BIOGENIC AMINES

COST 922: HEALTH IMPLICATIONS OF DIETARY AMINES

PROGRAM

[SATURDAY, May 22]

Wellcome by H. M. Wallace and E. Agostinelli

OPENING LECTURES
Chairperson: E. Agostinelli

A. E. Pegg, Y. Ikeguchi, X. Wang, D. E. McCloskey, L. M. Shantz, C. Schwarts (USA)
Synthesis and function of spermine

D. E. Edmondson, C. Binda, M. Li, F. Hubalek, A. Mattevi (USA and Pavia)
Structural insights into the mechanism of amine oxidation by the mitochondrial monoamine oxidases

[SUNDAY, May 23]

Amines and amine oxidases
Chairpersons: C. M. Caldarera, A. Toninello

P. Pietrangeli, B. Mondovi (Rome)
Are amine oxidases inhibitors or promoters of tumours?

K. Sanchez-Jimenez, J. L. Urdiales, A. A. Moya-Garcia (Spain)
Biocomputational approaches to search "Achiles' heels" of amine metabolism

E. Agostinelli, L. Dalla Vedova, F. Belli, A. Calcabrini, M. Marra, P. Crateri, L. Toccacieli, A. Molinari, G. Arancia (Rome)
Spermine enzymatic oxidation products induce mitochondrial modifications on human cancer cells overexpressing P-glycoprotein, at 37 and 42 ℃

H. Tomitori, T. Usui, N. Saeki, K. Nishimura, K. Kashiwagi, S. Ueda, K. Igarashi (Japan)
Increase in amine oxidase and acrolein in plasma of brain stroke patients

Transport and metabolism of polyamines
Chairpersons: L. Persson, K. Igarashi

R. Casero, Y. Wang, T. Murray-Stewart, A. Hacker, Y. Wang, J. Greelaw, A. V. Fraser, B. Frydman, P. Woster (USA)
Regulation of polyamine catabolism: Roles in polyamine homeostasis and antitumor drug response

M. Salvi, S. Bedino, m. Mancon, S. Colombatto, M. A. Grillo, A. Toninello (Padova and Torino)
Agmatine transport in liver mitochoncria

L. Persson, L. Thiman, S. Nasizadeh (Sweden)
Rapid turnover of polyamine biosynthetic enzymes in the trypanosomatid Crithidia fasciculata

J. Satriano (USA)
Agmatine preferentiallyarrests proliferation of transformed vs non-transformed cells in culture

T. Uemura, Y. Tomonari, K. Kashiwagi, K. Igarashi (Japan)
Uptake of GABA and putrescine by UGA4 on the vacuolar membrane in Saccharomyces cerevisiae

Amines and diet
Chairpersons: F. Bauer, I. A. Pryme

I. A. Pryme (Norway)
Polyamines, diet and cancer

S. Aichberger, **T. M. Weiger** (Austria)
Polyamines in humans

N. Bagni, P. Accettulli, A. Tassoni (Bologna)
Free and conjugates polyamine content in organic and conventionally cultured fruits of different Citrus sinensis cultivars

C. C. Balamatsia, K. I. Rogga, E. K. Paleologos, G. M. Kontominas, **I. N. Savvaidis** (Greece)
Correlation between microbial flora and biogenic amines in fresh chicken meat stored aerobically or under modified atmosphere packaging at 4 ℃: possible role of biogenic amines as spoilage indicators

G. Saccani, E. Tanzi, G. Parolari (Parma)
Decarboxylase activity and dietary amine levels in dry-cured meat products. Effect of technology to control amine development

[MONDAY, May 24]

Role of polyamines: I part
Chairperson: H. M. Wallace, N. Seiler

U. Bachrach (Israel)
Polyamines and cancer

E. Gerner (USA)
Polyamine metabolic gene expression as prognostic and predictive factors in intestinal cancer prevention

R. G. Schipper, V. J. M. I. Cuijpers, R. A. De Abreu, B. P. van den Heuvel, A. A. J. Verhofstad (NL)
Polyamines and DNA methylation

J.-G. Delcros, N. Rioux-Leclercq, J.-Y. Bansard, J.-P. Moulinoux (France)
Immunohistochemical analysis of tumor polyamines discriminates high risk patients undergoing nephrectomy for renal cell carcinoma

R. Penafel, C. M. Bastida, A. J. Lopez-Contreras, C. Lopez-Garcia, M. T. Castells, A. Cremades (Spain)
Ornithine decarboxylase and related proteins in steroidogenic tissues

Role of polyamines: II part
Chairperson: U. Bachrach, B. Mondovi

T. Yamashita, K. Nishimura, K. Fujiwara, K. Kashiwagi, **K. Igarashi** (Japan)
Role of polyamines at G_1 and G_2/M phases of cell cycle

A. Facchini, R. M. Borzi, K. B. Marcu, C. Stefanelli, C. Guarnieri, C. M. Calderera, F. Flamigni (Bologna)
α-difluoromethylornithine inhibits NF-κB binding to DNA and interleukin-8 production in human chondrocytes stimulated by tumor necrosis factor-α

T. Oshima, M. Ohnuma, M. Nagai, Y. Terui (Japan)
A unique pathway for polyamine biosynthesis in an extreme thermophile, Thermus thermophilus

K. Kashiwagi, I. Tanaka, M. Tamura, H. Sugiyama, T. Okawara, M. Otsuka, T. N. Sabado, K. Williams, K. Igarashi (Japan and USA)
Anthraquinone polyamines: novel channel blockers of NMDA receptors

K. Nishimura, T. Yamashita, K. Kashiwagi, K. Igarashi (Japan)
Role of polyamines for the cell growth in mouse Amd1 gene-disrupted embryonic stem cells

Poster Discussion
Coordinators: N. Bagni, R. Ientile

E. Amodeo, C. Colombatto, C. Cravanzola, S. P. Solinas (Torino)

Cystamine inhibits ODC activity and induces apoptotic death in rat hepatoma cells

A. Baltusnikiene, A. Salaseviciene, G. Garmiene (Lithuanina)
Determination of dietary amines in raw fish

M. Dudkowska, T. Jaworski, M. Manteuffel-Cymborowska, B. Gizelakowska-Szabert (Poland)
Do transcription factors C-Myc and AR participate in the negative regulation of renal ODC expression?

W. A. Fogel, W. Wagner, K. Sasiak, A. Stasiak, (Poland)
The effect of antihistaminics on reparative processes following experimental ulcerative colitis in rats

M. P. M. Marques, A. M. Amado, S. M. Fiuza, E. Pereira, L. A. E. Batista, de Carvalho, (Portugal)
Polyamine Pt(II) complexes as new anticancer drugs: a structure-activity study

G. Marverti, A. Logabue, M. G. Monti, S. Bettuzzi, A. Caporali, D. D'Arca, M. S. Moruzzi (Modena)
Spermidine/spermine N1-acetyltransferase transient overexpression increases sensitivity of resistant human ovarian cancer cells to N1, N12-bis(ethyl)spermine and cisplatin

A. L. Stroia, G. Mencinicopschi (Romania)
Contributions to the study of biogenic amines evolution during storing of some food products

B. Tantini, E. Fiumana, C. Pignatti, A. Facchini, C. Muscari, F. Bonavita, C. Stefanelli, C. Guarnieri, F. Flamigni, C. M. Caldarera (Bologna)
Involvement of polyamines in ischemia-induced apoptosis of serum deprived H9c2 cardiomyoblasts

A. Tassoni, P. Accettulli, G. Tasco, R. Casadio, N. Bagni (Bologna)

Cloning of S-adenosylmethionine decarboxylase cDNA from Vitis vinifera L. Leaves

S. Eerola, T. Ritvanen (Finland)
Determination of biogenic amines in different foods: collaborative study

V. M. J. I. Cuijpers, R. G. Schipper, L. de Groot, A. A. J. Verhofstad (NL)
Immunocytochemical intracellular localization and 3D visualization of ornithine decarboxylase and antizyme-1

[TUESDAY, May 25]

COST 922 MC Meeting

Inhibitors as therapeutic agents
Chairpersons: A. E. Pegg, R. Casero

N. Seiler (France)
Some pharmacological aspects of polyamine derivatives and analogues

H. Wallace, N. Watson, S. Williams-Spinks, C. M. McDougall, P. M. Woster, A. V. Fraser
Polyamine analogues: inducers of apoptosis and/or senescence?

A. R. Khomutov, A. R. Simonian (Russia)
Novel charge-deficient analogues of agmatine and spermine

[WEDNESDAY, May 26]

Meetings of the Italian Group "Biogenic amines"

Polyamines and transglutaminase
Chairpersons: M. Griffin, S. Beninati

M. Griffin, T. S. Johnson, R. Jones, Z. Hau, M. Fisher, J. L. Haylor, I. Coutts, R. Saint, A. M. El Nahas (UK)
Inhibition of transglutaminase leads to a reduction of renal scarring in the rat 5/6 subtotal nephrectomy model

A. Campisi, M. Curro', G. Li Volti, D. Caccamo, P. Ruggeri, G. Parisi, G. Raciti, R. Avola, A. Vanella, **R. Ientile** (Messina and Catania)
Tissue transglutaminase and glutamate-induced oxidative stress in cultured astroglial cells

A. Lentini, A. La Becca, B. Provenzano, F. Ramazzotti, S. Beninati (Rome)
Role of transglutaminase and polyamine oxidase in the proliferative control of murine B16-F10 and human SKMEL-110 melanoma cells

M. Della Mea, D. Caparros-Ruiz, I. Claparols, D. Serafini-Fracassini, J. Rigau (Bologna and Spain)
AtPng1p: first cloing and characterization of a plant transglutaminase

A. Di Sandro, S. Del Duca, E. Verderio Eswards, A. Hargreaves, S. Hirose, Y. Furutani, M. Griffin, P. Bonner, D. Serafini-Fracassini (Bologna and UK and Japan)
A novel extracellular transglutaminase activity regulates the germination of Malus domestica pollen