

International Congress on Biogenic Amines: Biological and Clinical Perspectives

Program



[Wednesday, October 17, 2007]

Opening Lectures

Chairpersons: U. Bachrach (Israel) , E. Agostinelli (Italy)

K. Igarashi (University of Chiba, Japan):

Levels of protein-conjugated acrolein, interleukin-6 and C-reactive protein predict silent brain infarction with high probability.

C. W. Porter (Roswell Park Cancer Institute, Buffalo, USA) :

Spermidine/spermine N¹-acetyltransferase as a possible effector of fat homeostasis.

L. Alhonen (University of Kuopio, Finland):

Phenotypic characteristics associated with genetic alteration of polyamine metabolism.



[ThursFriday, October 18, 2007]

Session 1: BIOLOGICAL ROLES OF POLYAMINES

Chairpersons: P. M. Woster (USA), J. Jänne (Finland)

M.H. Park (National Institutes of Health, USA):

Mutational analyses of human eIF5A-1: identification of amino acid residues critical for hypusine modification and eIF5A activity.

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S. Valentini (Sao Paulo State University, Brazil):

eIF5A genetic interactions link translation and secretion in yeast.

J.Y. Wang (University of Maryland Baltimore, USA):

Polyamines and early primary response genes in gastrointestinal mucosal repair after injury.

L.R. Johnson (University of Tennessee Memphis, USA):

Apoptosis of intestinal epithelial cells is regulated through a polyamine binding site on Src.

U. Bachrach (Hebrew University, Israel):

Prevention of cancer by green tea: role of polyamines.

N. Bagni (University of Bologna, Italy):

Alteration of polyamine metabolism during kiwifruit pollen germination due to bis (guanyldrazones).

T. Oshima (Institute of Environmental Microbiology, Kyowa Kako Co., Japan):

Polyamines in thermophiles. Apoptosis of intestinal epithelial cells is regulated through a polyamine binding site on Src.

Session 2: TRANSPORT AND METABOLISM OF POLYAMINES

Chairpersons: **J. P. Moulinoux (France), T. Oshima (Japan)**

A. E. Pegg (Pennsylvania State University, USA):

Spermine synthase and spermine: the neglected segment of polyamine metabolism.

C. Kahana (Weizmann Institute of Science, Israel):

Structural insights into antizyme inhibitors; characterization of structural features that affect its cellular behaviour and function.

J.L.A. Mitchell (Northern Illinois University, USA):

Roles of antizyme and antizyme inhibitor in abnormal growth of human tumor cells.

R. Peñafiel (University of Murcia, Spain):

Influence of antizyme inhibitor 2 (AZIN2/ODCp) on polyamine uptake by mammalian cells.



[Friday, October 19, 2007]

Session 2 (2^a part): *TRANSPORT AND METABOLISM OF POLYAMINES*

Chairpersons: **L. Alhonen (Finland), O. Heby (Sweden)**

E. W. Gerner (University of Arizona, USA):

Enhancement of polyamine transport by an activated K-RAS oncogene in human colon tumor-derived cells.

Y.G. Assaraf (Weizmann Institute of Science, Israel):

Novel extracellular vesicles mediate an ABCG2-dependent anti-cancer drug sequestration and multidrug resistance.

S.C. Minocha (University of New Hampshire, USA):

Global impact of genetic manipulation of cellular putrescine on the transcriptome.

M. A. Phillips (Southwestern Medical Center, Dallas, USA):

Regulation of polyamine biosynthesis in trypanosome parasites.

C. J. Bacchi (Pace University, New York, USA):

Polyamine-based drug development for parasitic diseases caused by protozoa.

A. Kaiser (University of Bonn, Germany):

The guanylhydrazone CNI-1493, an inhibitor of cytokine release with antimalarial activity.

F. Sanchez-Jimenez (University of Malaga, Spain):

Towards a more integrated view of the amine metabolism.



[Saturday, October 20, 2007]

**Session 3: PATHOPHYSIOLOGICAL FUNCTIONS OF POLYAMINES:
CLINICAL ASPECTS**

Chairpersons: **K. Igarashi (Japan), E. W. Gerner (USA)**

F.L. Meyskens (University of California, Orange, USA)

Marked efficacy of difluoromethylornithine (DFMO) plus sulindac in reducing recurrent colorectal adenomas in patients with prior adenomas: results of a randomized, placebo-controlled double-blind trial.

B. Cipolla (CH Privé Saint Grégoire, Rennes, France):

*Prognostic value of erythrocyte polyamine determination
in renal cell carcinoma.*

E. Agostinelli (Rome University “Sapienza”, Italy):

Polyamine enzymatic oxidation products and lysosomotropic compounds in cancer therapy.

Session 4: POLYAMINES IN CELL GROWTH AND DIFFERENTIATION

Chairpersons: **C. W. Porter (USA), C. Kahana (Israel)**

J. Jänne (University of Kuopio, Finland):

Cellular functions of the polyamines as studied with optically active α -methylated derivatives of spermidine and spermine.

A. J. Michael (Institute of Food Research, Norwich, UK):

Excess polyamines antagonise growth and elicit a broad oxidative stress response independently of the polyamine oxidase PAO1 in Arabidopsis cells.

Session 5: POLYAMINES AND DIET

Chairpersons: **A. J. Michael (UK), J. L. A. Mitchell (USA)**

J. P. Moulinoux (University of Rennes 1, France):

Polyamine deficient diet to relieve pain.

A.K. Mattoo (Agricultural Research Center, Beltsville, USA):

Polyamines resuscitate metabolic memory and upregulate anabolism-related genes in transgenic tomato fruit.

Session 6: POLYAMINES AND TRANSGLUTAMINASES

Chairpersons: **A. Abbruzzese (Italy), M. H. Park (USA)**

M. Griffin (Aston University, UK):

Nitric oxide may be an important regulator of TG2 activity in the extracellular environment by mediating its dual role as matrix crosslinker and cell surface adhesion protein.

D. Serafini-Fracassini (University of Bologna, Italy):

Transglutaminases and reproduction: possible roles of pollen transglutaminases in incompatibility phenomena.

R. Ientile (University of Messina, Italy):

Homocysteine-induced TG2 expression is associated with NF- κ B pathway in neuroblastoma cells.

A. Campisi (University of Catania, Italy):

Bioenergetic function in brain kindled mouse. possible involvement of tissue transglutaminase.

W. A. Fogel (University of Lodz, Poland):

Feeding behaviour in rats with portocaval anastomosis.



[Sunday, October 21, 2007]

Session 7: POLYAMINES DERIVATIVES AND ANALOGUES AS THERAPEUTIC AGENTS

Chairperson: **M.A. Phillips (USA), I. S. Blagbrough (UK)**

M.P.M. Marques (University of Coimbra, Portugal):

Rational design of polyamine-based anticancer agents: changing the ligand and the metal centre.

D.A. Averill-Bates (Université du Québec á Montreal, Canada):

Activation of signalling cascades by acrolein, a spermine-derived aldehyde.

F. Flamigni (University of Bologna, Italy):

Effect of N^1, N^{11} -diethylnorspermine on cell survival and susceptibility to apoptosis of human chondrocytes.

M. Caraglia (Naples University, Italy):

Bovine serum amine oxidase and spermine potentiate the inhibition of growth induced by Docetaxel in human epidermoid cancer (KB) cells.

Chairperson: **A. E. Pegg (USA), E. Agostinelli (Italy)**

F. Raul (University of Strasbourg, France):

Potential of apple procyanidin-triggered apoptosis by the PAO inhibitor MDL 72527 in human colon cancer-derived metastatic SW620 cells.

P. M. Woster (Wayne State University, Detroit, USA):

Development of polyamine-based analogues as potential therapeutic agents.

J. Satriano (University of California San Diego, USA):

Evaluating the antiproliferative effects of agmatine, a polyamine analog.

I. S. Blagbrough (University of Bath, UK):

Lipopolyamines for the efficient delivery of siRNA.