

*6<sup>th</sup> International Conference on  
Mechanisms of Antimutagenesis  
and Anticarcinogenesis*

*Arcachon, France, 25-29 October 1998*

**Sunday 25<sup>th</sup>**

17h00 Registration  
18h00 Welcome meeting  
19h00 Opening lecture

**Monday 26<sup>th</sup>**

**Mechanistic Approaches**

9h30 Coffee-break  
10h00 Session 1, Inhibition of DNA Damage  
12h00 Lunch  
14h00 Session 1, Inhibition of Later Stages of Carcinogenesis  
15h30 Poster session and coffee-break  
16h30 Session 2, Modulation of Phases I and II  
19h00 Get together party — Jazz band + oyster party.

*20:00*  
**Tuesday 27<sup>th</sup>**

**Dietary Antimutagens and Anticarcinogens**

9h00 Session 3, Phytochemicals  
10h30 Poster session and coffee-break  
11h30 Session 3, Phytochemicals  
12h30 Lunch  
14h30 Departure to Saint Emilion —

**Wednesday 28<sup>th</sup>**

**Dietary Antimutagens and Anticarcinogens**

9h00 Session 4, Lactic Acid Bacteria  
10h00 Poster Session and coffee-break  
11h00 Session 4, Micronutrients  
12h00 Lunch  
14h00 Session 5, Dietary Fibers  
16h15 Poster Session and coffee-break  
16h45 Session 5, Dietary Fibers  
20h30 Session 6, New Methodologies

**Thursday 29<sup>th</sup>**

**Sun Exposure**

9h30 Session 7, Consequences and Prevention  
10h45 Coffee-break  
11h00 Session 7, Consequences and Prevention  
12h00 Closure  
12h30 Lunch

The committee wishes to express its gratitude to the following organisations for their generous financial support of the 6<sup>th</sup> International Conference on Mechanistic of Antimutagenesis and Anticarcinogenesis  
(in alphabetical order)

**ADEC Tox**

**CIVB**

**Conseil Interprofessionnel du Vin  
de Bordeaux**

**Conseil Régional d'Aquitaine**

**Groupe Danone**

**Harlan France**

**Institut des Sciences et Techniques  
des Aliments de Bordeaux**

**Kellogg's**

**Université Bordeaux 1**

**Vitagermine**

Local Organization :

Pr. Jean-François Narbonne, Pr. Pierrette Cassand, Laboratory of Food Toxicology,  
University Bordeaux 1, Avenue des Facultés, 33405 Talence, France

Information Congres : Marianne Foeillet, Palais des Congres, 33120 Arcachon,

Topic: "Cancer as a Disease of Aging; Prevention Possibilities."  
for SEP.

**Opening Lecture**  
by  
**John H. Weisburger (USA)**

J.F. Markome  
Intro.

Germany now has a national program of research on "functional foods" and prevention.

**ANTIMUTAGENS, ANTICARCINOGENS AND EFFECTIVE  
WORLD WIDE CANCER PREVENTION**

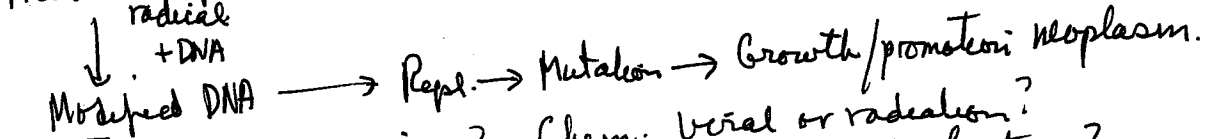
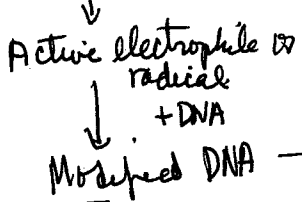
Ref. to Hussain +  
Harris

John H. Weisburger

Cancer is many diseases. Sixty years ago - occupational cancer life style is the major cause today. Was a major killer - now minimal. Oxidation of LDL Cholesterol is a major cause of heart disease.

"Genotoxic procarcinogen"

Prevention of the activation of carcinogens is critical!



What is the carcinogen? Chem, viral or radiation?

- " " " nature of promotion/enhancing factors?
- " " " amount of exposure to each agent.
- " " " possibility for inhibiting action of these agents?

Not all animal carcinogens are human carcinogens. Modern definition: Human carcinogens induce cancer at high frequency in several diff. species with a short latent period.

Carcinogen modified DNA can only be repaired prior to the next round of DNA replication.  
Relationship (strong) between smoking & lung cancer.  
" " " between gastric cancer & salting/nitrate treating - (e.g. salt/pickled fish) declined since refrigeration available

Eat more vegetables & fruits, less broiled, salted/nitrated foods - cooking hamburgers, etc. at over 150°C produced TRPZ, etc.  
"Maillard - Browning" reactions - improves flavor, odor, etc. also produces carcinogens

Prevention of disease

- adding 10% soy protects, green tea antioxidants also. Olive oil does not function as a promoter. Safflower oils, etc. do. Ca<sup>++</sup> intake helps to lower colon cancer. Also vegetable consumption

**Session 1 : MECHANISTIC APPROACHES**

**Inhibition of DNA Damage and Repair  
Inhibition of Later Stages of Carcinogenesis**

**Chairmen : James Gentile and Jean-François Narbonne**

**Oral Communications**

- 10:00 Mechanisms of action of selected antimutagens against the mutagenic action of antitumor agents,  
Gentile JM and Ferguson L.
- 11:00 Inhibition of advanced stages of carcinogenesis,  
De Flora S, D'Agostini F, Balansky R, Giunciuglio D and Albin A.
- 11:30 Sulforaphane inhibits inducible nitric oxide synthase (iNOS) and cyclooxygenase2 (Cox-2) expression in murine macrophages,  
Elke H and Gerhäuser C.
- 2:00 Enzymatic Repair of Mutagenic ethenoadducts in DNA. J. Laval and M. Sponner, Villejuif, France.

**Posters**

- 1-1 The protective activity of  $\alpha$ -hederin against  $H_2O_2$  induced DNA damage in HEPG2 cell line and hypothesis of action mechanisms,  
Mba Gachou C, Guiraud H, Laget M, De Méo M and Duménil G.
- 1-2 Antimutagenic effects of *DINB003* mutant against wild type *DINB*, which can enhance untargeted mutagenesis in *Escherichia coli*,  
Masami Yamada, Su-Ryang Kim, Gruz Petr and Takehiko Nohmi.
- 1-3 Mutation spectrum induced by ethylating agents in DNA repair-deficient strains of *E.coli*,  
Takahashi Kazuhiko, Kato Hiroaki and Kato Chiharu.
- 1-4 Bioantioxidant factor in mechanism of antimutagen determination of plants adaptation potential,  
Mekhti-Zadeh E.
- 1-5 Correction of the different stages of mutagenesis by extracts of *Zizyphus mill* and *Triticum aestivum*,  
Aliyev A, Dashdamirova I, Alekperov U, Salmanova S and Shammedov R.
- 1-6 New antimutagens from *Olea europa* and *Fagus orientalis*,  
Agabeyli RA.

**Session2 : MECHANISTIC APPROACHES**

**Modulation of Phases I and II**

**Chairmen : Evelyne Lhoste and Gary Williamson**

**Oral Communications**

- 2:30 Protective effects of *Crassostera gigas* extracts from oxidative stress *in vitro* and *in vivo*,  
Tapiero H, Gaté L, Nguyen Ba G and Tew K.
- 2:40 Induction of phase II enzymes by dietary glucosinolates and phenolics,  
Williamson G.
- 3:50 Selective increase of potential anticarcinogen 4-methylsulphinylbutyl  
glucosinolate in broccoli,  
Faulkner K, Mithen R and Williamson G.
- 4:15 Glutathione and associated enzymes in drug and stress response,  
Tew KD.

**Posters**

- 2-1 Liver subcellular fractions from sulfur compounds-treated rats inhibit mutagenicity of carcinogens : emphasis on phase II enzymes involvement,  
Guyonnet D, Le-Bon AM, Belloir C and Suschetet M.
- 2-2 Tissue-specific modulation of glutathione S-transferase by organosulfur compounds in the rat,  
Guyonnet D, Siess MH, Le-Bon AM and Suschetet M.
- 2-3 Liver and intestinal xenobiotic-metabolizing enzymes are induced by the fermentation of dietary lactulose (dulphalac) in rats monoassociated with *Clostridium paratrificum*,  
Malecki H, Lhoste E.F, Andrieux C, Magdalou J, Kristen MO and Nugon-Baudon L.
- 2-4 Effect of tryptophan pyrolysate on oxidative stress and antioxydant enzymes in livers of aflatoxine B<sub>1</sub> initiated rats,  
Pélissier MA, Rialland E, Ngaleu-Monkam A, Attéba S, Rabache M and Albrecht R.
- 2-5 Three different glucosinolate extraction methods from brussels sprout and cabbache did not significantly affect the induction of the phase II anticarcinogenic enzyme, quinone reductase,  
Basten G and Williamson G.
- 2-6 Anticancer compounds in watercress *Rorripa aquaticum officinale*,  
Rose P, Williamson G and Mithen R.

Coffee  
break  
4:30

5:00  
4:50

5:30  
4:40

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**Session 3 : DIETARY ANTIMUTAGENS AND ANTICARCINOGENS**

**Phytochemicals**

**Chairmen : Joseph Vercauteren and Christian Borsch**

**Oral Communications**

9:00 **Inhibitory of beer, wine, sake and brandy on the mutagenesis and DNA-adduct formations induced by several carcinogens,**  
Arimoto-Kobayashi S, Sugiyama C, Harada N, Takeuchi M, Takemura M, Nakandakari N and Hayatsu H.

9:30 **Trans-Resveratrol, a grape vine-derived polyphenol, inhibits hepatocellular carcinoma cell invasion and deactivates liver myofibroblasts *in vitro*,**  
De Lédinghen V, Godichaud S, Krisa S, Guirouilh J, Desmoulière A, Mérillon J.M and Rosenbaum J.

10:00 **Mutagenic and co-mutagenic properties of polyphenols,**  
Habonimana D and De Meester C

11:30 **Influence of Fruit/Vegetable intake and genetic polymorphism catechol-O-methyltransferase on level of DNA-adduction in white blood cells as a bladder cancer risk factor,**  
Malaveille C, Hautefeuille A, Sacerdote C, Peluso M, Davico L, Munia A and Vineis P.

12:00 **Antimutagenic/antioxydant activity of green tea components and related compounds,**  
Pillai SP, Menon SR, Mitscher LA, and Shankel DM.

**Posters**

3-1 **The concentration of gallic acid in human plasma and urine after black tea consumption,**  
Borsch C, Netzel M, Shahrzad S, Winter A and Bitsch I.

3-2 **Antimutagenic components in beer against 2-chloro-4-methylthiobutanoic acid, the sanma-fish mutagen,**  
Kimura S, Hayatsu H and Arimoto-Kobayashi S.

3-3 **Antimutagenic activity of isoflavones from soybean seeds (*Glycine max* Merrill),**  
Miyazawa M, Sakano K, Nakamura Sei-ichi and Kosaka H.

3-4 **Antimutagenicity of tochu tea (an aqueous extract of *Eucommia ulmoides* leaves),**  
Nakamura T, Nakazawa Y, Izumiyama F, Soda M, Onizuka S and Sasaki Yu F.

3-5 **Appearance of anthocyanins in human urine following ingestion of blackcurrant juice,**  
Netzel M, Janssen M, Bitsch I and Bitsch R.

3-6 **Antigenotoxic properties of *Terminalia Arjuna* bark extracts,**  
Scassellati-Sforzolini G, Villarini M, Moretti M, Mascarelli M, Pasquini R, Fatigoni C, Kaur SJ, Kumar S and Grover IS.

3-7 **Desmutagenic and Bio-antimutagenic effects of extracts from Japanese miso in *Salmonella* assay,**  
Yoshikawa K, Sakai T, Terashita T.

3-8 **Study of the DNA protective capacities of some constituents of cognacs by using the '3D test' (Damaged DNA Detection),**  
Chaugier C, Bugaret D, Bozzato C, Raynaud JF and Li RY.

10:30-11:30

12:30 lunch - Mtg. 2:30 Depart to St. Emilion

**Session 4 : DIETARY ANTIMUTAGENS AND ANTICARCINOGENS**

**Lactic Acid Bacteria  
Micronutrients**

**Chairmen : Denis Corpet and Giorgio Bronzetti**

**Oral Communications :**

**Lactic acid bacteria, non digestible oligosaccharides and prevention of colon cancer,**

Rowland I.

**Diet and Cancer. The role of microelements and antimutagenicity / anticarcinogenicity of Selenium,**

Bronzetti G, Aretini P, Cini M, Della Croce C, Del Carratore R, Fiorio R, Landi V.

**Antimutagenesis prevents resistance to 5-Fluorouracil,**

Rossmann TG and Goncharova EI.

**Prospects in using terpenoids from sage in cancer prevention,**

Simic D, Knezevic-Vukcevic J, Vukovic-Gacic B, Mitic D and Bronzetti G.

Absent

- See Shinde  
Substitute

**Posters :**

- 4-1 **Endogenous N-nitroso compounds, due to bacon diets, do not initiate or promote aberrant crypts foci in rats,**  
Parnaud G, Taché S, Peiffer G and Corpet DE.
- 4-2 **Dextran sulfate induces via inflammatory process, oxidative DNA damage on rat colonic mucosa,**  
Tardieu D, Embvani E, Corpet DE., Jaeg JP., Taché S and Petit C.
- 4-3 **Water drinking decreases colon carcinogenesis in rats,**  
Parnaud G, Taché S, Peiffer G and Corpet DE.
- 4-4 **Effect of fat-soluble vitamins A and E on the initiation stage of aberrant crypts in rat colon,**  
Tavan E, Mazière S, Meflah K, Narbonne J.F. and Cassand P.
- 4-5 **Antimutagen efficiency of vitamins on mutability induced in mice bone marrow cells by general combined anaesthesia medicines,**  
Mamedova N.R.
- 4-6 **Antimutagenic profile of three antioxidants in the Ames assay and the drosophila wing spot test,**  
Karekar V, Joshi S and Shinde SL.
- 4-7 **Antimutagenic properties of *Morus alba* extract under induction of mutations in *Arabidopsis thaliana* by chemical mutagens,**  
Zeynalova FR, Agabeyli RA and Mirza-Zadeh GG.
- 4-8 **Antimutagen activity of the polyphenol containing plant complex,**  
Guliyeva R.

**Session 5 : DIETARY ANTIMUTAGENS AND ANTICARCINOGENS**

**Dietary Fibres**

**Chairmen : Lynette R Ferguson and Jean Menanteau**

**Oral Communications :**

**Wheat bran protection against cancer : dietary fibre or phytochemicals ?**

Ferguson LR, Kestell P, Harris P, Zhou L and Helsby N.

**Mechanisms by which wheat bran may protect against colon carcinogenesis : the role of butyrate,**

Lupton JR, Turner N.D, Zoran DL, Chang WCL, Hong MY, Zhang J, Wu G, and Chapkin RS.

**Dietary fiber and breast cancer,**

Cohen L.A.

**The prebiotic food ingredients inulin and oligofructose are chemopreventive and reduce the growth of implanted tumour cells in rats,**

Van Loo J.

**Ileal effluent as a fermentation substrate : implications for butyrate production in the colon,**

Robertson J, Ryden P, Botham L and Ring S.

**Posters :**

**5-1 Effect of resistant starch-supplemented diet on the promotion of precursor lesions of colon cancer in rats,**

Mazière S, Champ M, Meflah K, Bornet F, Narbonne JF and Cassand P.

**5-2 Non-digestible carbohydrates interfere with colon cancer in two different animals models,**

Menanteau J, Perrin P, Pierre F, Champ M, Pradal G, Bornet, F and Meflah K.

**Session 6 : DIETARY ANTIMUTAGENS AND ANTICARCINOGENS**

**New Methodologies**

**Chairman : Hikoya Hayatsu**

**Oral Communications :**

8:30 - 8:15 p.

**Methodologies for testing food antimutagens,**  
Hayatsu H, Arimoto-Kobayashi S, Negishi T, Sugiyama C, Hayatsu T, Marczylo TH, Kimura S.

9:05 - 8:55

**Effects of mushroom extracts on cell transformation induced by activated C-H-Ras oncogene,**  
Hsiao WWL, Li YQ., You ML., and Chang HT.

9:30 - 8:55

**Antimutagenic activity of fish oils in cultured mammalian cells,**  
Kuroda Y, Shima N and Kaji K.

10:05 - 9:20

**Dithiocarbamate analogues of sulforaphane : structure activity relationship (SAR) analyses for the identification of novel lead structures in chemoprevention,**  
Herhaus C and Gerhäuser C.

10:25 p.

**Use of the Single Cell Gel Electrophoresis (SCGE) assay for the detection of organ specific antimutagenic effects of 2-amino-3-methyl-imidazo[4,5-f]quinoline : prevention of DNA damage by garden cress (*Lepidium sativum*) and its constituents,**  
Kassie F, Qin H and Knasmüller S.

9:55 -

Finish by 10:20 p.m.

**Posters :**

**6-1 Measure of oxidative DNA damage in tissues and urine as biomarkers of oxidative stress. Possible application for food prevention assesment,**  
Garcin JC, Budzinski H, Cassand P and Narbonne JF.

**6-2 New approaches to prevention of mutations and modifications by compositional antimutagens,**  
Alekperov UK.

**6-3 The COMET assay with mouse multiple organs : results with 200 chemicals evaluated by the IARC and U.S. NTP,**  
Sasaki Yu F, Ueno S and Tsuda S.

**6-4 A set of tester strains for the determination of mutational specificity in *E.coli* WP<sub>2</sub> *uvrA* for the determination of mutational specificity,**  
Watanabe-Akanuma M, Ohta T and Yamagata H.

**6-5 Micellar Electrokinetic Chromatography, a simple and rapid method for analysing the *Monascus* pigment-mediated degradation of mutagenic 3-hydroxyamino-1-methyl-5H-pyrido[4,3-b]indole (Trp-P-2(NHOH)),**  
Watanabe T, Mazumder TK, Yamamoto A, Nagai S, Arimoto-Kobayashi S, Hayatsu H and Terabe S.

**6-6 Regulation of genotoxicity of thermal influence on postethilated wheat sprouts by alpha-tocopherol,**  
Abilov ZK.

**6-7 Fluctuating asymmetry test as a method to assess antimutagens influence upon the genome regulational disorders,**  
Gashimova UF.

9:55 - Add Alekperov. See 6-2

Mie's paper

**Session 7: SUN EXPOSURE**

**Consequences and Prevention**

**Chairmen : Robert C Von Borstel and Jacques Laval**

**Oral Communications :**

**Physiological activities of deoxyribonucleosides,**

Von Borstel RC.

**Sunlight, signalling and cancer,**

Green MHL, Clingen PH, Petit-Frère C, Bentham G, Cole J and Arlett CF.

**Skin damage by solar radiation : Prevention and repair,**

Grigg GW.

**Janus carcinogens,**

Johnson FM and Von Borstel RC.

**Posters :**

**7-1 Mutagenicity of sunlight and its suppression,**

Negishi T, Toyoshima M, Mochizuki M and Takinami S.