USA*)

Activity-dependent and -independent function of group IIA PLA₂ in rheumatoid synovial cells

12:50 – 13:05 **J.R. Andreasen** (*Copenhagen, Denmark*)

Human secretory PLA₂, group IB induces phagocytosis of photoreceptor outer segments by the retinal pigment epithelium

13:05 – 14:10 Buffet Lunch & Poster Viewing

Friday, May 11th, 2007

SESSION 8: Endocannabinoids

Chairs:

V. Di Marzo (*Pozzuoli, Italy*)

R. Mechoulam (*Jerusalem, Israel*)

10:20 – 13:00

10:20 – 10:25 Introduction by chairmen

10:25 – 10:50 **N. Ueda** (*Kagawa, Japan*)
Enzymes responsible for the biosynthesis of the endocannabinoid anandamide

10:50 – 11:15 **C.C. Felder** (*Indianapolis, IN, USA*)

11:15 – 11:40 **A. Tataranni** (*Bridgewater, NJ, USA*)
The role of rimonabant, a CB1 receptor antagonist, in the treatment of obesity and associated cardiometabolic risk factors

11:40 – 12:05 **T. Sugiura** (*Kanagawa, Japan*)
Pathophysiological roles of 2-arachidonoylglycerol and the cannabinoid CB2 receptor in inflammation

12:05 – 12:30 **M. Bifulco** (*Salerno, Italy*)
Endocannabinoid system as emerging target for cancer therapeutics

12:30 – 12:45 **S. Maione** (*Naples, Italy*)
N-arachidonoyl-serotonin, a dual FAAH inhibitor and TRPV1 antagonist: mechanisms of analgesic actions in formalin-treated rats and mice

12:45 – 13:00 **H. Moriuchi** (*Yamaguchi, Japan*)
Molecular characterization of a new type prostaglandin/prostamide F synthase

13:05 – 14:10 Buffet Lunch & Poster Viewing

Friday, May 11th, 2007

SESSION 9: PAF Acetylhydrolase

Chairs:

M.L. Balestrieri (*Naples, Italy*)

G.A. Zimmerman (*Salt Lake City, UT, USA*)

14:10 – 16:00

14:10 – 14:15 Introduction by chairmen

14:15 – 14:40 **E. Ninio** (*Paris, France*)

Plasma PAF-acetylhydrolase enigma: what can we learn from comparative genetics?

14:40 – 15:05 **H. Arai** (*Tokyo, Japan*)

Essential role of intracellular type II PAF-acetylhydrolase in epithelial cell formation

15:05 – 15:30 **K. Karasawa** (*Kanagawa, Japan*)

Accumulation of oxidized phosphatidylcholines in the LDL
from the human subjects with plasma-type PAF-acetylhydrolase deficiency

15:30 – 15:45 **B.J. Bahnson** (*Newark, DE, USA*)

Structure of human plasma PAF acetylhydrolase at 1.4 Å resolution

15:45 – 16:00 **D.C. Tsoukatos** (*Ioannina, Greece*)

PAF-acetyltransferase and transacylase activities in human arteries

16:00 – 16:20 Coffee Break

Friday, May 11th, 2007

SESSION 10: PLA₂s and Brain Injury I

Chairs:

G. Goracci (*Perugia, Italy*)

C.H. Macphee (*King of Prussia, PA, USA*)

14:10 – 15:55

14:10 – 14:15 Introduction by chairmen

14:15 – 14:40 **O. Rossetto** (*Padova, Italy*)

Snake PLA₂ neurotoxins, membrane bending and exo-endocytosis

14:40 – 15:05 **L.A. Horrocks** (*Columbus, CO, USA*)

PLA₂s in neurological disorders

15:05 – 15:30 **I. Krizaj** (*Ljubljana, Slovenia*)

The presynaptic neurotoxicity of PLA₂s

15:30 – 15:55 **M. Arioka** (*Tokyo, Japan*)

Neurotrophic effects of secretory PLA₂ and lysophospholipids

16:00 – 16:20 Coffee Break

Friday, May 11th, 2007

SESSION 11: sPLA₂S and Inflammation and Remodelling

Chairs:

G. Lambeau (*Valbonne, France*)

M. Murakami (*Tokyo, Japan*)

16:20 – 18:35

16:20 – 16:25 Introduction by chairmen

16:25 – 16:50 **H. Kuwata** (*Tokyo, Japan*)

Mechanisms of group IIA secretory PLA₂ expression in cytokine-stimulated rat fibroblasts

16:50 – 17:15 **W.R. Henderson, Jr.** (*Seattle, WA, USA*)

Importance of group X secreted PLA₂ in allergen-induced airway inflammation and remodelling in a mouse asthma model

17:15 – 17:40 **M. Triggiani** (*Naples, Italy*)

Secretory PLA₂S induce the production of proangiogenic factors from human lung macrophages

17:40 – 18:05 **S. Yedgar** (*Jerusalem, Israel*)

GAG-conjugated sPLA₂ inhibitors: a multi-functional approach to treatment of inflammatory/allergic diseases

18:05 – 18:20 **M.C. Seeds** (*Winston Salem, NC, USA*)

Priming of cytosolic PLA₂ and acetyl-CoA-independent transacylase in blood eosinophils in asthma: potential regulation of cell survival

18:20 – 18:35 **E. Regan-Klapisz** (*Utrecht, The Netherlands*)

Possible role of Golgi-associated cPLA₂ α in the formation of endothelial tight junctions

20:00

Social Event

Friday, May 11th, 2007

SESSION 12: Bioactive Fatty Acid Amides

Chairs:

S. Nigam (*Berlin, Germany*)

N. Ueda (*Kagawa, Japan*)

16:20 – 18:25

16:20 – 16:25 Introduction by chairmen

16:25 – 16:50 **V. Di Marzo** (*Pozzuoli, Italy*)
Bioactive fatty acid amides: an “iceberg” of new lipid mediators,
of which only the “tip” has been discovered

16:50 – 17:15 **J.M. Walker** (*Bloomington, IN, USA*)
Endocannabinoids and related novel lipid modulators of pain

17:15 – 17:40 **D.F. Woodward** (*Irvine, CA, USA*)

17:40 – 17:55 **B. Costa** (*Milan, Italy*)
Therapeutic effect of the endogenous fatty acid amide,
palmitoylethanolamide, in a mouse model of neuropathic pain

17:55 – 18:10 **T. Iuvone** (*Naples, Italy*)
Protective role of aliamides and endocannabinoid system during
 λ -carrageenin-induced granuloma formation

18:10 – 18:25 **J.W. Wang** (*Irvine, CA, USA*)
Second generation prostamide antagonists (AGN 211334-6)

20:00

Social Event

Saturday, May 12th, 2007

SESSION 13: Eicosanoids II

Chairs:

R.C. Murphy (*Aurora, CO, USA*)

K. Watanabe (*Yamaguchi, Japan*)

08:30 – 09:50

08:30 – 08:35 Introduction by chairmen

08:35 – 09:00 **C. Patrono** (*Rome, Italy*)
Cardiovascular read-outs of selective COX-isozyme inhibition

09:00 – 09:25 **Y. Kita** (*Tokyo, Japan*)
Pathway-oriented profiling of lipid mediators

09:25 – 09:50 **Y. Sugimoto** (*Kyoto, Japan*)
Prostanoid receptors in reproduction

09:50 – 10:10 Coffee Break

Saturday, May 12th, 2007

SESSION 14: PLA₂s and Brain Injury II

Chairs:

H. Arai (*Tokyo, Japan*)

W.C. Chang (*Tainan, Taiwan*)

08:30 – 09:50

08:30 – 08:35 Introduction by chairmen

08:35 – 09:00 **N.G. Bazan** (*New Orleans, LA, USA*)
Neuroprotective docosanoids in the response to injury and
to neurodegenerative diseases

09:00 – 09:25 **G. Goracci** (*Perugia, Italy*)
Secretory PLA₂ in the nuclei of neural cells

09:25 – 09:50 **G.Y. Sun** (*Columbia, MO, USA*)
PLA₂s in oxidative and inflammatory responses in Alzheimer's disease

09:50 – 10:10 Coffee Break

Saturday, May 12th, 2007

SESSION 15: Phospholipids and Lipid Mediators in Diseases

Chairs:

T. Sugiura (*Kanagawa, Japan*)

J. Turk (*St. Louis, MO, USA*)

10:10 – 12:50

10:10 – 10:15 Introduction by chairmen

10:15 – 10:40 **F.H. Chilton** (*Winston Salem, NC, USA*)

10:40 – 11:05 **G. Camussi** (*Turin, Italy*)
Role of PAF in tumor growth and vascularization

11:05 – 11:30 **J. Frostegard** (*Stockholm, Sweden*)
The role of phospholipids as antigens in cardiovascular disease and atherosclerosis

11:30 – 11:55 **H. Itabe** (*Tokyo, Japan*)
Induction of intracellular lipid droplet proteins by lipids in pathological conditions

11:55 – 12:20 **M. Hughes-Fulford** (*San Francisco, CA, USA*)
Induction of cPLA₂ in prostate cancer by ω -6 fatty acids

12:20 – 12:35 **S. Mariggio** (*Naples, Italy*)
RET-induced cell transformation promotes cytosolic PLA₂ IV α -dependent cell growth

12:35 – 12:50 **P.R. Devchand** (*Boston, MA, USA*)
Appreciating related routes to preventative medicine

12:50 – 13:10 Closing Remarks

Saturday, May 12th, 2007

SESSION 16: Oxidized Phospholipids

Chairs:

Y. Kita (*Tokyo, Japan*)

M. Triggiani (*Naples, Italy*)

10:10 – 12:15

10:10 – 10:15 Introduction by chairmen

10:15 – 10:40 **A.D. Postle** (*Southampton, UK*)
The molecular specificities of oxidized phospholipids

10:40 – 11:05 **C.H. Macphee** (*King of Prussia, PA, USA*)

11:05 – 11:30 **T. Izumi** (*Gunma, Japan*)
Oxidized free fatty acid-G2A signaling mediates alarm signal under oxidative stress

11:30 – 11:45 **P.J. Ojala** (*Helsinki, Finland*)
Transcriptomics metaanalysis of the LPC-scavenging orosomucoid
(α -1 acid glycoprotein)

11:45– 12:00 **F. Darios** (*Cambridge, UK*)
 ω -3 and ω -6 polyunsaturated fatty acids released by PLA₂ stimulate
neurite outgrowth by acting on syntaxin 3

12:00 – 12:15 **T. Petan** (*Ljubljana, Slovenia*)
Enzymatic activity restored in ammodytin I, an inactive PLA₂ homologue,
increases its toxic and membrane damaging activities

12:50 – 13:10 Closing Remarks