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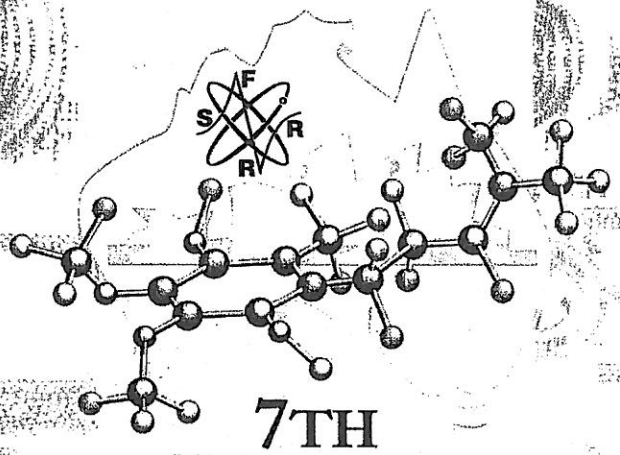
FOR FREE RADICAL RESEARCH



7TH BIENNIAL SCIENTIFIC MEETING

SYDNEY, AUSTRALIA
NOVEMBER 6-10 1994

第二卷第三期
1994年9月

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WELCOME TO ISFRR '94

On behalf of the International Society for Free Radical Research and the Organising Committee of the 7th Biennial Scientific Meeting of the Society, we welcome you to Sydney and this conference.

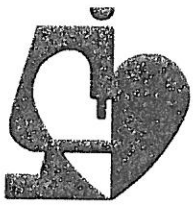
We believe you will find the scientific programme stimulating and provocative, unusual in places, and of the highest quality. We look forward to the mutual exchanges which will result and hope you enjoy the programme.

We are grateful for the corporate support we have received and acknowledge the importance of such participation to the overall success of ISFRR '94 and give special thanks to our sponsors for their commitment.

We welcome you and thank you for your participation and contribution to the success of ISFRR '94.

Roger Dean.

Roger Dean
Chairman, ISFRR '94



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SCIENTIFIC PROGRAMME

Plenary Session (PL)

		Speakers
PL.A	Radicals and Life Style	Bruce Ames
PL.D	Antioxidant Drug Targeting	Anthony Allison
PL.E	Free Radicals and Metal Catalysis	Shosuke Kawanishi
PL.H	Myocardial and Other Ischaemia and/or Reperfusion	David Hearse
PL.I	Oxidative Reactions and Heme Proteins	Paul Ortiz de Montellano
PL.K	Reactive Nitrogen Intermediates	Joseph Beckman
PL.M	Particles and Pollutants	Brooke Mossman
PL.N	DNA and Radicals	Sten Steenken
PL.R	Free Radical Cytotoxicity	Christine Winterbourn
PL.T	Disorders of the CNS and Ageing	Robert Floyd

Conference Dinner Speech

Free Radical Mechanisms in Tissue Injury	Mario Dianzani

Sub-Plenary Session (SP)

SP.A	Radicals and Life Style	Lester Packer
SP.B	Redox-active Protein and Carbohydrate Components	John Baynes
SP.C	Radical and Antioxidant Reactions in Multi-Phase Systems	Keith Ingold
SP.D	Antioxidant Drug Targeting	John Eaton
SP.E	Free Radicals and Metal Catalysis	to be announced
SP.F	Oxidation and Antioxidation in Food	Karen Schaich
SP.G	Radicals/Oxidants and Arachidonic Acid Metabolism	Alvin Chan
SP.H	Myocardial and Other Ischaemia and/or Reperfusion	Gregory Bulkley
SP.I	Oxidative Reactions and Heme Proteins	Tony Kettle
SP.J	Enzymatic Defences against Oxidative Damage	Stefan Marklund
SP.K	Reactive Nitrogen Intermediates	Brad McDonald
SP.L	Atherosclerosis	Wendy Jessup
SP.M	Particles and Pollutants	Ann Aust
SP.O	Oxidative Events in Proliferation and Replication	Nicholas Hunt
SP.N	DNA and Radicals	Nancy Oleinick
SP.P	Inflammation	Masayasu Inoue
SP.Q	Spin Traps in Biomedicine	Michael Davies
SP.S	Oxidants and Gene Expression	Rex Tyrrell
SP.R	Free Radical Cytotoxicity	Sten Orrenius
SP.T	Disorders of the CNS and Ageing	Richard Cutler

Daiichi Lunch Session/Ebselen

01	Ebselen Transport and its LDL-Cholesterylester Hydroperoxide Reducing Activity in Plasma	Helmut Sies
02	Inhibition of Oxidative Modification of LDL by Ebselen	Etsuo Niki
03	Status of Ebselen Development in Stroke	Takao Asano

SCIENTIFIC PROGRAMME

Parallel Session (A-T)

A Radicals and Life Style
B Redox-active Protein and Carbohydrate Components
C Radical and Antioxidant Reactions in Multi-Phase Systems
D Antioxidant Drug Targeting
E Free Radicals and Metal Catalysis
F Oxidation and Antioxidation in Food
G Radicals/Oxidants and Arachidonic Acid Metabolism
H Myocardial and Other Ischaemia and/or Reperfusion
I Oxidative Reactions and Heme Proteins
J Enzymatic Defences against Oxidative Damage
K Reactive Nitrogen Intermediates
L Atherosclerosis
M Particles and Pollutants
N DNA and Radicals
O Oxidative Events in Proliferation and Replication
P Inflammation
Q Spin Traps in Biomedicine
R Free Radical Cytotoxicity
S Oxidants and Gene Expression
T Disorders of the CNS and Ageing

INDEX OF PRESENTERS IN PARALLEL SESSIONS

A01	Lunec, J
A03	Leichsenring, M
A04	Fraga, C G
A05	O'Brien, SF
B01	Schöneich, C
B02	Wolff, SP
B03	Becker, K
B04	Fu, S
B05	Kashimura, N
C01	Mukai, K
C02	Gebicki, JM
C03	Hirota, M
C04	Stegmann, HB
C05	Kontush, A
D01	Leaf, CD
D02	Jaeschke, H
D03	Yamaguchi, T
D04	Schwenke, DC
D05	Ghosh, P
E01	Waeg, G
E02	Allen, DR
E03	Fukuzawa, K
E04	Harris, LR
E05	van Acker, S
F/G01	Asmus, K-D
F/G02	Neuzil, J
F/G03	Croft, KD
F/G04	Nakamura, M
F/G05	Kawakishi, S
H01	Nohl, H
H02	Kalyanaraman, B
H03	Singh, I
H04	Fliss, H
H05	Collis, CS
I01	Heinecke, JW
I02	Chiu, DTY
I03	Grover, TA
I04	Hampton, MB
J01	Carlsson, LM
J02	Grune, T
J03	Comporti, M
J04	Upston, JM
J05	Biewenga, GPh
K01	Richter, C
K02	Wardman, P
K03	Shigenaga, MK
K04	Koppenol, WH
K05	Althaus, JS
L01	Hazell, LJ
L02	Kritharides, L
L03	Iwatsuki, M
L04	Mohr, D
L05	Garner, B
M/O01	Goldstone, SD
M/O02	Rahman, I
M/O03	Gulumian, M
M/O04	van der Vliet, A
M/O05	Pompella, A
N01	Burcham, PC
N02	Kelly, FJ
N03	Christen, S
N04	Poulsen, HE
N05	Robertson, FM
P01	Pereira, AH
P02	Domigan, NM
P03	Blackburn, AC
P04	Leonarduzzi, G
P05	Ehrlich, WG
Q01	Vasquez-Vivar, J
Q02	Mason, RP
Q03	Utsumi, H
Q04	Frimer, AA
Q05	Carmichael, AJ
R01	Reed, DJ
R02	Munday, R
R03	Yamamoto, Y
R04	Toyokuni, S
R05	Beaver, JP
S01	Davies, KJA
S02	Privalle, CT
S03	Parsons, PG
S04	Forman, HJ
S05	Novak, RF
T01	de Haan, JB
T02	Chiueh, CC
T03	Nair, J
T04	Wiswedel, I
T05	Ruuls, S

ISFRR '94 PROVISIONAL SCIENTIFIC PROGRAMME

		Saturday November 5	Sunday November 6		Monday November 7		Tuesday November 8		Wednesday November 9		Thursday November 10	
8.30	Plenary		B Ames	Radicals & Life Style	S Kawanishi	Free Radicals and Metal Catalysis	O deMontellano	Oxidative Reactions and Heme Proteins	B Mossman	Particles and Pollutants	C Winterbourn	Free Radical Cytotoxicity
9.30			A Allison	Antioxidant Drug Targetting	D Hearse	Myocardial and Other Ischaemia and/or Reperfusion	J Beckman	Reactive Nitrogen Intermediates	S Steenken	DNA and Radicals	R Floyd	Disorders of the CNS and Ageing
10.30	Coffee											
11.00	Sub Plenary 1		L Packer	Radicals & Life Style		Free Radicals and Metal Catalysis	T Kettle	Oxidative Reactions and Heme Proteins	A Aust	Particles and Pollutants	M Davies	**Spin Traps in Biomedicine*
11.00	Sub Plenary 2		J Baynes	**Redox-active Protein and Carbohydrate Components*	A Chan	Radicals/Oxidants and Arachidonic Acid Metabolism	B McDonald	**Reactive Nitrogen Intermediates*	N Hunt	Oxidative Events in Proliferation and Replication	R Tyrrell	Oxidants and Gene Expression
11.45	Sub Plenary 3		K Ingold	Radical & Antioxidant Reactions in Multi-Phase Systems	K Schaich	Oxidation and Antioxidation in Food	S Marklund	Enzymatic Defences against Oxidative Damage	N Oleinick	DNA and Radicals	S Orrenius	Free Radical Cytotoxicity
11.45	Sub Plenary 4		J Eaton	**Antioxidant Drug Targeting*	G Bulkley	**Myocardial and Other Ischaemia &/or Reperfusion*	W Jessup	Atherosclerosis	M Inoue	Inflammation	R Cutler	Disorders of the CNS and Ageing
12.30	Lunch			ISFRR Cttee Meeting		Daiichi "Ebselen" Lunch Session		ISFRR Cttee Meeting		SFRR Aust Cttee Meeting		ISFRR GM
14.00	Parallel Session+ A	Registration Desk opens	Selected Abstracts	Radicals & Life Style	Selected Abstracts	Free Radicals and Metal Catalysis	Selected Abstracts	Oxidative Reactions and Heme Proteins	Selected Abstracts	Particles and Pollutants	Selected Abstracts	**Spin Traps in Biomedicine*
14.00	Parallel Session+ B		Selected Abstracts	**Redox-active Protein and Carbohydrate Components*	Selected Abstracts	Radicals/Oxidants and Arachidonic Acid Metabolism	Selected Abstracts	**Reactive Nitrogen Intermediates*	Selected Abstracts	Oxidative Events in Proliferation and Replication	Selected Abstracts	Oxidants and Gene Expression
14.00	Parallel Session+ C		Selected Abstracts	Radical & Antioxidant Reactions in Multi-Phase Systems	Selected Abstracts	Oxidation and Antioxidation in Food	Selected Abstracts	Enzymatic Defences against Oxidative Damage	Selected Abstracts	DNA and Radicals	Selected Abstracts	Free Radical Cytotoxicity
14.00	Parallel Session+ D		Selected Abstracts	**Antioxidant Drug Targeting*	Selected Abstracts	**Myocardial and Other Ischaemia &/or Reperfusion*	Selected Abstracts	Atherosclerosis	Selected Abstracts	Inflammation	Selected Abstracts	Disorders of the CNS and Ageing
16.00	Coffee											
16.30	Posters#		Posters		Posters		Posters		Posters		Posters	
18.00		Welcome Reception	Informal "Happy Hour"		Informal "Happy Hour"		Informal "Happy Hour"		Informal "Happy Hour"			
19.30			Optional social activities		Optional social activities		Optional social activities		Meeting Dinner Guest Speaker M Dianzani			

**Methodology Sessions*

+Parallel sessions will contain five talks each (first two 20 + 10 minutes, last three 15 + 5 minutes) from selected abstracts

#Includes summary (presented by an invited moderator) of selected work of the most popular conference topic each day

SCIPR994

F/G 7 DISTRIBUTION AND BILIARY EXCRETION OF NATURAL AND UNNATURAL α-TOCOPHEROLS

Ichikawa H, Tadahiko U, Kiyose C, Igarashi O
Tokyo Mtr. R/Lab. Pub. Health Tokyo, Japan
Ochanomizu University, Tokyo, Japan

The present study was designed to investigate the biodiscrimination between natural and unnatural form of α-Tocopherol(α-Toc) by feeding non-labeled 2-ambo-α-Toc Ac(equimolar mixture of RRR- (natural) and SRR-α-Toc Acs(unnatural)), which have no-possibility of hydrogen exhange and isotopic effects, to male rats.

The animals(F344/DuCrj, at the 4th week after birth) were fed diets containing 100 mg of 2-ambo-α-Toc Ac/kg diet for 8 weeks. Amounts of α-Tocs in blood, tissues and bile were determined by newly developed HPLC method.

There were evident differences between the amounts of RRR- and SRR-α-Tocs in blood, tissues and bile. The amounts of SRR were 8.1% (plasma), non-detectable(ND,RBC), less than 15.7% (liver, or less (the others)). Besides, It was especially noted that the amounts of SRR in brain were ND. And the excretion of RRR in bile was higher than that of SRR, and the amount of absorption of SRR via portal vein was very small.

F/G 8 THE EFFECTS OF α- AND δ-TOCOPHEROLS ON LIPID PEROXIDE FORMATION IN RAT TISSUES

Hirahara F.and Kimura S*.
Division of Food Sience, National Institute of Health and Nutrition, Graduate School of Nutrition, Showa Women's University*, Tokyo, Japan

Much work has been done to examine the antioxidant effects of tocopherol (toc) homologues in vitro. The present study was undertaken on the effects of α- or δ-toc on lipid peroxide (LPO) formation in rat tissues. Male Wistar strain rats 3 weeks old were acclimatized to a control diet for one week, and they were divided into 3 groups of six rats each. Group 1 was fed a vitamin E-deficient diet, groups 2 and 3 were fed 100g of vitamin E-deficient diet supplemented with 10mg of α- or δ-toc, respectively.All groups of rats were maintained on these diets for 3 weeks.The toc levels of serum and of tissues were determined by HPLC method. LPO values in the rat tissues were compared by the TBA and Chemiluminecence (CL) methods. α-Toc was widely distributed in rat tissues. A δ-toc content equal to that of the α-toc group was admitted into the adipose tissues, but trace amounts of δ-toc in group 3 were admitted into other tissues. In group 3, LPO values (TBARS) of tissues were lower than in group 1, but even the adipose tissues containing δ-toc were much higher values than those of group 2. Although only small amounts of δ-toc was contained, in the testes and brain the low LPO values were admitted. The LPO values (CLvalues) of the liver and testes in group were 2 ⟫ 3 >1 .

F/G 9 BIO-NORMALIZER MODULATES FREE RADICALS IN BRAIN, BLOOD AND MACROPHAGE

Osato JA[1,2], Afanas'ev IB[3], Korkina LG[4], Santiago LA[1,5], Horitsu H[2] and Mori A[5]
[1]Osato Research Institute, Gifu, Japan; [2]The United Graduate Sch. of Agricultural Science, Gifu University, Gifu, Japan; [3]Vitamin E Research Institute, Moscow, Russia; [4]Russian Institute for Pediatric Hematology, Moscow, Russia; and [5]Department of Neuroscience, Okayama University Medical School, Okayama, Japan

To provide for the scientific basis of the purported therapeutic and preventive actions of Bio-normalizer (BN), a fermented functional health food from papaya, we studied by electron spin resonance/spin trapping and chemiluminescence (CL) methods its effects on the free radical production in different systems. BN inhibited hydroxyl, peroxyl, carbon-centered, and lipid peroxides in various rat brain regions; suppressed oxygen radicals in cell-free systems such as Fenton reaction, xanthine-xanthine oxidase, H_2O_2 + NaClO, H_2O_2 + horseradish peroxidase; reduced spontaneous and menadione-induced superoxide release from human erythrocytes; decreased luminol-amplified CL but increased lucigenin-dependent CL; and enhanced superoxide dismutase activity in inflammed murine macrophage. While BN prevented the formation of hydroxyl and peroxyl radicals, it induced the production of intracellular superoxide radical by dormant and activated phagocytes, human neutrophils, and rat peritoneal macrophage.

MEMO