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 Glinoer, 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. Fiering\(^3\), E. Martinez\(^1,2\), V. Galton\(^2\), D. St. Germain\(^1,2\)
Departments of \(^1\)Medicine, \(^2\)Physiology, and \(^3\)Microbiology 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. Nicoloff³, 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. Lin1,2, B. West3, H.-Y. Tang1,2, T. Passaretti1, S. Zhang1, F. Davis2, P. Davis1,2,4
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, H. Franklyn1, S. Gough1,2
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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15  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

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

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. 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. Han³, O.Y. Kwon², B.Y. Cho⁶, H.K. Ro¹, M. Shong⁵
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

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. 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

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

20  Thyroid Hormone Action
Activated by Thyroid Hormone, Mitogen-activated Protein Kinase Phosphorylates Nuclear Estrogen Receptor (ER) in HeLa Cells
S. Zhang¹, H.-Y. Lin¹,², H.-Y. Tang¹,², F. Davis¹, P.J. Davis¹,²,³
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. Fatourechi1
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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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. 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

29 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

30 Thyroid Hormone Action
Effects of the Thyroid Hormone Receptor Beta (TRβ)-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

31 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. Mangoni², J. Nargeot³, W. Giles⁴, R. Clark⁴, O. Chassande², J. Samarut², W. Dillmann⁵
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 Moleculaire et Cellulaire, CNRS, ENS, Lyon, France

32 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; ²²l’Ecole Normale Superieure de Lyon, Lyon, France; and ³Baylor College of Medicine, Houston, Texas, USA

33 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; ²²l’Ecole Normale Superieure, Lyon, France; and ³Baylor College of Medicine, Houston, Texas, USA
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34  Cell Biology
**Thyroid Hormone Receptor α2 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 Acropathy Are Markers of Severe Graves’ Ophthalmopathy
V. Fatourechi1, G. Bartley2, J. Garrity2, G. Eghbali-Fatourechi1, D. Ahmed3
1Division of Endocrinology and Metabolism, and Departments of 2 Ophthalmology 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. Maccheroni1
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
Emerald Room – Review of Posters 41 to 98

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, Henningsdorf, 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. Romaldini¹,², C. Ambrico¹, K. Takei¹

¹Endocrine Service and Clinical Laboratory and ²HSPE-PUC CAMPINAS, São Paulo, Brazil

50 Autoimmunity

**Thyroid Autoimmunity Induced by Radiodine (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
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. Chentharamakshan², C. Maliszewski³, M.J. Holterman², B.S. Prabhakar¹
Departments of ¹Microbiology 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. Dittmar¹,³, H. Bang²
Departments of ¹Medicine I and ³Biology, Gutenberg University, and ²Orienteck, 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. Stamp³, A. Bell², M. Miller¹, J. Dickinson³, P. Perros¹, P. Kendall-Taylor¹
Departments of ¹Endocrinology, 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
Thursday, October 10, 2002
Emerald Room – Review of Posters 41 to 98

62 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. Fatourechi, 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
Wednesday, October 10, 2002
Emerald Room – Review of Posters 41 to 98

69 Thyroid Diseases
Assessment of Disease Activity in Graves’ Ophthalmopathy (GO) by Serum Hyaluronic Acid (HA) and Urinary Glicosaminoglycans (GAGs)
J.R.M. Martins1,2, R.P. Furlanetto1, A. Mendes2, C.C. Passerott2, M.I. Chiamolera1, P.G. Manso3, H.B. Nader2, C.P. Dietrich2, R.M.B. Maciel1
Departments of 1 Medicine, 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. Fatourechi1, 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. Suzuki2, 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. Tullgren1,2
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. Kim1,2, Y.J. Park1, 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. Park2, T.Y. Kim1, E.Y. Song3, H.S. Lee1, D.J. Park1, M.H. Park3, B.Y. Cho1
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
Thursday, October 10, 2002
Emerald Room – Review of Posters 41 to 98

75 Thyroid Diseases
Unexpectedly High Frequency of Post-Head-Trauma Hypothyroidism
S. Benvenga\textsuperscript{1}, D. Lapa\textsuperscript{1}, B. Almoto\textsuperscript{1}, R. Ruggeri\textsuperscript{1}, T. Vigo\textsuperscript{1}, A. Campenni\textsuperscript{2}, M. Longo\textsuperscript{2}, A. Blandino\textsuperscript{2}, S. Cannavo\textsuperscript{1}, F. Trimarchi\textsuperscript{1}
\textsuperscript{1}Division of Endocrinology and \textsuperscript{2}Radiological 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\textsuperscript{1,2}, L.K. Matsumura\textsuperscript{1}, T.S. Kasamatsu\textsuperscript{1}, R.M.B. Maciel\textsuperscript{1}
\textsuperscript{1}Division of Endocrinology, Department of Medicine, Federal University of São Paulo, São Paulo; and \textsuperscript{2}Marilia Medical School, Marilia, Brazil

78 Thyroid Diseases
The Possible Contribution of Anti-Gal to Graves’ Disease
J. Fullmer\textsuperscript{1}, A. Lindall\textsuperscript{2}, R. Bahn\textsuperscript{3}, C. Mariash\textsuperscript{4}
Departments of \textsuperscript{1}Neuroscience and \textsuperscript{2}Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, Minnesota; \textsuperscript{3) Division of Endocrinology, Mayo Medical School, Rochester, Minnesota; and \textsuperscript{4}Division 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. Albino\textsuperscript{1}, C.O. Mesa\textsuperscript{2}, H. Graf\textsuperscript{2}
\textsuperscript{1}Instituto de Diabetes e Endocrinologia de Maringá (IDEM), Maringá, and \textsuperscript{2}Serviço de Endocrinologia e Metabologia do Hospital de Clínicas da Universidade Federal do Paraná (SEMPR), Curitiba, Brazil
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
L.H. Duntas¹, D. Hatzidakis², E. Mantzou¹, D.A. Koutras¹
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. Lamm¹²
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 TRβ3 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 TRα (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 \( \alpha \) (TR\( \alpha \)) Gene Products TR\( \alpha \)1 and TR\( \alpha \)2 Bind T4 and rT3 but Not T3
A. Farwell\(^1\), J. Leonard\(^2\)
Departments of \(^1\)Medicine and \(^2\)Physiology, University of Massachusetts Medical School, Worcester, Massachusetts, USA

92 Thyroid Hormone Action
The Truncated Thyroid Hormone Receptor \( \alpha \) Gene Product, TR\( \alpha \)1, Mediates T4-regulated Actin Polymerization in Astrocytes
A. Farwell\(^1\), J. Leonard\(^2\)
Departments of \(^1\)Medicine and \(^2\)Physiology, 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. Meng\(^1\), Y. Yang\(^1\), X. Cao\(^1\), M. Govindan\(^1\), J. Torchia\(^2\), A. Hollenberg\(^3\), J. Mymryk\(^4\), P.G. Walfish\(^1,2\)
\(^1\)Samuel Lunenfeld Research Institute of Mount Sinai Hospital and \(^2\)Department of Medicine, Endocrine Division, University of Toronto Medical School, Toronto, Ontario, Canada; \(^3\)Centre de Recherche Hotel-Dieu de Quebec Universite, Laval, Quebec, Canada; \(^4\)Departments of Oncology, Pharmacology & Toxicology, Microbiology and Immunology, The University of Western Ontario and London Regional Cancer Centre, London, Ontario, Canada; and \(^5\)Thyroid 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. Zaninovich\(^1\), M. Raices\(^2\), I. Rebagliati\(^1\), C. Ricci\(^1\)
\(^1\)Thyroid Research Laboratory, Nuclear Medicine Center, University of Buenos Aires Hospital, and \(^2\)Institute 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
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. Dittmar1,2, C. Antunes1, G. Hommel3, S. Pitz4
Departments of 1 Medicine 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. Westall1,2, K. Perlman1,2, G. Koren1,2, J. Rovet1,2
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-β1 (TGF-β1) 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. Harii, Y. Noguchi, C. Lewis, L.D. Kohn
Edison 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. Friesema, S. Ganguly, J. Manning Fox, A. Abdalla, A. Halestrap, T. Visser
Department of Internal Medicine, Erasmus Medical Center, Rotterdam, The Netherlands; and Department 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
National Cancer Institute and Human Genome Research Institute, Bethesda, Maryland; and Wake 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
Division of Endocrinology and Thyroid Laboratory Medicine and Pathology, Mayo Clinic and Foundation, Rochester, Minnesota, USA; and Division of Endocrinology, University of Ankara, Ankara, Turkey

109 3:30 pm Cell Biology
Administration of Recombinant Adenoviruses Expressing Antiangiogenic Factors Blocks Goitrogenesis in Mice
Departments of Medicine and Cancer 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  Nicholas J. Sarlis
Thyroid Cancer Adjuvants  Steven I. Sherman
Ret Kinase Inhibitors  Jeffrey A. Knauf

Crystal Ballroom

**Basic: TSH Receptor**
Chair: Terry J. Smith
TSH-Receptor Analogues  Bruce D. Weintraub
TSH-R Domains and Immunogenicity  Sandra M. McLachlan
An Animal Model of Graves’  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
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 Rijke¹,³, A.G. Uitterlinden¹,²,³, 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. Pisarev¹,²,³
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. Biondi\textsuperscript{1}, E.A. Palmieri\textsuperscript{2}, L. Pagano\textsuperscript{1}, M. Klain\textsuperscript{3}, G. Scherillo\textsuperscript{2}, M. Salvatore\textsuperscript{3}, G. Feni\textsuperscript{1}, G. Lombardi\textsuperscript{1}, S. Fazio\textsuperscript{2}
\textsuperscript{1}Department of Clinical and Molecular Endocrinology and Oncology, \textsuperscript{2}Department of Clinical Medicine and Cardiovascular Sciences, and \textsuperscript{3}Department 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. Farrell\textsuperscript{1}, E. Handley\textsuperscript{1}, A. Barratt\textsuperscript{2}, N. Weinstein\textsuperscript{1}, A. Cotler\textsuperscript{1}
\textsuperscript{1}National Cancer Institute, Bethesda, Maryland, USA; \textsuperscript{2}University of Sydney, Sydney, Australia; and \textsuperscript{3}Matthews Media Group, Rockville, Maryland, USA

120 Cancer
Health Profiles and Quality of Life of 518 Survivors of Thyroid Cancer
P. Schultz\textsuperscript{1}, C. Stava\textsuperscript{2}, R. V-Sellin\textsuperscript{1}
\textsuperscript{1}Department of Endocrine Neoplasia and Hormonal Disorders and \textsuperscript{2}Life 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. Hall\textsuperscript{1}, N. Beasley\textsuperscript{1}, S. Eski\textsuperscript{2}, I. Witterick\textsuperscript{1}, J. Freeman\textsuperscript{1}, P. Walfish\textsuperscript{1,2}
\textsuperscript{1}Department of Otolaryngology Head and Neck Surgery, and \textsuperscript{2}Department 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
131-I Ablation Success after Iodine Depletion in Thyroid Cancer Patients
C. Passero\textsuperscript{1}, L. Arce\textsuperscript{1}, S. Reinert\textsuperscript{2}, J. Hennessy\textsuperscript{1}
\textsuperscript{1}Brown Medical School, Rhode Island Hospital, and \textsuperscript{2}Lifespan Academic Medical Center, Providence, Rhode Island, USA
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

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

Age-dependent Expression of NIS Protein: A Clue for the High Sensitivity of Childhood Thyroid Gland to the Carcinogenic Effects of Radioiodine
A. Faggiano1, M. Talbot1, J. Bidart2, B. Caillou1, M. Schlumberger3
1Departments of Pathology, 2Clinical Biology, and 3Nuclear Medicine, Institut Gustave-Roussy, Villejuif, Cédex, France

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

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

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

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

Lack of Mutation in Exon 10 of p53 Gene in Thyroid Tumors
Laboratory of Cancer Molecular Genetics, Faculty of Medicine, University of Campinas, São Paulo, Brazil
Cancer

Prognostic Factors and Therapy in Hürthle Cell Thyroid Carcinoma: Analysis of the Disease-free Interval
N. Besic, M. Hocevar, B. Vidergar-Kralj
Institute of Oncology, Ljubljana, Slovenia

Cancer

Therapy with rhTSH and Radioactive Iodine for Metastatic Hürthle Cell Thyroid Carcinoma
N. Besic, B. Vidergar-Kralj, M. Hocevar, A. Schwartzbartl-Pevec
Institute of Oncology, Ljubljana, Slovenia

Cancer

Cytology Can Predict Histology of Follicular Thyroid Neoplasms
L. Boboc¹, S. Suterwala², S. Kini², S. Zafar³, M. Wisgerhof⁴
¹Division of Endocrinology and Metabolism and ²Division of Cytopathology, Henry Ford Hospital, Detroit, Michigan, USA

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. Raef³, A. AlNuaim¹
Departments of ¹Medicine and ²Radiology, King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia

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

Cancer

A Combination of a Thiazolidinedione 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

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
140 Cancer
Estradiol Promotes the Expression of Metallothionein II and Provides Resistance to Apoptosis in Thyroid Tumor Cells
G.G. Chen1, 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
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
A Soluble TGF-beta Inhibitor Lowers Tumor Interstitial Fluid Pressure in Experimental Human Anaplastic Thyroid Carcinoma


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

P16 Dominates over P21 for the Cell Cycle Arrest Induced by Decorin in Thyroid Carcinomas


Departments of 1General Internal Medicine and 2Clinical Chemistry, University Hospital, University of Bern, Switzerland

Decorin Down-regulation in Thyroid Carcinomas Is Associated with Unusual Regulation of Its Binding Proteins (EGFR and ErbB2)


Departments of 1General Internal Medicine and 2Clinical Chemistry, University Hospital, University of Bern, Switzerland

2-Methoxyestradiol (2-ME) Induces Apoptosis in Anaplastic Thyroid Carcinoma Cells

P. Roswall, S. Bu, K. Rubin, M. Landström, N.-E. Heldin

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

IL-18 Expression in Human Thyroid Carcinomas

Y. Takiyama, N. Miyokawa, K. Ito, M. Tateno

1The Second Department of Pathology and 2Surgical Pathology, School of Medicine, Asahikawa Medical College, Asahikawa, Japan; and 3Ito Hospital, Tokyo, Japan

Enhanced Expression of Nicotinamide N-methyltransferase in Human Papillary Thyroid Carcinoma Cell Lines

J. Xu, J. Caldwell, J. Walker, Z. Kraiem, G.A. Brent, J.M. Hershman

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

Expression of Wild Type PPAR Gamma in Medullary Thyroid Carcinoma


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-β1 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. Ishigaki¹, 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**
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
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

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

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

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

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

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

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
Case Report: Ectopic Intratracheal Thyroid Tissue Presenting as New-onset Asthma in a 19-Year-Old
H. Bowen-Wright¹, S. Malekzadeh², J. Jonklaas¹
Division of¹ Endocrinology and Metabolism and ²Otolaryngology,
Georgetown University Hospital, Washington, DC, USA

Cytological Studies of Fine-needle Aspiration Specimens and the Risk of Malignancy in Thyroid Nodule:
Importance of Nuclear Atypia.
Thyroid Unit, Division of Endocrinology, São Paulo University School of Medicine, São Paulo, Brazil

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

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

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

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 Parè Hospital, Boulogne, France; and ³INSERM Unit 556, Lyon, France

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
Friday, October 11, 2002
Morning Session

10:30 am – 12 noon Simultaneous Symposia

Biltmore Bowl
**Clinical: Radiation in Thyroid Cancer Therapy**
Chair: Kenneth A. Woeber
External Radiation     James D. Brierley
Dosimetry     Douglas VanNostrand
Adverse Effects of Radioiodine Therapy     John E. Freitas

Crystal Ballroom
**Basic: Thyroid and Development**
Chair: Peter A. Kopp
Thyroid Hormone in Xenopus Development J. David Furlow
Hairless Protein and Thyroid Hormone
Regulation of Development Catherine Thompson
The Consequences of Thyroid Transcripton Factor
Defects in Mice and Man Samuel Refetoff

12:00 noon – 1:00 pm Regency Room
**Lunch in the Exhibit Hall**
_Sponsored by Abbott Laboratories_

1:00 – 1:30 pm Regency Room Foyer and Emerald Room
**Review of Posters**
*Poster Plus 5-40*
*Posters 116-173*
_Investigators available to discuss their posters_

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 Acropathy  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 ¹Pathology 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
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 (TRα) 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 Superieur, 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 TRalpha1-/- Mice
D. Egan1, M. Smith1, P. Sleph1, R. George1, K. Mookhtiar1, B. Vennstrom2, K. Mellstrom2, G. Grover1
1Bristol-Myers Squibb, Pennington, New Jersey, USA; 2KarloBio 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 Superieure (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
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
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  J. Enrique Silva
Assessment of Replacement Therapy: TSH and Beyond  Douglas Ross
T4 vs T3: Which One and How Much?  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  Jorge H. Mestman
Influence of Maternal Thyroid Disease on Fetal Outcome  T. Murphy Goodwin
Autoimmune Thyroid Disease in Children  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. Park¹,², E.S. Park³, T.Y. Kim¹,², J.K. Hwang¹, H.S. Lee¹, S.H. Lee³, D.J. Park¹,³, Y.K. Yoon¹,⁴, B.Y. Cho¹,³
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 (PrPr) 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. Schmutzler¹,², L. Schomburg¹,², M. Menth², S. Zeck², J. Koehrle¹,²
¹Institut für Experimentelle Endokrinologie, Charite, Humboldt-Universitaet zu Berlin, Berlin, Germany; and ²Medizinische Poliklinik, Abteilung Molekulare Innere Medizin, Universitaet Wuerzburg, Wuerzburg, Germany

191    Cell Biology
Stress-inducible hSNK Gene Expression in Thyroid Follicular Cells
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. Rovet¹,²
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. Labedz¹, 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
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. Parlow3, 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
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
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. Soldin¹,³, A. Engel¹, S.H. Lamm¹,²

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. Antonelli¹,², P. Miccoli²,², 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. Schlosser³, A. Loos³, G.J. Kahaly²

Departments of ¹Cardiology, ²Endocrinology/Metabolism, and ³Medical Statistics, Gutenberg University, Mainz, Germany
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 Hemiagenesis Associated with Hürthle Cell Carcinoma
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
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-Isolform-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

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

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

11 Autoimmunity
Immune Repertoire Shifting under the Influence of Apoptosis
T. Ando, S. Sasaki, N. Arata, P. Graves, T. Davies

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

13 Autoimmunity
Glycosaminoglycans Provide a Binding Site for Thyroglobulin in Orbital Tissues of Patients with Thyroid-associated Ophthalmopathy
S. Lisi, L. Chiovato, F. Menconi, E. Morabito, S. Sellari-Franceschini, R.T. McCluskey, A. Pinchera, M. Marinò

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

15 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

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**


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

3:30 pm Heinsbergen Room

Poster Discussion Group: Thyroid Cancer Clinical/Basic
Discussion Leader: Bryan R. Haugen

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

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

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

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

27 Cancer
An Approach to Therapy for Anaplastic Carcinoma of the Thyroid

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 (TRb)-selective Compound GC-1 on Bone Development of Wistar Rats**

31  Thyroid Hormone Action
**Thyroid Status and T3 Receptor Isoforms Differentially Regulate the Pacemaker Ion Channels HCN2 and HCN4**

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 α2 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

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
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  
The Case for Treatment of Mild Thyroid Failure: Conclusions and Recommendations of the 2002 Consensus Conference  
“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**