

**74th Annual Meeting of the American Thyroid Association
Millennium Biltmore Hotel
Los Angeles, California
October 10 – 13, 2002**

Thursday, October 10, 2002

- 6:00 – 7:45 am Crystal Ballroom
Defining Thyroid Hypofunction: Perspectives from Populations and the Clinic
Moderator: Paul W. Ladenson
The Spectrum of Thyroid Hypofunction in Populations E. Chester Ridgway
Getting Practical: How to Treat Patients with
 Thyroid Hypofunction Gilbert H. Daniels
Case Discussion: Now It's Normal, Now It's Not Paul W. Ladenson
"Early Riser" CME Symposium and breakfast supported by an unrestricted educational grant from Abbott Laboratories
- 8:00 – 8:15 am Biltmore Bowl
Welcome and Introductions
Carole A. Spencer ATA President
Paul W. Ladenson ATA Secretary
Gregory A. Brent ATA Program Chair, Scientific
Leonard Wartofsky ATA Program Chair, Clinical
- 8:15 – 9:00 am Biltmore Bowl
Keynote Clinical Address
Thyroid Disease in Pregnancy
Daniel Glinoe, MD, PhD
University Hospital St. Pierre
Department of Internal Medicine
Brussels, Belgium
Supported by an educational grant from Abbott Laboratories
- 9:00 – 10:00 am Biltmore Bowl
Plenary Session – Topic Highlights
Oral Abstract Presentations
Chairs: Gregory A. Brent and Leonard Wartofsky
- 1 9:00 am Thyroid Hormone Metabolism
The Gene Coding for the Type 3 Iodothyronine Deiodinase Is Imprinted and Required for Normal Neonatal Growth and Survival
A. Hernandez^{1,2}, S. Fiering³, E. Martinez^{1,2}, V. Galton², D. St. Germain^{1,2}
Departments of ¹Medicine, ²Physiology, and ³Microbiology and Immunology, Dartmouth Medical School, Lebanon, New Hampshire, USA

Thursday, October 10, 2002
Morning Session

2 9:15 am Thyroid Diseases

NHANES III: Impact of TSH:TPOAb Relationships on Redefining the Serum TSH Normal Reference Range

C. Spencer¹, J. Hollowell², J. Nicoloff¹, L. Braverman³

¹University of Southern California, Los Angeles, California; ²University of Kansas Medical Center, Lawrence, Kansas; and ³Boston University School of Medicine, Boston, Massachusetts, USA

3 9:30 am Cancer

The Follicular Thyroid Carcinoma-associated PAX8/PPAR- γ -1 Fusion Gene Decreases the Rate of Apoptosis and Shortens the Doubling Time of Thyroid Cell Lines

J. Powell, X. Wang, I. Hay, Y. Zhao, H. Hiddinga, M. Sahin, N. Eberhardt, B. McIver

Division of Endocrinology, Mayo Clinic and Foundation, Rochester, Minnesota, USA

4 9:45 am Thyroid Diseases

T4 plus T3 Treatment for Hypothyroidism: A Double-blind Comparison with Usual T4

A. Levitt, J. Silverberg

Sunnybrook & Women's Health Sciences Centre and University of Toronto, Toronto, Ontario, Canada

10:00 – 10:30 am Regency Room and Emerald Room
Exhibits, Poster Review, and Coffee Break
Poster Plus 5-40
Posters 41-98

Investigators available to discuss their posters

5 Thyroid Hormone Action

The S14 Knockout Mouse Shows Resistance to Diet-induced Obesity

C. Mariash¹, G. Mucha¹, Q. Zhu², G. Anderson¹

¹Department of Medicine, University of Minnesota, and ²Eli Lilly Company, Minneapolis, Minnesota, USA

6 Thyroid Hormone Action

Involvement of GATA2 in the T3-dependent Negative Regulation of the Thyrotropin Beta and Alpha Gene Promoters by Thyroid Hormone Receptor

S. Sasaki, A. Matsushita, K. Nakano, K. Nishiyama, Y. Kashiwabara, H. Misawa, H. Nakamura

Second Division, Department of Internal Medicine, Hamamatsu University School of Medicine, Shizuoka, Japan

7 Thyroid Hormone Action

Thyroid Hormone Thermogenesis in Transgenic Mitochondrial Glycerol 3-Phosphate Dehydrogenase (mGPD)-deficient Mice

R.A. DosSantos, I. Lopez-Solache, J.E. Silva

Division of Endocrinology, Jewish General Hospital, McGill University, Montreal, Quebec, Canada

8 Thyroid Hormone Action

Hyperthyroidism Induces Apoptosis in the Adult Cerebral Cortex: Direct Action of T3 on Mitochondria

R. Singh¹, G. Upadhyay², A. Kapoor³, S. Kumar³, A. Kumar⁴, M. Tiwari⁴, M.M. Godbole⁴

¹Cell Biology Section, National Institute of Environment and Health Sciences, Research Triangle Park, North Carolina, USA; ²Department of Internal Medicine 1, University of Ulm, Ulm, Germany; and Departments of ³Microbiology and ⁴Endocrinology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India

Regency Room Foyer – Poster Plus
Posters for Discussion will be displayed from Thursday at 8:00 am until Saturday at 1:30 pm.
The Poster Discussion Groups will be held on Saturday from 3:30 to 4:30 pm.

Program numbers 5 to 40 are designated Poster Plus.

9 Thyroid Hormone Action
Thyroxine-stimulated Mitogen-activated Protein Kinase Phosphorylation of the Thyroid Hormone Nuclear Receptor Requires a Docking Motif in the Receptor DNA-binding Domain

H.-Y. Lin^{1,2}, B. West³, H.-Y. Tang^{1,2}, T. Passaretti², S. Zhang², F. Davis², P. Davis^{1,2,4}

¹Stratton VA Medical Center, ²Ordway Research Institute, Albany Medical College, ³Plexxikon, Inc., and

⁴Wadsworth Center, New York State Department of Health, Albany, New York USA

10 Thyroid and Development
Hypothyroidism Alters Mitochondrial Morphology and Induces Release of Apoptogenic Proteins during Development of Rat Cerebellum

M.M. Godbole¹, R. Singh², G. Upadhyay³

¹Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India; ²National Institute of Environment and Health Sciences, Research Triangle Park, North Carolina, USA; and ³University of Ulm, Ulm, Germany

11 Autoimmunity
Immune Repertoire Shifting under the Influence of Apoptosis

T. Ando¹, S. Sasaki², N. Arata¹, P. Graves¹, T. Davies¹

¹Division of Endocrinology, Diabetes, and Bone Diseases, Department of Medicine, Mount Sinai School of Medicine, New York, New York, USA; and ²Department of Bioregulation, Leprosy Research Center, National Institute of Infectious Diseases, Tokyo, Japan

12 Autoimmunity
HLA and CTLA-4 Genes: Do They Interact in Graves' Disease?

J. Heward¹, H. Foxall¹, H. Cordell², J. Franklyn¹, S. Gough^{1,3}

¹Department of Medicine, Clinical Research Block, University of Birmingham, Birmingham; ²Cambridge Institute for Medical Research, University of Cambridge, Cambridge; and ³Birmingham Heartlands Hospital, Birmingham, United Kingdom

13 Autoimmunity
Glycosaminoglycans Provide a Binding Site for Thyroglobulin in Orbital Tissues of Patients with Thyroid-associated Ophthalmopathy

S. Lisi¹, L. Chiovato², F. Menconi¹, E. Morabito¹, S. Sellari-Franceschini³, R.T. McCluskey⁴, A. Pinchera¹, M. Marinò¹

¹Department of Endocrinology, University of Pisa, Pisa, Italy; ²Salvatore Maugeri Foundation, IRCSS, University of Pavia, Pavia, Italy; ³Department of Neuroscience, ORL Section, University of Pisa, Pisa, Italy; and

⁴Department of Pathology, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA

14 Autoimmunity
Pathogenic T Cell Epitopes Predicted from Human Thyroglobulin Can Generate Cytotoxic T Cells and Serve as Target Antigens in an H2A^E Transgenic Model Susceptible Only to Heterologous Thyroglobulin

Y. Yan¹, D.J. McCormick², V. Brusic³, A.A. Giraldo⁴, C.S. David², Y.M. Kong¹

¹Wayne State University School of Medicine, Detroit, Michigan, USA; ²Mayo Clinic, Rochester, Minnesota, USA; ³Kent Ridge Digital Lab, Singapore; and ⁴St. John Hospital & Medical Center, Detroit, Michigan, USA

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Autoimmunity

Localization of the Thyroid Peroxidase Autoantibody Immunodominant Region to a Junctional Region Containing Portions of the Domains Homologous to Complement Control Protein and Myeloperoxidase

J. Guo, S.M. McLachlan, B. Rapoport

Cedars-Sinai Research Institute and the University of California Los Angeles, Los Angeles, California, USA

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Autoimmunity

Relative Expression of Preadipocyte Factor-1 (Pref-1) and Thyrotropin Receptor (TSHr) Genes in Orbital Adipose Tissues and Cell Cultures from Patients with Graves' Ophthalmopathy

S. Kumar, R. Bahn

Mayo Graduate School of Medicine, Mayo Clinic, Rochester, Minnesota, USA

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Cell Biology

Regulation of the PI3K, Akt/PKB, FRAP/mTOR, and S6K1 Signaling Pathways by Thyroid Stimulating Hormone and Stimulating-type TSH Receptor Antibodies in the Thyroid Gland

J.M. Suh¹, J.H. Song¹, D.W. Kim¹, H. Kim¹, H.K. Chung¹, J.H. Hwang¹, J.M. Kim³, E.S. Hwang¹, J. Chung⁴, J.-H. Han⁵, O.Y. Kwon², B.Y. Cho⁶, H.K. Ro¹, M. Shong¹

¹Laboratory of Endocrine Cell Biology, Department of Internal Medicine, ²Department of Anatomy, ³Department of Pathology, Chungnam National University, Daejeon, Korea; ⁴Department of Biological Sciences, Korea Advanced Institute of Science and Technology, Seoul, Korea; ⁵Department of Biochemistry, College of Pharmacy, Sungkyunkwan University, Seoul, Korea; and ⁶Department of Internal Medicine, Seoul National University, Seoul, Korea

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Cell Biology

Thyroglobulin (Tg) Can Increase the Growth of FRTL-5 Thyrocytes by an Akt-driven Mechanism Distinct from TSH, Insulin, or IGF-1

Y. Noguchi¹, I. Tatsuno², N. Harii¹, D.F. Sellitti³, L.D. Kohn¹

¹Edison Biotechnical Institute, Ohio University, Athens, Ohio, USA; ²Department of Clinical Cell Biology, Chiba University Graduate School of Medicine, Chiba, Japan; ³Department of Medicine, Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA

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Cell Biology

Expression of Functional Growth Hormone (GH) Receptors and Direct Effects of GH on Thyroid Cells

O. Isozaki, T. Tsushima, Y. Nozoe, M. Nishimaki, K. Kato, M. Miyakawa, H. Murakami, K. Takano

Department of Medicine, Institute of Clinical Endocrinology, Tokyo Women's Medical University, Tokyo, Japan

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Thyroid Hormone Action

Activated by Thyroid Hormone, Mitogen-activated Protein Kinase Phosphorylates Nuclear Estrogen Receptor (ER) in HeLa Cells

S. Zhang¹, H.-Y. Lin^{1,2}, H.-Y. Tang^{1,2}, F. Davis¹, P.J. Davis^{1,2,3}

¹Ordway Research Institute, Albany Medical College, ²Stratton VA Medical Center, and ³Wadsworth Center, New York State Department of Health, Albany, New York, USA

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- 21 Cell Biology
Quantifying TSH Regulation of Cleavage at the Human Thyrotropin Receptor
R. Latif, P. Graves, T.F. Davies
Mount Sinai School of Medicine, New York, New York, USA
- 22 Iodine Uptake and Metabolism
Activation of the Human Sodium/Iodide Symporter Upstream Enhancer cAMP Response Element-like Sequence by PKA-dependent and PKA-independent Pathways in Normal Thyroid and Thyroid Cancer Cells
K. Taki, T. Kogai, Y. Kanamoto, J.M. Hershman, G.A. Brent
Endocrinology Division, Veterans Affairs Greater Los Angeles Healthcare System and Department of Medicine, University of California Los Angeles School of Medicine, Los Angeles, California, USA
- 23 Cancer
Ultrasonographic Parameters Predictive of Malignancy in Thyroid Nodules with Indeterminate Cytologic Pattern
R. Camargo, E. Tomimori, K. Seidenberger, A. Bezerra, G. Medeiros-Neto
Thyroid Unit, São Paulo University School of Medicine, São Paulo, Brazil
- 24 Cancer
Recombinant Human TSH Stimulation of Undetectable Serum Thyroglobulin Levels on Adequate Thyroxine Suppressive Therapy Seldom Reveals New Evidence of Recurrent Disease in Patients with Follicular Cell-derived Thyroid Cancer
J. Powell¹, I. Hay¹, B. Mullan², G. Wiseman², V. Fatourech¹
¹Division of Endocrinology and ²Department of Diagnostic Radiology, Mayo Clinic, Rochester, Minnesota, USA
- 25 Cancer
Novel Type of ret/PTC Rearrangement in Radiation-associated Papillary Thyroid Carcinoma
V. Saenko, T. Rogounovitch, Y. Shimizu-Yoshida, H. Namba, S. Yamashita
Atomic Bomb Disease Institute, Nagasaki University School of Medicine, Nagasaki, Japan
- 26 Thyroid Diseases
A Novel Germline Point Mutation in RET Exon 8 in Familial Medullary Thyroid Carcinoma
A.M. Alvares da Silva¹, R.M.B. Maciel¹, M.B. Carvalho², M.R. Dias da Silva¹, J.M. Cerutti¹
¹Laboratory of Molecular Endocrinology, Division of Endocrinology, Department of Medicine, Federal University of São Paulo, and ²Department of Surgery, Heliopolis Hospital, São Paulo, Brazil
- 27 Cancer
An Approach to Therapy for Anaplastic Carcinoma of the Thyroid
S.H. Wang¹, E. Mezosi¹, S. Utsugi¹, P.G. Gauger², J.R. Baker, Jr.¹
¹Center for Biologic Nanotechnology and ²Department of Surgery, University of Michigan, Ann Arbor, Michigan, USA

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Cell Biology

Inverse Correlation between Heparan Sulfate Deposition and Heparanase-1 Gene Expression in Thyroid Papillary Carcinomas: A Potential Role in Tumor Metastasis

X. Xu¹, R.M. Quiros¹, J.B. Maxhimer¹, P. Gattuso², R.A. Prinz¹

Departments of ¹ General Surgery and ²Pathology, Rush Presbyterian St. Luke's Medical Center, Chicago, Illinois, USA

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Thyroid Diseases

Involvement of Coactivators in the Dominant Negative Potency of the Mutant TRs in RTH: Analysis of a Novel Mutant, F455S

S. Ishii¹, M. Yamada¹, T. Satoh¹, T. Monden¹, K. Hashimoto¹, Y. Nihei¹, K. Onigata², A. Morikawa², M. Mori¹

¹First Department of Internal Medicine, and ²Department of Pediatrics, Gunma University School of Medicine, Maebashi, Gunma, Japan

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Thyroid Hormone Action

Effects of the Thyroid Hormone Receptor Beta (TR β)-selective Compound GC-1 on Bone Development of Wistar Rats

F.R.S. Freitas¹, T. Zorn¹, C. Labatte¹, T.S. Scanlan⁴, G.A. Brent³, A.S. Moriscot¹, A.C. Bianco², C.H.A. Gouveia¹

¹University of São Paulo, São Paulo, Brazil; ²Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts; ³West LA VA Medical Center and University of California Los Angeles, Los Angeles, California; and ⁴University of California San Francisco, San Francisco, California, USA

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Thyroid Hormone Action

Thyroid Status and T3 Receptor Isoforms Differentially Regulate the Pacemaker Ion Channels HCN2 And HCN4

B. Gloss¹, E. Swanson¹, P. McDonough¹, S. Cheng², M. Kaneshige², M. Mangoni³, J. Nargeot³, W. Giles⁴, R. Clark⁴, O. Chassande⁵, J. Samarut⁵, W. Dillmann¹

¹Division of Endocrinology and Metabolism University of California, San Diego, California, USA; ²Laboratory of Molecular Biology, National Cancer Institute, Bethesda, Maryland, USA; ³Institute of Human Genetics, CNRS UPR1142, Montpellier, France; ⁴University of Calgary School of Medicine, Calgary, Alberta, Canada; and ⁵Laboratoire de Biologie Moléculaire et Cellulaire, CNRS, ENS, Lyon, France

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Thyroid Hormone Action

Autoregulation of Expression of Thyroid Hormone Receptor Isoforms and Coactivators in Liver and Heart by Thyroid Hormone

P. Sadow¹, O. Chassande², J. Xu³, E. Koo¹, J. Samarut², B. O'Malley³

¹Department of Medicine, University of Chicago, Chicago, Illinois, USA; ²Ecole Normale Supérieure de Lyon, Lyon, France; and ³Baylor College of Medicine, Houston, Texas, USA

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Thyroid Hormone Action

Thyroid Hormone Receptor Subtype-specific Interaction with SRC-1 Mediates Thyroid Hormone-dependent Gene Expression in Mouse Liver

P. Sadow¹, O. Chassande², J. Xu³, J. Samarut², B. O'Malley³, R. Weiss¹

¹Department of Medicine, University of Chicago, Chicago, Illinois, USA; ²Ecole Normale Supérieure, Lyon, France; and ³Baylor College of Medicine, Houston, Texas, USA

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34 Cell Biology
Thyroid Hormone Receptor $\alpha 2$ Is an RNA Binding Protein Localized to the Nucleus and Cytoplasm
B. Xu, R.J. Koenig
Division of Endocrinology and Metabolism, The University of Michigan Medical Center, Ann Arbor, Michigan, USA

35 Iodine Uptake and Metabolism
Potential Sources of Excess Dietary Iodine in 2002: Milk and Bread
E.N. Pearce, S. Pino, X. He, H.R. Bazrafshan, S.L. Lee, L.E. Braverman
Boston University School of Medicine, Boston, Massachusetts, USA

36 Cancer
Radioiodine Therapy of Colon Cancer following CEA Promoter-driven Expression of the Sodium Iodide Symporter
C. Spitzweg¹, K. Maletz¹, K. Harrington², E. Bergert³, R. Vile⁴, J. Morris³
¹Department of Internal Medicine II, Ludwig-Maximilians-University, Munich, Germany; ²CRC Centre for Cell and Molecular Biology, Chester Beatty Laboratories, Institute of Cancer Research, London, United Kingdom; ³Department of Endocrinology and ⁴Molecular Medicine Program, Mayo Clinic, Rochester, Minnesota, USA

37 Iodine Uptake and Metabolism
Systemic Retinoic Acid Treatment Induces Radioiodide Uptake and Sodium/Iodide Symporter mRNA Expression in Mouse Breast Cancer Models
T. Kogai, Y. Kanamoto, K. Taki, J.J. Schultz, G.A. Brent
Molecular Endocrinology Laboratory, VA Greater Los Angeles Healthcare System, Department of Medicine and Physiology, University of California Los Angeles School of Medicine, Los Angeles, California, USA

38 Cancer
Restoration of Na⁺/I⁻ Symporter (hNIS) Gene Expression in Dedifferentiated Human Thyroid Carcinoma Cells Is Associated with Enhanced Histone Acetylation at Its Promoter
G. Venkataraman, K. Ain
Veterans Affairs Medical Center and University of Kentucky, Lexington, Kentucky, USA

39 Cancer
Use of Probasin Promoter ARR2PB to Express NIS Gene in Prostate Cancer Cell Lines
H. Kakinuma, E.R. Bergert, J.C. Morris
Department of Endocrinology, Mayo Clinic, Rochester, Minnesota, USA

40 Cancer
The Altered mRNA Expression Levels of the Sodium Iodide Symporter Can Help in the Identification of Thyroid Tumors with Aggressive Behavior
P.L. Santarosa¹, F. Granja¹, H.S. Armond¹, L.V. Montalli da Assumpção², G.H. Goldman³, L.S. Ward¹
¹Laboratory of Cancer Molecular Genetics, Campinas; ²Endocrinology, Faculty of Medicine, University of Campinas, Campinas; and ³Faculty of Pharmacy Sciences, University of São Paulo Ribeirao Preto, Ribeirao Preto, São Paulo, Brazil

Thursday, October 10, 2002
Emerald Room – Review of Posters 41 to 98

10:00 – 10:30 am Regency Room and Emerald Room
Exhibits, Poster Review, and Coffee Break

Regency Room Foyer and Emerald Room

Review of Posters

Poster Plus 5-40

Posters 41-98

Investigators available to discuss their posters

41 Autoimmunity

Graves' Dermopathy and Acropachy Are Markers of Severe Graves' Ophthalmopathy

V. Fatourehchi¹, G. Bartley², J. Garrity², G. Eghbali-Fatourehchi¹, D. Ahmed³

¹Division of Endocrinology and Metabolism, and Departments of ²Ophthalmology and ³Dermatology, Mayo Clinic, Rochester, Minnesota, USA

42 Autoimmunity

Analysis of Age at Onset of Familial Graves' Disease Reveals Evidence for Gender Effects but No Evidence for Genetic Anticipation

R. Villanueva¹, V.J. Vieland², J. Huang², T.F. Davies¹, Y. Tomer¹

¹Division of Endocrinology, Diabetes and Bone Diseases, Department of Medicine, Mount Sinai School of Medicine, New York, New York, and ²Center for Statistical Genetics Research, University of Iowa Colleges of Public Health and Medicine, Iowa City, Iowa, USA

43 Autoimmunity

Lack of Association of IDDM8 with Graves' Disease in the United Kingdom

J. Collins¹, A. Hinks², J. Heward¹, J. Franklyn¹, J. Worthington², S. Gough³

¹University of Birmingham, Department of Medicine, Queen Elizabeth Hospital, Birmingham; ²ARC Epidemiology Research Unit, University of Manchester, Manchester; and ³University of Birmingham, Department of Medicine, Birmingham Heartlands Hospital, Birmingham, United Kingdom

44 Autoimmunity

Thyroid Involvement in HCV-related Mixed Cryoglobulinemic Patients

A. Antonelli¹, C. Ferri², P. Fallahi¹, C. Nesti¹, M. Maccheroni³

¹Department of Internal Medicine and ²Rheumatology Unit, University of Pisa, and ³Endocrinological Laboratory, Azienda Ospedaliera Pisana, Pisa, Italy

45 Autoimmunity

Thyroid and Pancreatic Beta Cells' Function and Autoimmunity in Children with Vitiligo

A. Kurtev¹, D. Fisher², J. Nelson², A. Durmishev¹

¹Medical University, Sofia, Bulgaria; and ²Nichols Institute, Quest Diagnostics, San Juan Capistrano, California, USA

46 Autoimmunity

Can Early Postpartum Thyroglobulin and Thyroid Ultrasound Echogenicity Enhance the Predictive Value of Thyroid Peroxidase Antibody Measurements in Early Pregnancy?

L. Premawardhana¹, A. Parkes¹, A. Kokandi¹, H. Adams¹, C. Spencer², J. Lazarus¹

¹University of Wales College of Medicine, Cardiff, Wales, United Kingdom; and ²University of Southern California, Los Angeles, California, USA

- 47 Autoimmunity
Correlation of Anti-inflammatory Therapy in Graves' Ophthalmopathy and Autoantibodies to Thyroidal Antigens
M. Plicht¹, N.G. Morgenthaler², J. Esser¹, B. Quadbeck³, O.E. Janssen³, K. Mann³, K.P. Steuhl¹, A.K. Eckstein¹
¹Department of Ophthalmology, University Eye Hospital, Essen, Germany; ²BRAHMS AG, Research, Biotechnology Centre Hennigsdorf/Berlin, Hennigsdorf, Germany; and ³Department of Endocrinology, University of Essen, Essen, Germany
- 48 Autoimmunity
Two Models for Variations in the Age- and Sex-related Distribution of Anti-thyroid Peroxidase (ATA) and Anti-thyroglobulin (ATG) Antibodies
V. Michelangeli¹, P. Durham², P. Feddema¹, G. Chew³, J. Kaye³, M. Knuiman⁴, P. Leedman³, P. O'Leary⁵, J. Stockigt⁶
¹Bio-Mediq DPC Pty. Ltd., Melbourne, Australia; ²Diagnostic Products Corporation, Los Angeles, California, USA; ³Department of Endocrinology, Royal Perth Hospital, Perth, Australia; ⁴University Department of Public Health, University of Western Australia, Perth, Australia; ⁵Department of Biochemistry, Royal Perth Hospital, Perth, Australia; and ⁶Department of Endocrinology and Diabetes, Alfred Hospital, Melbourne, Australia
- 49 Autoimmunity
Association of Antibodies to Double-stranded DNA and to Single-stranded DNA in the Serum of Patients with Hashimoto's Thyroiditis and Graves' Disease
A.B.P. Pegoraro¹, J.H. Romaldini^{1,2}, C. Ambrico¹, K. Takei¹
¹Endocrine Service and Clinical Laboratory and ²HSPE-PUC CAMPINAS, São Paulo, Brazil
- 50 Autoimmunity
Thyroid Autoimmunity Induced by Radioiodine (RAI) Treatment of Patients with Multinodular Goiter
M.N.C. Silva, B. Perone, M.S. Cardia, I.G.S. Rubio, G. Medeiros-Neto
Thyroid Unit, Division of Endocrinology, University of São Paulo Medical School, São Paulo, Brazil
- 51 Autoimmunity
Diagnostic Value of Thyroid Antibodies in Different Thyroid Diseases
E.E. Lechuga Gomez, J.G. Domínguez Herrera
Endocrinology Department, Hospital Angeles del Pedregal, Mexico Distrito Federal, Mexico
- 52 Autoimmunity
Mapping of the Immunodominant Region of Thyroid Peroxidase
D. Bresson¹, M. Cerutti², B. Nguyen¹, C. Bès¹, C. Bossard³, G. Devauchelle², T. Chardès², S. Péraldi-Roux¹
¹CNRS UMR 5094, University of Montpellier I, Montpellier, France; ²CNRS-INRA UMR 5087, University of Montpellier II, Montpellier, France; and ³INSERM U937, University of Toulouse III, Toulouse, France
- 53 Autoimmunity
Dendritic Cells Infected with Adenovirus Expressing the TSH Receptor Induce Graves' Hyperthyroidism in BALB/c Mice
M. Kita-Furuyama¹, Y. Nagayama², P. Pichurin³, S.M. McLachlan³, B. Rapoport³, K. Eguchi¹
¹First Department of Internal Medicine and ²Department of Pharmacology 1, Nagasaki University School of Medicine, Nagasaki, Japan; and ³Autoimmune Disease Unit, Cedars-Sinai Research Institute, Los Angeles, California, USA

Thursday, October 10, 2002
Emerald Room – Review of Posters 41 to 98

54 Autoimmunity

Fas Signaling in Human Thyroid Epithelial Cells

E. Mezosi¹, S.H. Wang¹, S. Utsugi¹, J.D. Bretz¹, N.W. Thompson², P.G. Gauger², J.R. Baker, Jr.¹

¹Center for Biologic Nanotechnology and ²Department of Surgery, University of Michigan, Ann Arbor, Michigan, USA

55 Autoimmunity

Thyroglobulin-Thyroperoxidase (TGPO) Autoantibodies Are Polyreactive, Not Bi-specific: Analysis Using Human Monoclonal Autoantibodies

F. Latrofa, P. Pichurin, J. Guo, B. Rapoport, S.M. McLachlan

Autoimmune Disease Unit, Cedars-Sinai Medical Center and University of California Los Angeles, Los Angeles, California, USA

56 Autoimmunity

Persistent Suppression of IL-4 Prevents Development of Experimental Autoimmune Graves' Disease

R.E. Dogan¹, V. Chenthamarakshan², C. Maliszewski³, M.J. Holterman², B.S. Prabhakar¹

Departments of ¹ Microbiology and Immunology and ²Surgery, University of Illinois at Chicago, Chicago, Illinois, and ³Immunex Corporation, Seattle, Washington, USA

57 Autoimmunity

Alpha-Fodrin as Candidate Autoantigen in Graves' Ophthalmopathy

G.J. Kahaly¹, W. Berg², Ch. Biller¹, K. Neutzling¹, M. Dittmar^{1,3}, H. Bang²

Departments of ¹ Medicine I and ³Biology, Gutenberg University, and ²Orgentec, Mainz, Germany

58 Autoimmunity

Evidence to Support a Role for CD4+ Helper T-cells in Active Thyroid-associated Orbitopathy

B. Vaidya¹, B.K. Shenton², S. Stamp², A. Bell², M. Miller¹, J. Dickinson³, P. Perros¹, P. Kendall-Taylor¹

Departments of ¹ Endocrinology, ²Surgery, and ³Ophthalmology, Newcastle University, Newcastle upon Tyne, United Kingdom

59 Autoimmunity

The Effects of Alpha Interferon on the Development of Autoimmune Thyroiditis in the NOD H2h4 Mouse

Y. Oppenheim¹, G. Kim¹, P. Unger², Y. Ban¹, T. Ando¹, E. Concepcion¹, T.F. Davies¹, Y. Tomer¹

¹Division Of Endocrinology, Department of Medicine, and ²Department of Pathology, Mount Sinai School of Medicine, New York, New York, USA

60 Autoimmunity

No Evidence for CD40 as the Susceptibility Gene for Graves' Disease on Chromosome 20q11 (GD2)

F. Houston, C. Jennings, S. Pearce

School of Clinical Medical Sciences and Institute of Human Genetics, University of Newcastle upon Tyne, Newcastle upon Tyne, United Kingdom

61 Autoimmunity

TSH Receptor Gene Mutation and Pathogenesis of Autoimmune Thyroid Disease

B. Shi, Y. Dai, M. Xue, X. Li

Department of Endocrinology, First Hospital of Xi'an Jiaotong University, Xi'an, China

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Thyroid Diseases

Four Years' Experience with the First Prospective Incidence Study of Overt Thyroid Dysfunction: The Danish Register of Hyper- and Hypothyroidism

I. Bülow Pedersen¹, N. Knudsen², T. Jørgensen², H. Perrild³, L. Ovesen⁴, P. Laurberg¹

¹Department of Endocrinology, Aalborg Hospital, Aalborg; ²Centre for Preventive Medicine, Glostrup Hospital, Copenhagen; ³Endocrine Unit, Bispebjerg Hospital, Copenhagen; and ⁴Institute of Food Research and Nutrition, Danish Food Administration, Copenhagen, Denmark

63

Thyroid Diseases

Heart Rate Variability in Mild Exogenous Thyrotoxicosis during Thyrotropin Suppressive Therapy

J.E. Arbelle, M. Shuvi, A. Porath, A. Katz

Soroka University Medical Center and the Ben Gurion University of the Negev, Beer Sheva, Israel

64

Thyroid Diseases

Optic Neuropathy of Graves' Disease: Results of Transantral Orbital Decompression and Long-term Follow-up of 215 Patients

C. Soares-Welch, V. Fatourech, J. Garrity

Mayo Clinic, Rochester, Minnesota, USA

65

Thyroid Diseases

The Adverse Effect of Hyperthyroidism on Right Ventricular Function and Pulmonary Hypertension: Rapid Reversal following Normalization of the Serum T3

S. Rieke¹, H. Farber², L. Braverman¹

Sections of ¹Endocrinology and ²Pulmonary, Allergy and Critical Care Medicine, Boston University School of Medicine, Boston, Massachusetts, USA

66

Thyroid Diseases

Serum C-Reactive Protein Levels in the Diagnosis of Thyroid Disease

E.N. Pearce¹, E. Martino², F. Bogazzi², E. Pardini², G. Pellegrini², J. Lazarus³, L.E. Braverman¹

¹Boston University School of Medicine, Boston, Massachusetts, USA; ²Department of Endocrinology and Metabolism, University of Pisa Medical School, Pisa, Italy; and ³Department of Medicine-Penarth, University of Wales College of Medicine, Cardiff, Wales, United Kingdom

67

Thyroid Diseases

Thyroid Function Affects Exercise Capacity in Congestive Heart Failure

C. Passino, F. Bramanti, M. Scarlattini, M. Emdin

Cardiovascular Neuroendocrinology Unit, CNR Institute of Clinical Physiology, Pisa, Italy

68

Thyroid Diseases

The Clinical Diagnosis of Heart Failure Is Predicted by Neurohumoral and Immune Derangement: A Role for Thyroid Dysfunction

M. Emdin¹, A. Ripoli¹, M. Scarlattini¹, C. Prontera¹, A. Iervasi¹, F. Franzoni², F. Galetta², C. Passino¹

¹Cardiovascular Neuroendocrinology Unit, CNR Institute of Clinical Physiology, and ²Department of Internal Medicine, University of Pisa, Pisa, Italy

69 Thyroid Diseases
Assessment of Disease Activity in Graves' Ophthalmopathy (GO) by Serum Hyaluronic Acid (HA) and Urinary Glycosaminoglycans (GAGs)

J.R.M. Martins^{1,2}, R.P. Furlanetto¹, A. Mendes², C.C. Passerotti², M.I. Chiamolera¹, P.G. Manso³, H.B. Nader², C.P. Dietrich², R.M.B. Maciel¹
Departments of ¹Medicine, ²Biochemistry, and ³Ophthalmology, Federal University of São Paulo, São Paulo, Brazil

70 Thyroid Diseases
Effect of Thyroxine Therapy on Serum Lipid Levels in Mild Thyroid Failure (TSH 5.1-10 mIU/L) in a Clinical Practice Setting

V. Fatourech¹, G. Klee², P. Schryver³, M. Lankarani¹
Divisions of ¹Endocrinology and Metabolism, ²Clinical Biochemistry and Immunology, and ³Health Sciences Evaluation, Mayo Clinic, Rochester, Minnesota, USA

71 Thyroid Diseases
Screening for Hyperthyroidism in Early Pregnancy

N. Momotani¹, K. Sakurai¹, K. Suzuki³, K. Suzuki¹, S. Sugihara², K. Ito³, T. Kitagawa¹
¹Tokyo Health Service Association, ²Tokyo Women's Medical University, and ³Ito Hospital, Tokyo, Japan

72 Thyroid Diseases
Thyroid Radioiodine Uptake Is Correlated with Outcome after Treatment for Thyrotoxicosis

R. Tell¹, G. Lundell¹, R. Lewensohn¹, O. Tullgren^{1,2}
¹Department of Oncology-Pathology, Karolinska Institutet and Hospital, Stockholm, Sweden; and ²Department of Oncology, Stockholm South Hospital and Huddinge University Hospital, Huddinge, Sweden

73 Thyroid Diseases
Genetic Markers in Prediction of Outcome in Patients with Graves' Disease after Antithyroid Drug Treatment

T.Y. Kim¹², Y.J. Park¹³, J.K. Hwang², H. Chung⁵, E.Y. Song⁴, H.S. Lee², D.J. Park¹², M.H. Park⁴, B.Y. Cho¹²
¹Department of Internal Medicine and Surgery, Seoul National University College of Medicine, ²Department of Internal Medicine and Clinical Research Institute, Seoul National University Hospital, ³Department of Internal Medicine, Seoul Municipal Boramae Hospital, ⁴Department of Clinical Pathology, Seoul National University College of Medicine, Seoul, Korea; and ⁵Department of Internal Medicine, Dankook University College of Medicine, Cheonan, Korea

74 Thyroid Diseases
The Human Leukocyte Antigen HLA-DRB1*0803-DQB1*0601 Haplotype Is Associated with Graves' Disease in Koreans

J.K. Hwang¹, Y.J. Park^{2,4}, T.Y. Kim^{1,2}, E.Y. Song³, H.S. Lee¹, D.J. Park^{1,2}, M.H. Park³, B.Y. Cho^{1,2}
¹Department of Internal Medicine and Clinical Research Institute, Seoul National University Hospital; Departments of ²Internal Medicine and ³Clinical Pathology, Seoul National University College of Medicine; and ⁴Department of Internal Medicine, Seoul Municipal Boramae Hospital, Seoul, Korea

75 Thyroid Diseases

Unexpectedly High Frequency of Post-Head-Trauma Hypothyroidism

S. Benvenga¹, D. Lapa¹, B. Almoto¹, R. Ruggeri¹, T. Vigo¹, A. Campenni², M. Longo², A. Blandino², S. Cannavò¹, F. Trimarchi¹

¹Division of Endocrinology and ²Radiological Sciences, University of Messina, Messina, Italy

76 Thyroid Diseases

Effects of Experimentally Induced Subclinical Hypothyroidism on Quality of Life and Mood

M. Samuels, K. Schuff, P. Carello, J. Janowsky

Oregon Health and Science University, Portland, Oregon, USA

77 Thyroid Diseases

High Prevalence of Iodine Deficiency in Japanese-Brazilian Women of Childbearing Age

J.A. Sgarbi^{1,2}, L.K. Matsumura¹, T.S. Kasamatsu¹, R.M.B. Maciel¹

¹Division of Endocrinology, Department of Medicine, Federal University of São Paulo, São Paulo; and ²Marília Medical School, Marília, Brazil

78 Thyroid Diseases

The Possible Contribution of Anti-Gal to Graves' Disease

J. Fullmer¹, A. Lindall², R. Bahn³, C. Mariash⁴

Departments of ¹Neuroscience and ²Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, Minnesota; 3) Division of Endocrinology, Mayo Medical School, Rochester, Minnesota; and

⁴Division of Endocrinology, University of Minnesota, Minneapolis, Minnesota, USA

79 Thyroid Diseases

Longitudinal Changes in Bone Mineral Metabolism and Hormonal Status in Young Patients with Graves' Disease

S.I. Ismailov, B.K. Babakhanov

Institute of Endocrinology, Tashkent, Uzbekistan

80 Thyroid Diseases

Frequency of the Late Diabetic Complications in Patients with Graves' Disease

N.N. Maksutova, Z.S. Akbarov, Z.M. Shamansurova

Institute of Endocrinology, Tashkent, Uzbekistan

81 Thyroid Diseases

Propylthiouracil-induced P-ANCA Positivity in Setting of Acute Renal Failure

L. Moore, D. Martinez, A. Van Herle

Division of Endocrinology, University of California Los Angeles, Los Angeles, California, USA

82 Thyroid Diseases

Treatment of Multinodular Goiter with Radioactive Iodine and Previous Administration of Recombinant TSH (rTSH)

C.C. Albino¹, C.O. Mesa², H. Graf²

¹Instituto de Diabetes e Endocrinologia de Maringá (IDEM), Maringá, and ²Serviço de Endocrinologia e Metabologia do Hospital de Clínicas da Universidade Federal do Paraná (SEMPR), Curitiba, Brazil

Thursday, October 10, 2002
Emerald Room – Review of Posters 41 to 98

83 Thyroid Diseases
Lipids and Subclinical Hypothyroidism in Older Patients with Metabolic Disorders and Arterial Hypertension

C. Benites, L. Luna, C. Zea
Guillermo Almenara National Hospital-EsSalud, Lima, Peru

84 Thyroid Diseases

Exophthalmos in Absence of Graves' Disease in Euthyroid Patients

S. Mukherjee, D.F. Child
Wrexham Maelor Hospital, Wrexham, United Kingdom

85 Thyroid Hormone Action

Raloxifene Prevents Osteoporosis in Postmenopausal Women under Suppressive Treatment with L-Thyroxine

¹Endocrine Unit and ²Unit Bone Mineral Density, Evgenidion Hospital, University of Athens Medical School, Athens, Greece

86 Thyroid Hormone Action

Does Low-T3 Syndrome Predict a Bad Prognosis in Patients with Dilated Cardiomyopathy?

A. Pingitore, P. Landi, M. Raciti, C. Taddei, A. Bottoni, A. L'Abbate, G. Iervasi
Research National Council (CNR) Institute of Clinical Physiology, Pisa, Italy

87 Thyroid and Development

Pre-natal Screening for Maternal Hypothyroxinemia to Reduce Source of Neurodevelopmental or IQ Deficits

A. Engel¹, O.P. Soldin¹, S.H. Lamm^{1,2}
¹Consultants in Epidemiology and Occupational Health, Inc., Washington, DC; ²Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA

89 Thyroid Hormone Action

T3 Receptor (TR) Activity Is Modulated by TR $\Delta\beta$ 3 in a Cell-, Response Element-, and TR Isoform-specific Manner

C.B. Harvey, E.O. Jinadu, G.R. Williams
Molecular Endocrinology Group, Imperial College of Science Technology and Medicine, Hammersmith Hospital,
London, United Kingdom

90 Thyroid Hormone Action

Testicular Enlargement in TR α (P398H) Mutant Mice: Histology and Gene Expression Analysis

Y.-Y. Liu¹, A.P. Sinha-Hikim², J.J. Schultz¹, G.A. Brent¹
¹VA Greater Los Angeles Healthcare System, Departments of Medicine and Physiology, University of California Los Angeles School of Medicine, and ²Department of Endocrinology, Harbor-UCLA Medical Center, Los Angeles, California, USA

- 91 Thyroid Hormone Action
The Truncated Thyroid Hormone Receptor α (TR α) Gene Products TR $\Delta\alpha$ 1 and TR $\Delta\alpha$ 2 Bind T4 and rT3 but Not T3
A. Farwell¹, J. Leonard²
Departments of ¹Medicine and ²Physiology, University of Massachusetts Medical School, Worcester, Massachusetts, USA
- 92 Thyroid Hormone Action
The Truncated Thyroid Hormone Receptor α Gene Product, TR $\Delta\alpha$ 1, Mediates T4-regulated Actin Polymerization in Astrocytes
A. Farwell¹, J. Leonard²
Departments of ¹Medicine and ²Physiology, University of Massachusetts Medical School, Worcester, Massachusetts, USA
- 93 Thyroid Hormone Action
Hypothyroidism Induces Fos Expression in the Dorsal Motor Nucleus of the Vagus (DMV), Nucleus Tractus Solitarii (NTS), and Area Postrema (AP)
P.Q. Yuan, H. Yang
Department of Medicine and Brain Research Institute, CURE: Digestive Diseases Research Center, University of California Los Angeles, Los Angeles, California, USA
- 94 Thyroid Hormone Action
Adenovirus 5-E1A-dependent Gene Activation of the Thyroid Hormone Receptor Is Regulated by the Cellular Context of Co-regulator and Adaptor Proteins
X. Meng¹, Y. Yang¹, X. Cao¹, M. Govindan³, J. Torchia⁴, A. Hollenberg⁵, J. Mymryk⁴, P.G. Walfish^{1,2}
¹Samuel Lunenfeld Research Institute of Mount Sinai Hospital and ²Department of Medicine, Endocrine Division, University of Toronto Medical School, Toronto, Ontario, Canada; ³Centre de Recherche Hotel-Dieu de Quebec Universite, Laval, Quebec, Canada; ⁴Departments of Oncology, Pharmacology & Toxicology, Microbiology and Immunology, The University of Western Ontario and London Regional Cancer Centre, London, Ontario, Canada; and ⁵Thyroid Unit, Department of Medicine, Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, Massachusetts, USA
- 95 Thyroid Hormone Action
Increased Mitochondrial Oxygen Consumption in Skeletal Muscle of Cold-acclimated Hypothyroid Rats
A. Zaninovich¹, M. Raices², I. Rebagliati¹, C. Ricci¹
¹Thyroid Research Laboratory, Nuclear Medicine Center, University of Buenos Aires Hospital, and ²Institute for Genetic Engineering and Molecular Biology, University of Buenos Aires, Buenos Aires, Argentina
- 96 Thyroid Hormone Action
Regulation of Transferrin Gene Expression by Thyroid Hormone and Its Receptor
K. Lin
Department of Biochemistry, Chang-Gung University, Taoyuan, Taiwan, ROC
- 97 Thyroid Hormone Action
Effect of Thyroid Hormone on Sarcoplasmic Reticulum Ca²⁺-ATPase in Human Vascular Smooth Muscle Cells
A. Maeda, N. Toyoda, S. Yasuzawa, T. Iwasaka, M. Nishikawa
Kansai Medical University, Moriguchi-City, Osaka, Japan

Thursday, October 10, 2002
Morning Session

98 Thyroid Hormone Action
Effect of Thyroid Hormone on Vascular Smooth Muscle Cell Growth
S. Yasuzawa, N. Toyoda, A. Maeda, T. Iwasaka, M. Nishikawa
Kansai Medical University, Moriguchi-City, Osaka, Japan

10:30 am Simultaneous Symposia

Biltmore Bowl

Clinical: Use of KI to Protect the Thyroid in the Event of a Nuclear Incident

Chair: David V. Becker

Thyroid Physiology and Effects

of Iodine (KI) on Thyroid Function Lewis E. Braverman

Radiation Effects on the Thyroid R. Michael Tuttle

Population Exposure to I-131 and
the Induction of Thyroid Pathology Elaine Ron

Round Table: David V. Becker, Manfred Blum, Lewis E. Braverman,
Jacob Robbins, Elaine Ron, Arthur B. Schneider, and R. Michael Tuttle

Crystal Ballroom

Basic: Thyroid Hormone Receptor Factors

Chair: Norman L. Eberhardt

TR Coactivators Mitchell A. Lazar

TR-Cofactors Herbert Samuels

TR Structure-Cofactor Interaction Brian West

Thursday, October 10, 2002
Afternoon Session

12:00 noon – 1:30 pm **Meet the Professor Luncheon Workshops**
Advance purchase required; admission by ticket only

Experts and specialists in thyroid disease and pathophysiology will present their research and findings in an interactive luncheon workshop.

Athenian Room – Mezzanine Level

Complications of Radioiodine Therapy in Thyroid Cancer: Focus on the Salivary Glands

Louis Mandel and Susan J. Mandel

Supported by the University of Southern California Thyroid Group Endowment

Corinthian Room – Mezzanine Level

Thyroid Hormone and Bone: Clinical and Basic Features

Graham R. Williams

Supported by an educational grant from Bristol-Myers Squibb Co.

Roman Room – Mezzanine Level

Influence of Environmental Agents on Thyroid Function and Brain Development in Pregnancy

R. Thomas Zoeller and Joanne Rovet

Supported by an educational grant from Abbott Laboratories

Mediterranean Room – Mezzanine Level

Medical and Surgical Approaches to Unusual Types of Thyroid Cancer

Shuji Fukata and Fumio Matsuzuka

Cordoban Room – Mezzanine Level

Successful Grant Preparation and Academic Career Development

Syed Amir, Ronald J. Koenig, and Ronald J. Margolis

Heinsbergen Room – South Galeria

Strategies to Develop Novel Treatment for Patients with Advanced Thyroid Cancer

Sissy M. Jhiang and Richard Kloos

1:30 – 2:30 pm Regency Room and Emerald Room
Exhibits, Poster Review, and Coffee Break

Regency Room Foyer and Emerald Room

Review of Posters

Poster Plus 5-40

Posters 41-98

Investigators available to discuss their posters

Thursday, October 10, 2002
Afternoon Session

2:30 – 4:00 pm Simultaneous Sessions

Biltmore Bowl

Clinical Oral Abstracts

Chairs: Gerald S. Levey and Irwin L. Klein

99 2:30 pm Autoimmunity

Randomized Trial of Intravenous versus Oral Steroid Therapy in Graves' Ophthalmopathy

G.J. Kahaly¹, M. Dittmar^{1,2}, C. Antunes¹, G. Hommel³, S. Pitz⁴

Departments of ¹Medicine I, ²Biology, ³Medical Statistics, and ⁴Ophthalmology, Gutenberg University, Mainz, Germany

100 2:45 pm Thyroid and Development

Visual Processing Deficits in Infancy following Maternal Hypothyroidism and Congenital Hypothyroidism

G. Mirabella¹, C. Westall^{1,2}, K. Perlman^{1,2}, G. Koren^{1,2}, J. Rovet^{1,2}

¹University of Toronto, and ²The Hospital for Sick Children, Toronto, Ontario, Canada

101 3:00 pm Thyroid Diseases

Management Practices of Thyroid Specialists in the Diagnosis and Treatment of Subclinical Hyperthyroidism

W.W. Woodmansee, M.T. McDermott, A. Smart, B.R. Haugen, E.C. Ridgway

Division of Endocrinology, University of Colorado Health Sciences Center, Denver, Colorado, USA

102 3:15 pm Thyroid Diseases

Atrial Fibrillation Predicts Mortality in Hyperthyroidism

J. Franklyn, F. Osman, J. Daykin, M. Sheppard, M. Gammage

Division of Medical Sciences, University of Birmingham, Birmingham, United Kingdom

103 3:30 pm Thyroid Diseases

Mutations in KCNE3 and KCNE4 Potassium Channel Genes Are Associated with Susceptibility to Thyrotoxic Hypokalemic Periodic Paralysis

M.R. Dias da Silva, J.M. Cerutti, R.M.B. Maciel

Laboratory of Molecular Endocrinology, Division of Endocrinology, Department of Medicine, Federal University of São Paulo, São Paulo, Brazil

104 3:45 pm Thyroid Diseases

An Examination of the Relationship between Coronary Artery Calcium Scores and Serum TSH in Patients Undergoing Non-contrast Electron Beam Computed Tomography (EBCT) at Walter Reed Army Medical Center (WRAMC)

V. Mohan, H. Burch

Endocrine and Metabolic Service, Department of Medicine, Walter Reed Army Medical Center, Washington, DC, USA

2:30 – 4:00 pm Simultaneous Sessions

Crystal Ballroom

Basic Oral Abstracts

Chairs: Marvin C. Gershengorn and Stephanie L. Lee

105 2:30 pm Cell Biology

Transforming Growth Factor- β 1 (TGF- β 1) Up-regulates Pendrin (PDS) Gene Expression: It Acts by Modulating a Thyroid Transcription Factor-1 (TTF-1) Promoter Element That Also Controls Constitutive PDS Expression in the Thyroid

N. Harii¹, Y. Noguchi¹, C. Lewis¹, L.D. Kohn¹

¹Edison Biotechnical Institute and Department of Biomedical Sciences, Ohio University College of Osteopathic Medicine, Athens, Ohio, USA

106 2:45 pm Thyroid Hormone Metabolism

Identification of MCT8 as a Major Thyroid Hormone Transporter

E. Friesema¹, S. Ganguly², J. Manning Fox², A. Abdalla¹, A. Halestrap², T. Visser¹

¹Department of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands; and ²Department of Biochemistry, University of Bristol, Bristol, United Kingdom

107 3:00 pm Cancer

Mice with a Mutation in the Thyroid Hormone Receptor β Gene Spontaneously Develop Thyroid Carcinoma: a Mouse Model of Thyroid Carcinogenesis

H. Suzuki¹, H. Yin¹, R.L. Walker², P.S. Meltzer², M. Willingham³, S-y. Cheng¹

¹National Cancer Institute and ²Human Genome Research Institute, Bethesda, Maryland; and ³Wake Forest University, Winston-Salem, North Carolina, USA

108 3:15 pm Cancer

The PAX8/PPAR- γ Putative Follicular Thyroid Carcinoma Oncogene Down-regulates Expression of the TRAIL-related Death Receptor 5

X.-L. Wang¹, J.G. Powell¹, S.K.G. Grebe², M. Sahin³, I.D. Hay¹, N.L. Eberhardt¹, B. McIver¹

¹Division of Endocrinology and ²Department of Laboratory Medicine and Pathology, Mayo Clinic and Foundation, Rochester, Minnesota, USA; and ³Division of Endocrinology, University of Ankara, Ankara, Turkey

109 3:30 pm Cell Biology

Administration of Recombinant Adenoviruses Expressing Antiangiogenic Factors Blocks Goitrogenesis in Mice

J. Ramsden¹, E. Davies¹, V. Mautner², L. Seymour², A. Logan¹, J. Franklyn¹, J. Watkinson¹, M. Eggo¹

Departments of ¹Medicine and ²Cancer Studies, University of Birmingham, Birmingham, United Kingdom

110 3:45 pm Thyroid Hormone Action

The Human Type 2 Iodothyronine Selenodeiodinase (D2) Is Ubiquitinated via Interaction with the Mammalian Ubiquitin Conjugases MmUBC7 and MmUBC6

B. Kim, A. Zavacki, J. Harney, P. Larsen, A. Bianco

Thyroid Division, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts, USA

Thursday, October 10, 2002
Afternoon Session

4:00 – 5:30 pm Simultaneous Sessions

Biltmore Bowl

Clinical: Thyroid Cancer – Novel Therapies

Chair: Ian D. Hay

Redifferentiation Therapy

Thyroid Cancer Adjuvants

Ret Kinase Inhibitors

Nicholas J. Sarlis

Steven I. Sherman

Jeffrey A. Knauf

Crystal Ballroom

Basic: TSH Receptor

Chair: Terry J. Smith

TSH-Receptor Analogues

TSH-R Domains and Immunogenicity

An Animal Model of Graves'

Bruce D. Weintraub

Sandra M. McLachlan

Yuji Nagayama

6:30 to 10:00 pm

Universal Studios

Advance reservation required; admission by ticket only

Sponsored by Abbott Laboratories, Inc.

6:30 pm

Buses depart from the Millennium Biltmore Hotel

**74th Annual Meeting of the American Thyroid Association
Millennium Biltmore Hotel
Los Angeles, California
October 10 – 13, 2002**

Friday, October 11, 2002

- 6:00 – 7:45 am Crystal Ballroom
Expanding the Utility of rhTSH in Benign and Malignant Thyroid Disease
Moderator: Mary H. Samuels
Compassionate Use of rhTSH in Differentiated
 Thyroid Carcinoma Albert Driedger
Influence of rhTSH on PET Scanning in DTC Thorsten Petrich
Human Recombinant TSH Enhances the Efficacy
 of Radioiodine Treatment for Multinodular Goiter Geraldo Medeiros-Neto
*“Early Riser” Symposium and Breakfast supported by an unrestricted educational grant
from Genzyme Therapeutics*
- 8:00 – 8:45 am Biltmore Bowl
Van Meter Award Lecture – To Be Announced
*Established in 1930, the Van Meter is awarded to an investigator younger than age 45
for outstanding contributions to research on the thyroid gland or related subjects.
Supported by an educational grant from Quest Diagnostics Incorporated*
- 8:45 – 10:00 am Simultaneous Sessions
- Biltmore Bowl
Clinical Plenary Abstracts
Chairs: Susan J. Mandel and Jeffrey R. Garber
- 111 8:45 am Thyroid Diseases
The Impact of Treatment of Overt and Subclinical Hyperthyroidism
M. Brennan¹, C. Powell², K. Nair¹
Divisions of ¹Endocrinology and ²Biostatistics, Mayo Clinic and Medical School, Rochester, Minnesota, USA
- 112 9:00 am Thyroid Diseases
Thyroid Disorders and Smoke Exposure: Complex Associations in NHANES III
R. Belin¹, B. Astor², N. Powe², P. Ladenson¹
¹Division of Endocrinology & Metabolism and ²Welch Center for Prevention, Epidemiology & Clinical Research,
Bloomberg School of Public Health, Johns Hopkins Medical Institutions, Baltimore, Maryland, USA

Friday, October 11, 2002
Morning Session

113 9:15 am Thyroid Hormone Metabolism

Overexpression of the Type 2 Deiodinase in Large or Widely Metastatic Follicular Thyroid Carcinoma Causes Increased Efficiency of Peripheral Thyroxine-to-Triiodothyronine Conversion

B. Kim¹, G. Daniels², B. Harrison³, A. Price⁴, J. Harney¹, P. Larsen¹, A. Weetman⁵

¹Thyroid Division, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, Massachusetts; ²Thyroid Unit and Department of Medicine, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, USA; University of Sheffield Clinical Sciences Centre and Departments of ³Surgery and ⁴Clinical Chemistry, Northern General Hospital, Sheffield; and ⁵University of Sheffield Clinical Sciences Centre and Northern General Hospital, Sheffield, United Kingdom

114 9:30 am Thyroid Hormone Metabolism

Polymorphisms in Thyroid Hormone-related Genes Are Associated with Serum Thyroid Parameters in Normal Subjects

R.P. Peeters¹, H. Van Toor¹, Y.B. de Rijke^{1,3}, A.G. Uitterlinden^{1,2,3}, T.J. Visser¹

Departments of ¹Internal Medicine, ²Epidemiology and Biostatistics, and ³Clinical Chemistry, Erasmus Medical Center, Rotterdam, The Netherlands

115 9:45 am Thyroid Nodules and Goiter

Comparative Effects of L-Thyroxine (L-T4) and 3,5,3'Triiodothyroacetic Acid (TRIAC) on Euthyroid Goiter and Peripheral Parameters

G. Brenta¹, M. Schnitman¹, O. Fretes¹, E. Facco¹, M. Gurfinkel¹, S. Damilano¹, M.A. Pisarev^{1,2,3}

¹French Hospital, ²National Atomic Energy Commission, and ³Department of Radiobiology, University of Buenos Aires School of Medicine, Buenos Aires, Argentina

8:45 – 10:00 am Simultaneous Sessions

Crystal Ballroom

Short Call Abstract Presentations

Chairs: Aldo A. Pinchera and Sandra M. McLachlan

A forum presenting the latest in thyroid-related research

10:00 – 10:30 am Regency Room and Emerald Room

Exhibits, Poster Review, and Coffee Break

Regency Room Foyer and Emerald Room

Review of Posters

Poster Plus 5-40

Posters 116-174

Investigators available to discuss their posters

116 Cancer

The Clinical Utility of Thyroglobulin Messenger RNA Quantification in the Monitoring of Patients with Differentiated Thyroid Carcinoma

M. Sadouk, A. Boucher, J. Lavoie, R. Chartrand, R. Belanger and J.-M. Boutin

Biochemistry Department, Centre Hospitalier de l'Université de Montréal, Montréal, Quebec, Canada

- 117 Cancer
Cardiovascular Effects of Acute rhTSH Administration to Patients Followed for Differentiated Thyroid Cancer
B. Biondi¹, E.A. Palmieri², L. Pagano¹, M. Klain³, G. Scherillo², M. Salvatore³, G. Fenzi¹, G. Lombardi¹, S. Fazio²
¹Department of Clinical and Molecular Endocrinology and Oncology, ²Department of Clinical Medicine and Cardiovascular Sciences, and ³Department of Biomorphological and Functional Sciences, University of Naples Federico II School of Medicine, Naples, Italy
- 118 Cancer
Differentiated Thyroid Cancer (DTC) Patients with Detectable Preoperative Serum TgAb Have Higher Risk of Recurrent/Persistent Disease (R/P)
S. Fatemi, R. Guttler, J. LoPresti, P. Singer, C. Spencer
Department of Medicine, University of Southern California, Los Angeles, California, USA
- 119 Cancer
The National Cancer Institute's *Making Choices. Screening for Thyroid Cancer: From Concept to Product*
M. Farrell¹, E. Handley¹, A. Barratt², N. Weinstein¹, A. Cotler³
¹National Cancer Institute, Bethesda, Maryland, USA; ²University of Sydney, Sydney, Australia; and ³Matthews Media Group, Rockville, Maryland, USA
- 120 Cancer
Health Profiles and Quality of Life of 518 Survivors of Thyroid Cancer
P. Schultz¹, C. Stava², R. V-Sellin¹
¹Department of Endocrine Neoplasia and Hormonal Disorders and ²Life After Cancer Care Program, The University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA
- 121 Cancer
Predictive Value of Serum Thyroglobulin after Surgery for Well-differentiated Papillary-Follicular Thyroid Carcinoma
F. Hall¹, N. Beasley¹, S. Eski², I. Witterick¹, J. Freeman¹, P. Walfish^{1,2}
¹Department of Otolaryngology Head and Neck Surgery, and ²Department of Medicine, Endocrine Division and Head and Neck Oncology Program, Mount Sinai Hospital and University of Toronto Medical School, Toronto, Ontario, Canada
- 122 Cancer
New Insight into rhTSH-stimulated Serum Tg Testing as Revealed by a Recently Developed Second Generation Tg Assay
C. Spencer, S. Fatemi, R. Guttler, J. LoPresti, P. Singer, J. Nicoloff
Department of Medicine, School of Medicine, University of Southern California, Los Angeles, California, USA
- 123 Cancer
¹³¹I Ablation Success after Iodine Depletion in Thyroid Cancer Patients
C. Passero¹, L. Arce¹, S. Reinert², J. Hennessey¹
¹Brown Medical School, Rhode Island Hospital, and ²Lifespan Academic Medical Center, Providence, Rhode Island, USA

Friday, October 11, 2002
Emerald Room – Review of Posters 116 to 173

- 124 Cancer
Thyroglobulin Responses following Recombinant Human TSH Stimulation in Thyroid Cancer: Influence of Site of Metastases
R.J. Robbins, M. Fleisher, R.M. Tuttle
Endocrine and Clinical Chemistry Services, Memorial Sloan-Kettering Cancer Center, New York, New York, USA
- 125 Cancer
Detecting Residual Differentiated Thyroid Carcinoma with Serum Thyroglobulin
R.J. Robbins¹, R.M. Tuttle¹, A. Smith¹, J. Hurley², J.T. Chon¹, L. Hann¹, N. Sinha², S.M. Larson¹, M. Fleisher¹
¹Memorial Sloan-Kettering Cancer Center and ²New York Presbyterian Hospital, Weill College of Medicine, Cornell University, New York, New York, USA
- 126 Cancer
Age-dependent Expression of NIS Protein: A Clue for the High Sensitivity of Childhood Thyroid Gland to the Carcinogenic Effects of Radioiodine
A. Faggiano^{1,3}, M. Talbot¹, J. Bidart², B. Caillou¹, M. Schlumberger³
¹Departments of Pathology, ²Clinical Biology, and ³Nuclear Medicine, Institut Gustave-Roussy, Villejuif, Cédex, France
- 127 Cancer
The Axilla as a Rare Site of Metastatic Thyroid Cancer with Ominous Implications
G. Lal, P. Ituarte, Q-Y. Duh, O. Clark
Department of Surgery, University of California San Francisco, San Francisco, California, USA
- 128 Cancer
Comparison of Five Prognostic Scoring Systems for Differentiated Thyroid Cancer (DTC) in a Series of 1053 Patients
F. Pacini¹, M. Capezzone¹, L. Agate¹, E. Molinaro¹, M.G. Castagna¹, L. Masserini², R. Elisei¹, A. Pinchera¹
Departments of ¹Endocrinology and Metabolism and ²Statistics, University of Pisa, Pisa, Italy
- 129 Cancer
Fatal Outcome of a Young Woman with Papillary Thyroid Carcinoma and Graves' Disease: Possible Implication of the Crosstalk (Cross-Signalling) Mechanism
G. Cross¹, H. Suarez², O. Bruno¹, M. Vanegas¹, D. Moncet¹, H. Niepomniszcze¹
¹Division of Endocrinology, Hospital de Clinicas-UBA, Buenos Aires, Argentina; and ²Laboratoire de Genetique Moleculaire, Institut de Recerches sur le Cancer, Villejuif Cedex, France
- 130 Cancer
Outcome Analysis for Neck Recurrences following Surgical and I-131 Treatment (RAI) of Differentiated Thyroid Cancers
P. Arora¹, L. Wang², M. Blum³
¹Endocrine Research Unit, Mayo Graduate School of Medicine, Rochester, Minnesota; Departments of ²Medicine and ³Clinical Medicine and Radiology, New York University School of Medicine, New York, New York, USA
- 131 Cancer
Lack of Mutation in Exon 10 of p53 Gene in Thyroid Tumors
P.L. Santarosa, F. Granja, E.C. Morari, J.L.A.A.P. Leite, L.S. Ward
Laboratory of Cancer Molecular Genetics, Faculty of Medicine, University of Campinas, São Paulo, Brazil

- 132 Cancer
Prognostic Factors and Therapy in Hürthle Cell Thyroid Carcinoma: Analysis of the Disease-free Interval
N. Besic, M. Hocevar, B. Videgar-Kralj
Institute of Oncology, Ljubljana, Slovenia
- 133 Cancer
Therapy with rhTSH and Radioactive Iodine for Metastatic Hürthle Cell Thyroid Carcinoma
N. Besic, B. Videgar-Kralj, M. Hocevar, A. Schwartzbartl-Pevac
Institute of Oncology, Ljubljana, Slovenia
- 135 Cancer
Cytology Can Predict Histology of Follicular Thyroid Neoplasms
L. Boboc¹, S. Suterwala², S. Kini², S. Zafar¹, M. Wisgerhof¹
¹Division of Endocrinology and Metabolism and ²Division of Cytopathology, Henry Ford Hospital, Detroit, Michigan, USA
- 136 Cancer
Ablation and Remission Rate of Differentiated Thyroid Cancer at King Faisal Specialist Hospital & Research Centre (KFSH&RC) and Factors Affecting Outcome
E. AlFadhli¹, A. AlHajjaj¹, S. Bakheet², H. Raef¹, A. AlNuaim¹
Departments of ¹Medicine and ²Radiology, King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia
- 137 Cancer
Giant Follicular Thyroid Carcinoma Arising in Human Cranium
C. Clinkingbeard¹, I.R. McDougall², E. Leavitt³, A. Haelan⁴
¹University of Washington, Seattle, Washington; ²Stanford Medical Center, Stanford University, Stanford, California; ³Brigham Young University, Provo, Utah; and ⁴Metismed, Boise, Idaho, USA
- 138 Cancer
A Combination of a Thiazolidenedione and a Retinoid Synergistically Inhibits Thyroid Cancer Cell Proliferation
B. Haugen, W. Hays, M. McGuirk, V. Sharma
Division of Endocrinology, Department of Medicine, University of Colorado Health Sciences Center, Denver, Colorado, USA
- 139 Cancer
PTC1 Decreases NIS Expression and Confers TSH-Independent Growth by Two Distinct Phosphotyrosine Signaling Pathways
A. Venkateswaran¹, A. Fischer², S. Jhiang¹
¹The Ohio State University, Columbus, Ohio, and ²University of Massachusetts, Amherst, Massachusetts, USA

Friday, October 11, 2002
Emerald Room – Review of Posters 116 to 173

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Cancer

Estradiol Promotes the Expression of Metallothionein II and Provides Resistance to Apoptosis in Thyroid Tumor Cells

G.G. Chen^{1,2}, B.C.H. Leung¹, M.G. Cherian³, A.C. Vlantis¹, R. Wilson⁴, J.H. McKillop⁴, A.C. van Hasselt¹

¹Department of Surgery and ²Sir Y.K. Pao Center for Cancer, Prince of Wales Hospital, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong; ³Department of Pathology, University of Western Ontario, London, Ontario, Canada; and ⁴University Department of Medicine, Royal Infirmary, University of Glasgow, Glasgow, Scotland, United Kingdom

141

Cancer

Loss of Heterozygosity (LOH) on Chromosome 7q21 Is an Early Event in the Development of Thyroid Follicular Carcinoma

S. Sciacchitano¹, A. Olivieri², R. Dominici³, R.M. Ruggeri⁴, E. Vitarelli⁵, G. Barresi⁵, F. Trimarchi⁴, E. Brunetti², A. Vecchione¹, M. Andreoli¹, S. Benvenga⁴, M. Trovato⁵

¹II Faculty of Medicine, University “La Sapienza,” Rome, Italy; ²Centro Ricerche Ospedale S. Pietro Fatebenefratelli, AFAR, Rome, Italy; ³Istituto di Neurobiologia e Medicina Molecolare, CNR, Rome, Italy; ⁴Dipartimento Clinico-Sperimentale di Medicina e Farmacologia, Messina, Italy; and ⁵Dipartimento di Patologia Umana, University of Messina, Messina, Italy

142

Cancer

TSH and Cyclic AMP Enhance RET/PTC-3-mediated Akt Activation

M. Braga-Basaria, E. Miyagi, E. Hardy, V. Vasko, M. Saji, M. Ringel
MedStar Research Institute, Washington Hospital Center, Washington, DC, USA

143

Cancer

Cyclin D1 Overexpression in Thyroid Tumors after the Chernobyl Accident and Its Relations with Aberrant Beta-catenin and Pin1 Expression

S. Meirmanov¹, M. Nakashima¹, V. Saenko¹, T. Rogounovitch¹, M. Ito², S. Yamashita¹, I. Sekine¹

¹Atomic Bomb Disease Institute, Nagasaki University School of Medicine, and ²National Nagasaki Medical Center, Nagasaki, Japan

144

Cancer

Oligodeoxyribonucleotide Phosphorothioates (ODNs) Complementary to p53 Nucleotide Sequences Inhibit Proliferation, VEGF Secretion and Induce Chemosensitivity in the Follicular Thyroid Cancer Cell Line FTC 133

I. Hassan, S. Hoffmann, A. Wunderlich, A. Zielke
Department of Surgery, University of Marburg, Marburg, Germany

145

Cancer

Expression of Human Epididymalprotein 1 (HE-1) in Papillary Carcinoma

M. Sugawara, F. Moatamed, J. Asakawa
Greater Los Angeles Veterans Affairs Medical Center, University of California Los Angeles School of Medicine, Los Angeles, California, USA; and Radiation Effect Research Foundation, Hiroshima, Japan

- 146 Cancer
A Soluble TGF-beta Inhibitor Lowers Tumor Interstitial Fluid Pressure in Experimental Human Anaplastic Thyroid Carcinoma
N.-E. Heldin¹, E. Lammarts², P. Roswall¹, C. Sundberg², P.J. Gotwals³, V.E. Koteliansky³, R.K. Reed⁴, K. Rubin²
¹Department of Genetics and Pathology, Uppsala University Hospital, and ²Department of Medical Biochemistry and Microbiology, Uppsala University, Uppsala, Sweden; ³Biogen Inc., Cambridge, Massachusetts, USA; and ⁴Department of Physiology, University of Bergen, Bergen, Norway
- 147 Cancer
P16 Dominates over P21 for the Cell Cycle Arrest Induced by Decorin in Thyroid Carcinomas
H. Gerber², E.-M. Abdo¹, K. Baumann¹, U. Marti², H.-J. Peter¹, E. Bürgi-Saville¹, U. Bürgi¹.
Departments of ¹General Internal Medicine and ²Clinical Chemistry, University Hospital, University of Bern, Switzerland
- 148 Cancer
Decorin Down-regulation in Thyroid Carcinomas Is Associated with Unusual Regulation of Its Binding Proteins (EGFR and ErbB2)
H. Gerber², E.-M. Abdo¹, U. Marti², H.-J. Peter¹, E. Bürgi-Saville¹, U. Bürgi¹
Departments of ¹General Internal Medicine and ²Clinical Chemistry, University Hospital, University of Bern, Switzerland
- 149 Cancer
2-Methoxyestradiol (2-ME) Induces Apoptosis in Anaplastic Thyroid Carcinoma Cells
P. Roswall¹, S. Bu², K. Rubin³, M. Landström², N.-E. Heldin¹
¹Department of Genetics and Pathology, University of Uppsala, ²Ludwig Institute for Cancer Research, and ³Department of Medical Biochemistry and Microbiology, University of Uppsala, Uppsala, Sweden
- 150 Cancer
IL-18 Expression in Human Thyroid Carcinomas
Y. Takiyama¹, N. Miyokawa², K. Ito³, M. Tateno¹
¹The Second Department of Pathology and ²Surgical Pathology, School of Medicine, Asahikawa Medical College, Asahikawa, Japan; and ³Ito Hospital, Tokyo, Japan
- 151 Cancer
Enhanced Expression of Nicotinamide N-methyltransferase in Human Papillary Thyroid Carcinoma Cell Lines
J. Xu¹, J. Caldwell², J. Walker², Z. Kraiem³, G.A. Brent¹, J.M. Hershman¹
¹Endocrinology and Metabolism Division, Veterans Affairs Medical Center, University of California Los Angeles School of Medicine, Los Angeles; ²Novartis Genomics Research Foundation, La Jolla, California, USA; and ³Endocrine Research Unit, Carmel Medical Center, Haifa, Israel
- 152 Cancer
Expression of Wild Type PPAR Gamma in Medullary Thyroid Carcinoma
R. Elisei, C. Romei, L. Galleri, A. Vivaldi, R. Ciampi, V. Bottici, A. Pinchera, F. Pacini
Department of Endocrinology, University of Pisa, Pisa, Italy

Friday, October 11, 2002
Emerald Room – Review of Posters 116 to 173

153 Cancer
Differential Effects of Transforming Growth Factor- β 1 on Telomerase Activity in Human Anaplastic Thyroid Carcinoma Cells

A. Lindkvist, Å. Franzén, N.-E. Heldin, Y. Paulsson-Karlsson
Department of Genetics and Pathology, Uppsala University, Uppsala, Sweden

154 Cancer
Differential Expression of the Selenium Binding Protein-1 in Thyroid Cancer Cell Lines

T. Kogai¹, Y. Kanamoto¹, J. Caldwell², J. Walker², J.M. Hershman¹, G.A. Brent¹
¹Endocrinology Division, VA Greater Los Angeles Healthcare System and University of California Los Angeles School of Medicine, Los Angeles, California; and ²Novartis Genomic Research Foundation, La Jolla, California, USA

155 Cancer
Cathepsin D as a Prognostic Marker in Thyroid Carcinoma of Endemic Origin

A. Agarwal¹, S.K. Mishra¹, S. Gupta², M.M. Godbole²
Departments of ¹Endocrine Surgery and ²Endocrinology, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Utta Pradesh, India

156 Cancer
Down-regulation of Thyroid Hormone Receptor Expressions by Thyroid Hormone in Human Neuroblastoma SH-SY5Y Cells and Medulloblastoma HTB-185 Cells

Y. Nihei, T. Monden, S. Ishii, K. Hashimoto, T. Satoh, M. Yamada, M. Mori
First Department of Internal Medicine, Gunma University School of Medicine, Maebashi, Japan

157 Cancer
Alterations of Mitochondrial DNA in Radiation-associated Human Thyroid Tumors

T. Rogounovitch¹, V.A. Saenko¹, E.F. Lushnikov², A.Y. Abrosimov², P.O. Roumiantsev², J. Ishigaki³, H. Namba¹, S. Yamashita¹
¹Department of Molecular Medicine, Atomic Bomb Disease Institute, Nagasaki University School of Medicine, Nagasaki, Japan; ²Medical Radiological Research Center RAMS, Obninsk, Russia; and ³Ishigaki Thyroid Clinic, Hamamatsu, Japan

158 Cancer
Implication of hSNK in Thyroid Cancerogenesis

K. Sugiyama, Y. Shimizu-Yoshida, M. Nakashima, A. Ohtsuru, H. Nanba, S. Yamashita
Atomic Bomb Disease Institute Nagasaki University School of Medicine, Nagasaki, Japan

159 Cancer
Demonstration of Mutations in the Promoter of the Manganese Superoxide Dismutase Gene in Post-Chernobyl Papillary Thyroid Carcinomas from Belarus

J. Figge¹, N. Kartel², G. Ermak³
¹State University of New York, Albany, New York, USA; ²Institute of Genetics and Cytology, Belarus; and ³University of Southern California, Los Angeles, California, USA

160 Cancer

Molecular Analysis of Thyroid Nodules That Developed following External Beam Irradiation for Tinea Capitis

S. Sadetzki¹, R. Calderon¹, B. Modan¹, R.M. Tuttle²

¹Chaim Sheba Medical Center, Tel Hashomer, Israel; and ²Memorial Sloan Kettering Cancer Center, New York, New York, USA

161 Thyroid Nodules and Goiter

Recombinant Human TSH (hrTSH) Is Highly Effective in the Preparation of Multinodular Goiter for Radioiodine (RAI) Ablation

M.N.C. Silva¹, I.G.S. Rubio¹, C. Buchpiguel², R.Y. Camargo¹, E. Tomimori¹, M.S. Cardia¹, G. Medeiros-Neto¹

¹Thyroid Unit, Division of Endocrinology, and ²Nuclear Medicine, University of São Paulo Medical School, São Paulo, Brazil

162 Thyroid Nodules and Goiter

Three Brazilian Families with Congenital Goiter and Defective Thyroglobulin Synthesis Associated with a Novel Homozygous Mutation (A2234N) in the Thyroglobulin Gene

J. Vono-Toniolo^{1,2}, G. Medeiros-Neto², P. Kopp¹

¹Division of Endocrinology, Metabolism & Molecular Medicine, Northwestern University, Chicago, Illinois, USA; and ²Thyroid Unit, University of São Paulo Medical School, São Paulo, Brazil

163 Thyroid Nodules and Goiter

Administration of a Single Dose of Recombinant Human Thyrotropin May Increase the Efficacy of Radioiodine Therapy for Multinodular Goiter

M. AlShami, R. Battan, D. Notman

Saint Mary's Mercy Medical Center, Michigan State University College of Human Medicine, Grand Rapids, Michigan, USA

164 Thyroid Nodules and Goiter

Diagnostic Approach to a Thyroid Nodule, Utilizing Decision-Tree Analysis

A. Khalid, S. Quraishi, C. Hollenbeak, B. Stack

Pennsylvania State University College of Medicine, Hershey, Pennsylvania, USA

165 Thyroid Nodules and Goiter

Changes in Thyroid Function in Subjects Using Oral Iodized Oil for the Treatment and Prevention of Endemic Goiter in Vietnam

K.U. Hoang¹, T.D. Nguyen¹, Q.H. Luong¹, P.A. Singer^{2,3}

¹Endocrine Hospital, Hanoi, Republic of Vietnam; ²University of Southern California, Los Angeles, California; and ³East Meets West Foundation, Oakland, California, USA

166 Thyroid Nodules and Goiter

Nodular Lesions Detected by Ultrasonography in the Thyroid Gland of Patients with Graves' Disease under Treatment with Antithyroid Drugs

K. Kasagi¹, T. Misaki², J. Konishi²

¹Department of Health Care, Takamatsu Red Cross Hospital, Takamatsu; and ²Department of Nuclear Medicine, Kyoto University, Kyoto, Japan

Friday, October 11, 2002
Emerald Room – Review of Posters 116 to 173

167 Thyroid Nodules and Goiter
Case Report: Ectopic Intratracheal Thyroid Tissue Presenting as New-onset Asthma in a 19-Year-Old
H. Bowen-Wright¹, S. Malekzadeh², J. Jonklaas¹
Division of ¹Endocrinology and Metabolism and ²Otolaryngology,
Georgetown University Hospital, Washington, DC, USA

168 Thyroid Nodules and Goiter
Cytological Studies of Fine-needle Aspiration Specimens and the Risk of Malignancy in Thyroid Nodule: Importance of Nuclear Atypia.
G. Duarte, R. Camargo, E. Tomimori, K. Seidenberger, A.K. Bezerra, H. Bisi, G. Medeiros-Neto
Thyroid Unit, Division of Endocrinology, São Paulo University School of Medicine, São Paulo, Brazil

169 Thyroid Nodules and Goiter
Thyrotropin Alfa (Thyrogen) in the Treatment of Toxic Multi-nodular Goiter
L.R. Harstine^{1,2}, J.C. Meek, Jr.², G.P. Rine³
¹Galichia Medical Group, ²University of Kansas School of Medicine-Wichita, and ³Wesley Medical Center,
Wichita, Kansas, USA

170 Thyroid Nodules and Goiter
Successful Thyrogen-assisted Treatment of Non-toxic Multinodular Goiter
C. Schoonover, C. Mariash
University of Minnesota, Minneapolis, Minnesota, USA

171 Thyroid Nodules and Goiter
Papillary Carcinoma of the Thyroid in a Patient with Congenital Generalized Lipodystrophy: A Case Report
C. Mejia, R. Artymyshyn, L. Amorosa
University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School, New Brunswick,
New Jersey, USA

172 Thyroid Nodules and Goiter
High-intensity Focused Ultrasound—Potential for Thyroid Pathology: Feasibility Study in a Sheep Model
O. Esnault¹, B. Franc², J.-P. Monteil¹, J.-Y. Chapelon³
¹ENT & Maxillo-facial Surgery Department, Saint-Louis Hospital, Paris, France; ²Pathological Department,
Ambroise Paré Hospital, Boulogne, France; and ³INSERM Unit 556, Lyon, France

173 Thyroid Nodules and Goiter
Two Novel TSH Receptor Gene Mutations in Autonomously Functioning Thyroid Nodules*
B. Shi, X. Li, M. Xue, Y. Wang, D. Yali
Department of Endocrinology, First Hospital of Xi'an Jiaotong University, Xi'an, China

10:30 am – 12 noon	Simultaneous Symposia												
	Biltmore Bowl <i>Clinical: Radiation in Thyroid Cancer Therapy</i> Chair: Kenneth A. Woeber <table> <tr> <td>External Radiation</td><td>James D. Brierley</td></tr> <tr> <td>Dosimetry</td><td>Douglas VanNostrand</td></tr> <tr> <td>Adverse Effects of Radioiodine Therapy</td><td>John E. Freitas</td></tr> </table> Crystal Ballroom <i>Basic: Thyroid and Development</i> Chair: Peter A. Kopp <table> <tr> <td>Thyroid Hormone in Xenopus Development</td><td>J. David Furlow</td></tr> <tr> <td>Hairless Protein and Thyroid Hormone Regulation of Development</td><td>Catherine Thompson</td></tr> <tr> <td>The Consequences of Thyroid Transcription Factor Defects in Mice and Man</td><td>Samuel Refetoff</td></tr> </table>	External Radiation	James D. Brierley	Dosimetry	Douglas VanNostrand	Adverse Effects of Radioiodine Therapy	John E. Freitas	Thyroid Hormone in Xenopus Development	J. David Furlow	Hairless Protein and Thyroid Hormone Regulation of Development	Catherine Thompson	The Consequences of Thyroid Transcription Factor Defects in Mice and Man	Samuel Refetoff
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12:00 noon – 1:00 pm	Regency Room Lunch in the Exhibit Hall <i>Sponsored by Abbott Laboratories</i>												
1:00 – 1:30 pm	Regency Room Foyer and Emerald Room Review of Posters Poster Plus 5-40 Posters 116-173 <i>Investigators available to discuss their posters</i>												
12:30 – 1:30 pm	Millennium Boardroom International Coordinating Committee Lunch LATS, AOTA, ETA, ATA												
2:00 pm	Regency Room Exhibit Hall Closes												

Friday, October 11, 2002
Afternoon Session

1:30 – 3:00 pm Biltmore Bowl and Crystal Ballroom
Simultaneous Sessions

Biltmore Bowl

Clinical: Manifestations of Graves' Disease: Cause and Treatment

Moderator: Michael M. Kaplan

Ophthalmopathy

Rebecca S. Bahn

Cardiac Manifestations

Wolfgang H. Dillmann

Dermopathy and Acropachy

Vahab Fatourechi

Crystal Ballroom

Basic: Novel Mechanisms Mediating Thyroid Cell Growth and Oncogenesis

Moderator: Matthew Ringel

Role of Akt in the pathogenesis and progression of thyroid cancer

Matthew Ringel

Thyroid Hormone Receptor Mutations in Cancer

Sheue-yann Cheng

Carney Complex: Manifestations and Underlying Mechanisms

Constantine Stratakis

3:00 – 3:30 pm Regency Room Foyer and Emerald Room
Poster Review and Coffee Break

Regency Room Foyer and Emerald Room

Review of Posters

Poster Plus 5-40

Posters 116-173

Investigators available to discuss their posters

3:30 – 5:00 pm Simultaneous Sessions

Biltmore Bowl

Clinical Oral Abstracts

Chairs: Quan-yang Duh and John C. Morris, III

175 3:30 pm Cancer

Up-regulation of CITED1 in Papillary Thyroid Carcinoma: Discovery via Gene Expression Profiling and Validation by Tissue Microarray-based Immunohistochemistry

T. Giordano¹, D. Thomas¹, D. Misek², M. Lizyness¹, R. Kuick², D. Sanders¹, T. Shioda³, S. Hanash²

Departments of ¹ Pathology and ²Pediatrics, University of Michigan, Ann Arbor, Michigan; and ³Massachusetts General Hospital Cancer Center, Charlestown, Massachusetts, USA

176 3:45 pm Cancer

Successful Ultrasound-guided Percutaneous Ethanol Ablation of Neck Nodal Metastases in 20 Patients with Postoperative TNM Stage I Papillary Thyroid Carcinoma Resistant to Conventional Therapy

I. Hay¹, W. Charboneau², B. Lewis², B. McIver¹, J. Powell¹, C. Reading²

¹Division of Endocrinology and ²Department of Radiology, Mayo Clinic, Rochester, Minnesota, USA

177 4:00 pm Cancer

Empiric Radioactive Iodine (RAI) Dosing Regimens Frequently Exceed Maximum Tolerated Activity Levels in Elderly Patients with Metastatic Thyroid Cancer

R.M. Tuttle, K. Pentlow, R. Qualey, S. Larson, R.J. Robbins

Memorial Sloan Kettering Cancer Center, New York, New York, USA

178 4:15 pm Cancer

Distinct Localization Patterns of Activated Akt in Thyroid Cancer Correspond to Tumor Invasion and Ret Expression

V. Vasko¹, V. Savchenko², A. Larin², M. Saji¹, M. Ringel¹

¹Laboratory of Molecular Endocrinology, MedStar Research Institute, Washington Hospital Center, Washington, DC, USA; and ²Center for Endocrine Surgery, Kiev, Ukraine

179 4:30 pm Cancer

Combretastatin A4 Phosphate Has Primary Antineoplastic Activity against Human Anaplastic Thyroid Carcinoma Cell Lines and Xenograft Tumors

J. Dziba, G. Marcinek, G. Venkataraman, J. Robinson, K. Ain

Veterans Affairs Medical Center and University of Kentucky, Lexington, Kentucky, USA

180 4:45 pm Cancer

Effectiveness of I-131 in Destroying Metastatic Thyroid Cancer Lesions

R.J. Robbins, S.M. Larson, K. Pentlow, R.M. Tuttle

Endocrine and Nuclear Medicine Services, Memorial Sloan-Kettering Cancer Center, New York, New York, USA

Crystal Ballroom

Basic Oral Abstracts

Chairs: Joshua D. Safer and Anthony N. Hollenberg

181 3:30 pm Thyroid and Development

Microarray Analysis Reveals That the Transcription Factor NeuroD Is Responsive to Thyroid Hormone during Late Rat Brain Development

D. Jolson, C. Mariash, G. Anderson

Department of Medicine, University of Minnesota, Minneapolis, Minnesota, USA

182 3:45 pm Thyroid Hormone Action

Role of Thyroid Hormone Receptor Alpha (TR α) and Skeletal Muscle in Thyroid Hormone Thermogenesis

M. Povitz¹, I. Lopez-Solache¹, P.M. Sadow², R.E. Weiss², J. Samarut³, J.E. Silva¹

¹Division of Endocrinology, Jewish General Hospital, McGill University, Montreal, Canada; ²Department of Medicine, University of Chicago, Chicago, Illinois, USA; and ³Ecole Normal Supérieur, Lyon, France

183 4:00 pm Thyroid Hormone Action

Differential Effects of 3,5,3'-Triiodo-L-Thyronine (T₃) on Metabolic Rate, Cholesterol, and Heart Rate in Cholesterol-fed Wild Type and TR α 1^{-/-} Mice

D. Egan¹, M. Smith¹, P. Sleph¹, R. George¹, K. Mookhtiar¹, B. Vennström³, K. Mellström², G. Grover¹

¹Bristol-Myers Squibb, Pennington, New Jersey, USA; ²KaroBio AB, Huddinge, Sweden; and ³Karolinska Institute, Stockholm, Sweden

Friday, October 11, 2002
Afternoon Session

184 4:15 pm Thyroid Hormone Action

Altered Cardiac Phenotype in Mice Expressing the Dominant Negative PV Mutant of the Thyroid Hormone Receptor Beta

E.A. Swanson¹, D. Belke¹, B. Gloss¹, B.T. Scott¹, S.-Y. Cheng², M. Kaneshige², K. Kaneshige², O. Chassande³, J. Samarut³, W.H. Dillmann¹

¹University of California San Diego, San Diego, California; ²National Institutes of Health, Bethesda, Maryland, USA; and ³Laboratoire de Biologie Moléculaire et Cellulaire, Centre National de la Recherche Scientifique (CNRS), Ecole Normale Supérieure (ENS), Lyon, France

185 4:30 pm Thyroid Hormone Action

T3 but Not the Thyroid Hormone Receptor Beta-selective Compound GC-1 Reduces Bone Mass of Normal and Hypoestrogenic Rats

F.R.S. Freitas¹, V. Jorgetti¹, A. Garcia¹, M. Passarelli¹, T.S. Scanlan⁴, G.A. Brent³, A.S. Moriscot¹, A.C. Bianco², C.H.A. Gouveia¹

¹University of São Paulo, São Paulo, Brazil; ²Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts; ³West LA VA Medical Center and University of California Los Angeles, Los Angeles, California; and ⁴University of California San Francisco, San Francisco, California, USA

186 4:45 pm Thyroid Hormone Action

Effect of Thyroid Receptor Beta Expression on the Contractile Phenotype of the Mouse Heart

D. Belke, E. Swanson, B. Gloss, B. Scott, W. Dillmann

University of California at San Diego, San Diego, California, USA

5:00 – 5:45 pm

Biltmore Bowl

Sidney H. Ingbar Distinguished Lectureship

This award recognizes outstanding academic achievements in thyroidology, in keeping with the innovation and vision that epitomized Dr. Ingbar's brilliant investigative career. The award is conferred upon an established investigator who has made major contributions to thyroid-related research over many years. The award is supported in part by an unrestricted educational grant from Abbott Laboratories.

Risk Factors in Autoimmune Thyroid Disease

Terry F. Davies, MB, BS, MD, FRCP, FACE

Baumritter Professor of Medicine

Director, Division of Endocrinology, Diabetes and Bone Diseases

Department of Medicine

Mount Sinai School of Medicine, New York, New York

5:45 – 6:00 pm

Biltmore Bowl

Historical Vignette

The Recognition of Thyroid Autoimmunity: Echoes from the 1950s

Clark T. Sawin

Friday, October 11, 2002
Evening

6:00 – 7:00 pm Biltmore Bowl
The role of I-123 in the Management of Differentiated Thyroid Cancer
Moderator: Ian D. Hay
Does I-131 Cause Stunning? Stephen Gerard
I-123 Scintigraphy in Differentiated Thyroid Cancer Susan J. Mandel
CME Symposium, wine tasting, and poster session supported by an unrestricted educational grant from MDS Nordion

7:00 – 7:45 pm Emerald Room
Poster Session and Wine Tasting

Emerald Room
Review of Posters
Posters 116-173
Investigators available to discuss their posters

7:30 – 8:30 pm *Major Donor Reception*
By invitation only

Free Evening

**74th Annual Meeting of the American Thyroid Association
Millennium Biltmore Hotel
Los Angeles, California
October 10 – 13, 2002**

Saturday, October 12, 2002

6:00 – 7:45 am Crystal Ballroom

Optimizing Thyroid Hormone Replacement Therapy

Moderator: Irwin L. Klein

Thyroid Hormone Pharmacokinetics: From the

GI Tract to the Cell Nucleus

Assessment of Replacement Therapy: TSH and Beyond

T4 vs T3: Which One and How Much?

J. Enrique Silva

Douglas Ross

Eric P. Krenning

“Early Riser” CME Symposium and breakfast supported by an unrestricted educational grant from Monarch Pharmaceuticals

8:00 – 8:45 am

Biltmore Bowl

Paul Starr Award Lecture

This annual Award recognizes an outstanding contributor to clinical thyroidology. The Paul Starr Award is supported by the generosity of ATA member Boris Catz, MD, and in part by an unrestricted educational grant from Monarch Pharmaceuticals.

Changing Trends in Thyroid Practice: Understanding Nodular Thyroid Disease

Hossein Gharib, MD, FACE

President, American Association of Clinical Endocrinologists

Professor of Medicine, Mayo Medical School

Consultant, Division of Endocrinology and Metabolism

Mayo Clinic

Rochester, Minnesota

8:45 – 10:15 am

Biltmore Bowl

The Arthur Bauman Clinical Symposium

ATA established the fund for this Symposium in celebration and memory of the professional accomplishments and personal qualities of Dr. Arthur Bauman, a master clinician and clinical investigator. The Symposium presents advances in clinical investigation in thyroidology, and promotes participation by younger members of the Association.

Thyroid Disease in Pregnancy: Influence on Mother and Child

Chair: Mary H. Samuels

Maternal Thyroid Disease in Pregnancy

Influence of Maternal Thyroid Disease on Fetal Outcome

Autoimmune Thyroid Disease in Children

Jorge H. Mestman

T. Murphy Goodwin

Gary Francis

Saturday, October 12, 2002
Emerald Room – Review of Posters 187-219

10:15 – 10:45 am Regency Room Foyer and Emerald Room
Poster Review and Coffee Break

Review of Posters
Poster Plus 5-40
Posters 187-219

Investigators available to discuss their posters

187 Cell Biology

Targeting of Thyroglobulin to Transcytosis following Megalin-mediated Endocytosis: Evidence for a Preferential pH-independent Pathway

M. Marinò¹, S. Lisi¹, A. Pinchera¹, L. Chiovato², R.T. McCluskey³

¹Department of Endocrinology, University of Pisa, Pisa, Italy; ²Salvatore Maugeri Foundation, IRCSS, University of Pavia, Pavia, Italy; and ³Department of Pathology, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts, USA

188 Cell Biology

Increase of p66 Shc Expression in Proliferating Thyroid Cells: Its Regulation and Role in Thyrocytes

Y.J. Park^{1,2}, E.S. Park³, T.Y. Kim^{1,3}, J.K. Hwang³, H.S. Lee³, S.H. Lee⁵, D.J. Park^{1,3}, Y.K. Yoon^{1,4}, B.Y. Cho^{1,3}

¹Department of Internal Medicine, Seoul National University College of Medicine, Seoul, Korea; ²Department of Internal Medicine, Seoul Municipal Boramae Hospital, Seoul, Korea; ³Department of Internal Medicine and Clinical Research Institute, Seoul National University Hospital, Seoul, Korea; ⁴Department of Surgery, Seoul National University College of Medicine, Seoul, Korea; and ⁵Inchon Christian Hospital, Inchon, Korea

189 Cell Biology

Regulation of Cellular Prion Protein (PrP^c) mRNA Expression by TSH in Human Thyroid Follicles

K. Yamazaki¹, E. Yamada¹, Y. Kanaji¹, K. Sato², K. Takano², Y. Sakasegawa³, K. Kaneko³

¹Thyroid Disease Institute, Kanaji Hospital, Tokyo, Japan; ²Clinical Institute of Endocrinology, Tokyo Women's Medical University, Tokyo, Japan; and ³National Institute of Neuroscience, National Center of Neurology and Psychiatry, Kodaira, Tokyo, Japan

190 Cell Biology

The High Selenium Content of the Thyroid Gland Is due to the Expression of Several Types of Selenoproteins

C. Schmutzler^{1,2}, L. Schomburg^{1,2}, M. Menth², S. Zeck², J. Koehle^{1,2}

¹Institut für Experimentelle Endokrinologie, Charité, Humboldt-Universität zu Berlin, Berlin, Germany; and ²Medizinische Poliklinik, Abteilung Molekulare Innere Medizin, Universität Würzburg, Würzburg, Germany

191 Cell Biology

Stress-inducible hSNK Gene Expression in Thyroid Follicular Cells

Y. Shimiau-Yoshida, K. Sugiyama, T. Rogounovitch, V. Saenko, S. Yamashita

Nagasaki University, Nagasaki, Japan

192 Cell Biology

Expression of Tumor Necrosis Factor- α in FRTL-5 Rat Thyroid Cells

K. Mori, S. Hoshikawa, S. Ito, K. Yoshida

Division of Nephrology, Endocrinology and Vascular Medicine, Tohoku University Graduate School of Medicine, Sendai, Japan

- 193 Thyroid and Development
Impaired Word Recognition Abilities in Children with Congenital Hypothyroidism: An Event-related Potential Study
S. Hepworth¹, E. Pang², J. Rovet^{1,2}
¹University of Toronto, and ²The Hospital for Sick Children, Toronto, Ontario, Canada
- 194 Thyroid and Development
Construction of a Subtraction Hybridization Library for Identification of Differentially Expressed Genes in Thyroid Dysgenesis
I.G.S. Rubio, M. Knobel, G. Medeiros-Neto
Thyroid Unit, Division of Endocrinology, University of São Paulo Medical School, São Paulo, Brazil
- 195 Thyroid and Development
Area-specific Effects of Hypothyroidism on Intracellular Thyroid Hormone Levels in Developing Chicken Brain
V.M. Darras, G.E. Reyns, B. Six, E.R. Kühn
Laboratory of Comparative Endocrinology, Zoological Institute, K.U. Leuven, Belgium
- 196 Thyroid and Development
Phosphorylation of Heat Shock Protein 90 by TSH in FRTL-5 Thyroid Cells
J. Ginsberg¹, T. Labeledz¹, D. Brindley²
Signal Transduction Laboratories, Departments of ¹Medicine and
²Biochemistry, University of Alberta, Edmonton, Alberta, Canada
- 197 Thyroid and Development
Role of Type III Iodothyronine Deiodinase (D3) for Human Brain Development
M. Kester¹, R. Martinez de Mena², D. Marinkovic¹, A. Mangnoesing¹, M.J. Obregon², R. Hume³, T.J. Visser¹, G. Morreale de Escobar²
¹Erasmus University Medical Center, Rotterdam, The Netherlands; ²Madrid University, Madrid, Spain; and
³Dundee University, Dundee, Scotland, United Kingdom
- 198 Thyroid Hormone Metabolism
Type I Iodothyronine Deiodinase (D1) Splice Variants in Human Liver
F. Wassen, R. Peeters, G. Kuiper, T. Visser
Department of Internal Medicine, Erasmus University Medical School, Rotterdam, The Netherlands
- 199 Thyroid Hormone Metabolism
Demonstration of Dose Linearity In Vivo between Different Strengths of Sodium Levothyroxine Tablets
J. Zimmermann¹, J. Flemming¹, M. Wargenau², T. Thomsen³, G. Kahaly⁴
¹BERLIN-CHEMIE AG, Berlin; ²M.A.R.C.O., Düsseldorf; ³PharmPlanNet, Düsseldorf; and ⁴Department of Endocrinology/Metabolism, Gutenberg University Hospital, Mainz, Germany
- 200 Thyroid Hormone Metabolism
Is the Low T3 State a Crucial Factor Determining the Outcome of CPB Patients? Evidence from a Clinical Pilot Study
L. Sabatino¹, A. Ripoli¹, S. Turchi¹, C. Taddei¹, M. Glauber², G. Iervasi¹
¹Institute of Clinical Physiology (IFC) Consiglio Nazionale delle Ricerche (CNR), Pisa, and ²G. Pasquinucci Hospital (IFC-CNR), Massa, Italy

Saturday, October 12, 2002
Emerald Room – Review of Posters 187-219

201 Thyroid Hormone Metabolism

Regulation of Type III Iodothyronine Deiodinase Expression in Human Cell Lines

M.H.A. Kester, G.G.J.M. Kuiper, T.J. Visser

Department of Internal Medicine, Erasmus University Medical Center, Rotterdam, The Netherlands

202 Thyroid Hormone Metabolism

Metabolic Effects of Targeted Expression of Type 2 Iodothyronine Deiodinase (D2) to Rodent Liver

S. Pallud¹, R. Kelly¹, J. DiStefano², A. Parlow², V. Galton¹, D. St. Germain¹

¹Dartmouth Medical School, Lebanon, New Hampshire; and ²University of California Los Angeles, Los Angeles, California, USA

203 Thyroid Hormone Metabolism

Substitution of Cysteine for Selenocysteine in the Catalytic Center of Type III Iodothyronine Deiodinase Reduces Catalytic Efficiency and Alters Substrate Preference

G. Kuiper, W. Klootwijk, T. Visser

Department of Internal Medicine, Erasmus University Medical Center, Rotterdam, The Netherlands

204 Thyroid Hormone Metabolism

Structure-Activity Relationships for Iodothyronine Deiodination by Cat Type I Iodothyronine Deiodinase

G. Kuiper, W. Klootwijk, F. Wassen, T. Visser

Department of Internal Medicine, Erasmus University Medical Center, Rotterdam, The Netherlands

205 Thyroid Hormone Metabolism

Thyroid Hormone Metabolism in a Transthyretin-null Mouse Strain Exposed to Conditions of Increased Hormone Demand

J.C. Sousa^{1,2}, G. Morreale de Escobar³, M.J. Saraiva^{1,2}, J.A. Palha^{1,4}

¹Amyloid Unit, Institute for Molecular and Cell Biology, ²ICBAS, University of Porto, Porto, Portugal;

³Molecular Endocrinology Unit, Biomedical Research Institute Alberto Sols, Madrid, Spain; and ⁴Health Sciences School, University of Minho, Braga, Portugal

206 Thyroid Hormone Metabolism

Type I Iodothyronine Deiodinase Protein in Normal and Hypothyroid Chicken Brain

C.H.J. Verhoelst, E.R. Kühn, S. Van der Geyten, V.M. Darras

Laboratory of Comparative Endocrinology, Zoological Institute, K.U. Leuven, Leuven, Belgium

207 Thyroid Hormone Metabolism

A Comparative Analysis of Transferred Metabolites in Maternal Compartment following Fetal Infusion of 125I-T3 or -T4 in Sheep

D.H. Polk¹, S.Y. Wu², W.S. Huang³, W.L. Green⁴, W.H. Florsheim², D.A. Fisher⁵

¹Children's Memorial Hospital, Chicago, Illinois; ²Veterans Affairs University of California Irvine Healthcare System, Long Beach, California, USA; ³Tri-Service General Hospital, Taipei, Taiwan; ⁴University of

Washington, Seattle, Washington; and ⁵Harbor-University of California Los Angeles Medical Center, Torrance, California, USA

- 210 Iodine Uptake and Metabolism
Dose-Response Relationship of Perchlorate and Human Health Effects
O.P. Soldin^{1,3}, A. Engel¹, S.H. Lamm^{1,2}
¹Consultants in Epidemiology and Occupational Health, Inc., Washington, DC; ²Department of Pediatrics, Georgetown University, Washington, DC, USA; and ³Motherisk, The Hospital For Sick Children, Department of Clinical Pharmacology, Toronto, Ontario, Canada
- 211 Iodine Uptake and Metabolism
Two-Week Low Iodine Diet Is Necessary for Adequate Outpatient Preparation for 131-I Thyrogen Scanning in Patients Taking Levothyroxine
J.T. Park, J.V. Hennessey
Rhode Island Hospital, Providence, Rhode Island, USA
- 212 Iodine Uptake and Metabolism
Differential Action of Iodine on Mitochondria from Human Tumoral and Extratumoral Tissue in Inducing the Release of Apoptogenic Proteins
G. Upadhyay¹, R. Singh², R. Sharma³, A.K. Balapure³, M.M. Godbole⁴
¹University of Ulm, Ulm, Germany; ²National Institute of Environment and Health Sciences, Research Triangle Park, North Carolina, USA; ³Central Drug Research Institute, Lucknow, India; and ⁴Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, India
- 213 Iodine Uptake and Metabolism
Sustained Bio-contamination of Thyroid Glands among Wild Deer from Nuclear Reprocessing
L. Van Middlesworth¹, P. Johns²
¹Physiology Department, University of Tennessee, Memphis, Tennessee; and ²University of Georgia Savannah River Ecology Lab, Aiken, South Carolina, USA
- 214 Thyroid Imaging
Role of Neck Ultrasonography in the Follow-up of Children Operated on for Thyroid Papillary Cancer
A. Antonelli¹, P. Miccoli², P. Fallahi¹, M. Grosso³, C. Nesti¹, E. Ferrannini¹
Departments of ¹Internal Medicine, ²Endocrine-Surgery, and ³Nuclear Medicine, University of Pisa, Pisa, Italy
- 215 Thyroid Imaging
A Survey on the Utilization of Thyroid Ultrasound in the Clinical Endocrinology Training Programs
F. Zangeneh, C. Powell, H. Gharib
Mayo Clinic and Foundation, Rochester, Minnesota, USA
- 216 Thyroid Imaging
Ultrasonographic Classification of Nodules with Liquid Content: Correlation with Cytological and Histological Findings
E. Tomimori, K. Seidenberger, A. Bezerra, R. Camargo, G. Medeiros
Thyroid Unit, School of Medicine, University of São Paulo, São Paulo, Brazil
- 217 Thyroid Imaging
Myocardial Doppler Imaging in Hyperthyroidism
S. Mohr-Kahaly¹, M. Rothsching², A. Schlosser¹, A. Loos³, G.J. Kahaly²
Departments of ¹Cardiology, ²Endocrinology/Metabolism, and ³Medical Statistics, Gutenberg University, Mainz, Germany

Saturday, October 12, 2002
Emerald Room – Review of Posters 187-219
Morning Session

218 Thyroid Imaging
Technical Error: Another Cause of an Inappropriately Low Radioactive Iodine Uptake in Hyperthyroidism

R. Dwivedi¹, P. Skierczynski¹, H. Park²

¹Division of Endocrinology and ²Nuclear Medicine, Indiana University School of Medicine, Indianapolis, Indiana, USA

219 Thyroid Imaging
Thyroid Hemiogenesis Associated with Hürthle Cell Carcinoma

K. Seidenberger, A.K.M. Bezerra, J.J. Souza, A. Casanova, R.Y.A. Camargo, E.K. Tomimori, G. Medeiros-Neto
Thyroid Unit, Endocrine Division, University of São Paulo Medical School, São Paulo, Brazil

10:45 am – 12 noon Simultaneous Symposia

Biltmore Bowl

Clinical: Thyroid Hormone Metabolism and Mood Disorders

Moderator: James Hennessey

Thyroid Hormone Metabolism for the Clinician Donald L. St. Germain

Thyroid Hormone and Mood Disorders Peter Whybrow

Crystal Ballroom

Basic: Frontiers in Science: New Tools in Biomedical Research

Moderator: William W. Chin

Studying the Cell: Protein Trafficking

Peter Arvan

TRH Receptors 1 and 2: How and Why

Are They Different?

Marvin C. Gershengorn

Saturday, October 12, 2002
Afternoon Sessions

12 noon – 1:00 pm

Meet the Professor Luncheon Workshops

Experts and specialists in thyroid disease and pathophysiology will present their research and findings in an interactive luncheon workshop.

Corinthian Room – Mezzanine Level

Changing Dietary Iodine Intake: Implications for Thyroid Function and Iodine Scanning

Stephanie L. Lee

Supported by the Saul Hertz Endowment

Cordoban Room – Mezzanine Level

Thyroid Disease in the Elderly

Mary H. Samuels

Supported by an educational grant from Abbott Laboratories

Mediterranean Room – Mezzanine Level

Multiple Endocrine Neoplasia I: Pathogenesis and Approach to Clinical Management

Mark Sawicki

Athenian Room – Mezzanine Level

Clinical Thyroidology: Practical Issues in Office-based Practice

Elliot G. Levy

Roman Room – Mezzanine Level

Application of Molecular Techniques to Understanding Tumor Development and Growth

Bryan McIver and William M. Wood

Heinsbergen Room – South Galeria

Thyroid Hormone and Hair Growth: Clinical and Basic Features

Joshua D. Safer

1:00 – 1:30 pm

Regency Room Foyer and Emerald Room

Poster Review and Coffee Break

Review of Posters

Poster Plus 5-40

Posters 187-219

Investigators available to discuss their posters

Saturday, October 12, 2002
Afternoon Sessions

1:30 – 3:00 pm

Simultaneous Sessions

Biltmore Bowl

Clinical: Thyroid Function Testing: Interface of the Clinician and Clinical Laboratory

Chair: Kenneth D. Burman

Thyroglobulin

Carole A. Spencer

TSH

S. Thomas Bigos

Free T4

Jerald C. Nelson

Crystal Ballroom

Basic: TR-Isoform-Specific Regulation

Chair: Wolfgang H. Dillmann

Retardation of Growth and Maturation Caused by a Negatively

Acting Thyroid Hormone Receptor (TR)-alpha-1

Björn Vennström

TR Agonists and Antagonists

Thomas Scanlan

Development of TR Agonists for Therapeutic Use

Gary Grover

3:00 – 3:30 pm

South Galeria

Coffee Break

3:30 – 4:30 pm

Simultaneous Sessions

Biltmore Bowl

Grand Rounds: Clinical Thyroid Cases

Chair: Peter A. Singer

Speakers: Jonathan S. Lo Presti

Jeffrey R. Garber

Virginia D. Sarapura

Supported in part by an unrestricted educational grant from Abbott Laboratories

Basic: 6 Simultaneous Sessions – Poster Discussion Groups

3:30 pm Cordoban Room

Poster Discussion Group: Thyroid Hormone Action

Discussion Leader: Paul Yen

5 Thyroid Hormone Action

The S14 Knockout Mouse Shows Resistance to Diet-induced Obesity

C. Mariash, G. Mucha, Q. Zhu, G. Anderson

6 Thyroid Hormone Action

Involvement of GATA2 in the T3-dependent Negative Regulation of the Thyrotropin Beta and Alpha Gene Promoters by Thyroid Hormone Receptor

S. Sasaki, A. Matsushita, K. Nakano, K. Nishiyama, Y. Kashiwabara, H. Misawa, H. Nakamura

7 Thyroid Hormone Action

Thyroid Hormone Thermogenesis in Transgenic Mitochondrial Glycerol 3-Phosphate Dehydrogenase (mGPD)-deficient Mice

R.A. DosSantos, I. Lopez-Solache, J.E. Silva

8 Thyroid Hormone Action

Hyperthyroidism Induces Apoptosis in the Adult Cerebral Cortex: Direct Action of T3 on Mitochondria

R. Singh, G. Upadhyay, A. Kapoor, S. Kumar, A. Kumar, M. Tiwari, M.M. Godbole

9 Thyroid Hormone Action

Thyroxine-stimulated Mitogen-activated Protein Kinase Phosphorylation of the Thyroid Hormone Nuclear Receptor Requires a Docking Motif in the Receptor DNA-binding Domain

H.-Y. Lin, B. West, H.-Y. Tang, T. Passaretti, S. Zhang, F. Davis, P. Davis

10 Thyroid and Development

Hypothyroidism Alters Mitochondrial Morphology and Induces Release of Apoptogenic Proteins during Development of Rat Cerebellum

M.M. Godbole, R. Singh, G. Upadhyay

3:30 pm Athenian Room
Poster Discussion Group: Autoimmunity
 Discussion Leader: James R. Baker, Jr.

12 Autoimmunity
HLA and CTLA-4 Genes: Do They Interact in Graves' Disease?
 J. Heward, H. Foxall, H. Cordell J. Franklyn, S. Gough

14 Autoimmunity
**Pathogenic T Cell Epitopes Predicted from Human Thyroglobulin Can Generate Cytotoxic T Cells and
 Serve as Target Antigens in an H2A^E Transgenic Model Susceptible Only to Heterologous Thyroglobulin**
 Y. Yan, D.J. McCormick, V. Brusic, A.A. Giraldo, C.S. David, Y.M. Kong

16 Autoimmunity
Relative Expression of Preadipocyte Factor-1 (Pref-1) and Thyrotropin Receptor (TSHr) Genes in Orbital Adipose Tissues and Cell Cultures from Patients with Graves' Ophthalmopathy
 S. Kumar, R. Bahn

3:30 pm Corinthian Room
Poster Discussion Group: Cell Biology/Metabolism
Discussion Leader: Paul S. Kim

- 17 Cell Biology
Regulation of the PI3K, Akt/PKB, FRAP/mTOR, and S6K1 Signaling Pathways by Thyroid Stimulating Hormone and Stimulating-type TSH Receptor Antibodies in the Thyroid Gland
J.M. Suh, J.H. Song, D.W. Kim, H. Kim, H.K. Chung, J.H. Hwang, J.M. Kim, E.S. Hwang, J. Chung, J.-H. Han, O.Y. Kwon, B.Y. Cho, H.K. Ro, M. Shong
- 18 Cell Biology
Thyroglobulin (Tg) Can Increase the Growth of FRTL-5 Thyrocytes by an Akt-driven Mechanism Distinct from TSH, Insulin, or IGF-1
Y. Noguchi, I. Tatsuno, N. Harii, D.F. Sellitti, L.D. Kohn
- 19 Cell Biology
Expression of Functional Growth Hormone (GH) Receptors and Direct Effects of GH on Thyroid Cells
O. Isozaki, T. Tsushima, Y. Nozoe, M. Nishimaki, K. Kato, M. Miyakawa, H. Murakami, K. Takano
- 20 Thyroid Hormone Action
Activated by Thyroid Hormone, Mitogen-activated Protein Kinase Phosphorylates Nuclear Estrogen Receptor (ER) in HeLa Cells
S. Zhang, H.-Y. Lin, H.-Y. Tang, F. Davis, P.J. Davis
- 21 Cell Biology
Quantifying TSH Regulation of Cleavage at the Human Thyrotropin Receptor
R. Latif, P. Graves, T.F. Davies
- 22 Iodine Uptake and Metabolism
Activation of the Human Sodium/Iodide Symporter Upstream Enhancer cAMP Response Element-like Sequence by PKA-dependent and PKA-independent Pathways in Normal Thyroid and Thyroid Cancer Cells
K. Taki, T. Kogai, Y. Kanamoto, J.M. Hershman, G.A. Brent

3:30 pm Heinsbergen Room
Poster Discussion Group: Thyroid Cancer Clinical/Basic
 Discussion Leader: Bryan R. Haugen

R. Camargo, E. Tomimori, K. Seidenberger, A. Bezerra, G. Medeiros-Neto

J. Powell, I. Hay, B. Mullan, G. Wiseman, V. Fatourechi

26 Thyroid Diseases
A Novel Germline Point Mutation in RET Exon 8 in Familial Medullary Thyroid Carcinoma
A.M. Alvares da Silva, R.M.B. Maciel, M.B. Carvalho, M.R. Dias da Silva, J.M. Cerutti

28 Cell Biology
Inverse Correlation between Heparan Sulfate Deposition and Heparanase-1 Gene Expression in Thyroid Papillary Carcinomas: A Potential Role in Tumor Metastasis
 X. Xu, R.M. Quiros, J.B. Maxhimer, P. Gattuso, R.A. Prinz

3:30 pm Roman Room

Poster Discussion Group: Thyroid Hormone Receptor

Discussion Leader: Sheue-yann Cheng

29 Thyroid Diseases

Involvement of Coactivators in the Dominant Negative Potency of the Mutant TRs in RTH: Analysis of a Novel Mutant, F455S

S. Ishii, M. Yamada, T. Satoh, T. Monden, K. Hashimoto, Y. Nihei, K. Onigata, A. Morikawa, M. Mori

30 Thyroid Hormone Action

Effects of the Thyroid Hormone Receptor Beta (TR β)-selective Compound GC-1 on Bone Development of Wistar Rats

F.R.S. Freitas, T. Zorn, C. Labatte, T.S. Scanlan, G.A. Brent, A.S. Moriscot, A.C. Bianco, C.H.A. Gouveia

31 Thyroid Hormone Action

Thyroid Status and T3 Receptor Isoforms Differentially Regulate the Pacemaker Ion Channels HCN2 and HCN4

B. Gloss, E. Swanson, P. McDonough, S. Cheng, M. Kaneshige, M. Mangoni, J. Nargeot, W. Giles, R. Clark O. Chassande, J. Samarut, W. Dillmann

32 Thyroid Hormone Action

Autoregulation of Expression of Thyroid Hormone Receptor Isoforms and Coactivators in Liver and Heart by Thyroid Hormone

P. Sadow, O. Chassande, J. Xu, E. Koo, J. Samarut, B. O'Malley

33 Thyroid Hormone Action

Thyroid Hormone Receptor Subtype-specific Interaction with SRC-1 Mediates Thyroid Hormone-dependent Gene Expression in Mouse Liver

P. Sadow, O. Chassande, J. Xu, J. Samarut, B. O'Malley, R. Weiss

34 Cell Biology

Thyroid Hormone Receptor α 2 Is an RNA Binding Protein Localized to the Nucleus and Cytoplasm

B. Xu, R.J. Koenig

Saturday, October 12, 2002
Afternoon Session – Poster Discussion Groups

3:30 pm Mediterranean Room
Poster Discussion Group: Iodide Uptake and the Sodium/Iodide Symporter
Discussion Leader: Sissy M. Jhiang

35 Iodine Uptake and Metabolism
Potential Sources of Excess Dietary Iodine in 2002: Milk and Bread
E.N. Pearce, S. Pino, X. He, H.R. Bazrafshan, S.L. Lee, L.E. Braverman

36 Cancer
Radioiodine Therapy of Colon Cancer following CEA Promoter-driven Expression of the Sodium Iodide Symporter
C. Spitzweg, K. Maletz, K. Harrington, E. Bergert, R. Vile, J. Morris

37 Iodine Uptake and Metabolism
Systemic Retinoic Acid Treatment Induces Radioiodide Uptake and Sodium/Iodide Symporter mRNA Expression in Mouse Breast Cancer Models
T. Kogai, Y. Kanamoto, K. Taki, J.J. Schultz, G.A. Brent

38 Cancer
Restoration of Na⁺/I⁻ Symporter (hNIS) Gene Expression in Dedifferentiated Human Thyroid Carcinoma Cells Is Associated with Enhanced Histone Acetylation at Its Promoter
G. Venkataraman, K. Ain

39 Cancer
Use of Probasin Promoter ARR2PB to Express NIS Gene in Prostate Cancer Cell Lines
H. Kakinuma, E.R. Bergert, J.C. Morris

40 Cancer
The Altered mRNA Expression Levels of the Sodium Iodide Symporter Can Help in the Identification of Thyroid Tumors with Aggressive Behavior
P.L. Santarosa, F. Granja, H.S. Armond, L.V. Montalli da Assumpção, G.H. Goldman, L.S. Ward

4:30 – 6:00 pm Biltmore Bowl
American Thyroid Association Annual Business Meeting
ATA Members Only

7:30 to
11:00 pm *Tiffany Room and Crystal Ballroom*
ATA Annual Reception and Banquet
Advance purchase required; admission by ticket only

Presentation of ATA Distinguished Service Award
This Award recognizes an ATA member who has made important and continuing contributions to the Association.
Awardee for 2002: Martin I. Surks, MD

**74th Annual Meeting of the American Thyroid Association
Millennium Biltmore Hotel
Los Angeles, California
October 10 – 13, 2002**

Sunday, October 13, 2002

- 6:00 – 7:45 am Crystal Ballroom
Should Mild Thyroid Failure in Patients with Cardiovascular Disease Be Treated?
Moderator: Leonard Wartofsky
The Connection between Mild Thyroid Failure and Cardiovascular Disease Beat Muller
The Case for Treatment of Mild Thyroid Failure: Conclusions and Recommendations of the 2002 Consensus Conference Martin I. Surks
“Early Riser” CME Symposium and breakfast supported by an unrestricted educational grant from Abbott Laboratories
- 8:00 – 9:00 am Crystal Ballroom
Abbott Laboratories State of the Art Lecture
Christopher Glass, MD, PhD
University of California, San Diego, La Jolla, California
New Roles for Nuclear Receptors in Inflammation and Atherosclerosis: Lessons from Knockout Mice and Microarray Technologies
Supported by an unrestricted educational grant from Abbott Laboratories
- 9:00 – 10:30 am Simultaneous Sessions
- Biltmore Bowl
Clinical: Thyroid Autoimmunity: Associated Conditions
Chair: Michael D. Brennan
Thyroid Autoimmunity: Association with other Autoimmune Diseases James R. Baker, Jr.
Thyroid Autoimmunity and Diabetes Daniel Einhorn
Postpartum Thyroiditis Alex S. Stagnaro-Green
- Crystal Ballroom
Basic: Thyroid Hormone and Metabolism
Chair: Donald L. St. Germain
Nuclear Receptor Regulation of Metabolism Barry Marc Forman
TRH and Leptin Anthony N. Hollenberg
Basal Metabolic Rate and Thyroid Hormone J. Enrique Silva
- 10:30 am *74th Annual Meeting Ends*