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## BIOGRAPHICAL SKETCH

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| NAME<br>Lechan, Ronald M, M.D., Ph.D. | POSITION TITLE<br>Chief of Endocrinology, Professor of<br>Medicine |
| eRA COMMONS USER NAME<br>rlechan      |  |

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

| INSTITUTION AND LOCATION  | DEGREE<br><i>(if applicable)</i> | YEAR(s) | FIELD OF STUDY               |
|---|----------------------------------|---------|------------------------------|
| Brandeis University, Waltham, MA  | B.A.                             | 1972    | Biology                      |
| University of Vermont, Burlington, VT   | M.D.                             | 1976    | Medicine                     |
| Tufts University Sackler School of<br>Graduate Biochemical Sciences, Boston, MA | Ph.D.                            | 1984    | Anatomy and Cellular Biology |

### **A. Positions and Honors**

#### **PROFESSIONAL EXPERIENCE**

|              |   |
|--------------|---|
| 1976-1977    | Intern, Medicine, Beth Israel Hospital, Boston, MA  |
| 1977-1978    | Resident, Medicine, Beth Israel Hospital, Boston, MA  |
| 1978-1981    | Fellow, Endocrinology and Metabolism, Tufts Medical Center, Boston, MA  |
| 1981-1982    | Instructor, Medicine, Tufts University School of Medicine, Boston, MA<br>Assistant Professor, Medicine, Tufts University School of Medicine, Physician, New England Medical Center, Boston, MA<br>Associate Professor of Medicine, Tufts University School of Medicine, Physician, Tufts Medical Center, Boston, MA |
| 1993-present | Professor of Medicine, Tufts University School of Medicine, Boston, MA  |
| 1996-present | Program Director, Division of Endocrinology, Diabetes, Metabolism and Molecular Medicine, Tufts Medical Center, Boston, MA  |
| 1996-2006    | Acting Chief, Division of Endocrinology, Diabetes and Metabolism, Tufts Medical Center, Boston, MA  |
| 2006-present | Chief, Division of Endocrinology, Diabetes and Metabolism, Tufts Medical Center, Boston, MA   |

#### **HONORS AND PROFESSIONAL ACTIVITIES**

|      |   |
|------|---|
| 1987 | Member, Animal Research Committee   |
| 1991 | Member, American Society for Clinical Investigation   |
| 1991 | Fellow, American College of Physicians  |
| 1991 | Van Meter/Forrest Award, American Thyroid Association   |
| 1991 | Program Committee, The Endocrine Society  |
| 1993 | Editorial Board, Endocrinology  |
| 1995 | Program Director, NIH Training Grant in Diabetes, Endocrinology and Metabolism<br>Elected Member, Academy of Science, University of Bologna, Bologna, Italy   |
| 2001 | Honorary Member, Society of Medical and Natural Science, University of Parma, Italy   |
| 2002 | Editorial Board, Endocrine Pathology  |
| 2005 | 15 <sup>th</sup> Annual Sidney H. Ingbar Memorial Lecturer, Beth Israel Deaconess Hospital, 4/08/05<br>Invited Participant, 24 <sup>th</sup> International Summer School of Brain Research, Amsterdam, The Netherlands, Aug 29 – Sept 2, 2005 |
| 2006 | Distinguished Academic Achievement Award, University of Vermont College of Medicine   |
| 2007 | Twenty-Five Year Service Award, Tufts University School of Medicine   |
| 2008 | Boston Magazine 2008 list of Top Doctors  |
| 2009 | Gold Medal, Academy of Science, University of Bologna   |

### **B. Selected Peer Review Publications:** (Selected from 137 original papers, 46 reviews/book chapters)

Lechan RM, Alpert LC, Jackson IMD: Synthesis of Luteinizing Hormone Releasing Factor and Thyrotropin-Releasing Factor in Glutamate Lesioned Mice. *Nature* 264:463-465, 1976.

Lechan, RM, Nestler, JL, Jacobson, S: The Tuberoinfundibular Systems of the Rat as Demonstrated by Immunohistochemical Localization of Retrogradely Transported Wheat Germ Agglutinin (WGA) from the Median Eminence. *Brain Res* 245: 1-15, 1982.

Jackson, IMD, Wu, P, Lechan, RM. Immunohistochemical Localization in the Rat Brain of the Precursor for Thyrotropin Releasing Hormone. *Science* 229: 1097, 1985.

Lechan, RM, Wu, P, Jackson, IMD, Wolf, H, Cooperman, S, Mandel, G, Goodman, RH: Thyrotropin-Releasing Hormone Precursor: Characterization in Rat Brain. *Science* 231: 159-161, 1986.

Segerson TP, Kauer J, Wolfe HJ, Mobtaker H, Wu P, Jackson IMD, Lechan RM: Thyroid Hormone Regulates TRH Biosynthesis in the Paraventricular Nucleus of the Rat Hypothalamus. *Science* 238:78-80, 1987.

Fekete C, Kelly J, Mihaly E, Sarkar S, Rand WM, Legradi G, Emerson CH, Lechan RM, Neuropeptide Y (NPY) has an inhibitory central action on the hypothalamic-pituitary thyroid axis, *Endocrinology* 142: 2606-2613, 2001.

Fekete Cs, Sarkar S, Rand WM, Emerson CH, Lechan RM, Agouti related protein (AGRP) has a central inhibitory action on the hypothalamic-pituitary-thyroid (HPT) axis; Comparisons between the effect of AGRP and neuropeptide Y (NPY) on energy homeostasis and the HPT axis, *Endocrinology* 143: 3846-3853, 2002.

Fekete Cs, Sarkar, S, Rand WM, Harney JW, Emerson CH, Bianco AC, Beck-Sickinger A, Lechan RM, Neuropeptide Y1 and Y5 receptors mediate the effect of NPY on the hypothalamic-pituitary-thyroid (HPT) axis, *Endocrinology* 143: 4513-4519, 2002.

Sarkar S, Lechan RM, Central administration of neuropeptide Y (NPY) reduces  $\alpha$ -MSH-induced CREB phosphorylation in proTRH neurons and increases CREB phosphorylation in CRH neurons in the hypothalamic paraventricular nucleus (PVN), *Endocrinology* 144: 281-291, 2003.

Sarkar S, Wittmann G, Fekete Cs, Lechan RM, Central administration of cocaine- and amphetamine regulated transcript (CART) increases phosphorylation of cyclic adenosine 5'-monophosphate response element binding protein (CREB) in corticotropin releasing hormone (CRH) producing neurons but not in prothyrotropin releasing hormone producing neurons in the hypothalamic paraventricular nucleus, *Brain Res* 999: 181-192, 2004.

Raptis S, Fekete Cs, Sarkar S, Nagy GM, Lechan RM, CART Co-contained in TRH neurons of the hypothalamic paraventricular nucleus (PVN) modulates TRH-induced prolactin secretion, *Endocrinology* 145: 1695-1699, 2004.

Wittmann G, Sarkar S, Hrabovszky E, Liposits Zs, Lechan RM, Fekete Cs, Galanin but not galanin-like peptide (GALP)-containing axon terminals innervate hypophysiotropic thyrotropin-releasing hormone (TRH)-synthesizing neurons in the hypothalamic paraventricular nucleus, *Brain Res* 1007: 43-50, 2004.

Fekete Cs, Gereben B, Doleschall M, Harney JW, Dora JM, Bianco AC, Sarkar S, Liposits Zs, Rand W, Emerson C, Kacsokovics I, Larsen PR, Lechan RM, Lipopolysaccharide induces type-2 iodothyronine deiodinase in the mediobasal hypothalamus: implications for the nonthyroidal illness syndrome, *Endocrinology* 145: 1649-1655, 2004.

Fekete Cs, Marks DL, Sarkar S, Emerson CH, William M. Rand WM, Cone RD, Lechan RM, Effect of agouti-related protein (AGRP) in regulation of hypothalamic-pituitary-thyroid (HPT) axis in the MC4-R KO mouse, *Endocrinology* 145: 4816 – 4821, 2004.

Fekete Cs, Sarkar S, Lechan RM, Relative Contribution of Brainstem Afferents to the Cocaine-and Amphetamine-Regulated (CART) Innervation of Thyrotropin-Releasing Hormone Synthesizing Neurons in the Hypothalamic Paraventricular Nucleus (PVN), *Brain Research* 1032 171 – 175, 2005.

Lechan RM, Fekete Cs, Role of Melanocortin Signaling in the Regulation of the Hypothalamic-Pituitary-Thyroid (HPT) Axis, *Peptides* 27: 310-325, 2005.

Fekete Cs, Singru PS, Sarkar S, Rand WM, and Lechan RM, Ascending Brainstem Pathways are Not Involved in Lipopolysaccharide-Induced suppression of TRH Gene Expression in the Hypothalamic Paraventricular Nucleus, *Endocrinology* 146: 1357-1363, 2005.

Fekete C, Wittmann G, Lechan RM, Liposits Zs, Glutamatergic Innervation of Corticotropin-Releasing Hormone- and Thyrotropin-Releasing Hormone-Synthesizing Neurons in the Hypothalamic Paraventricular Nucleus of the Rat, *Brain Res* 1039: 53-62, 2005

Wittmann G, Liposits Z, Lechan RM, Fekete C, Origin of Cocaine-and Amphetamine-Regulated Transcript-Containing Axons Innervating Hypophysiotropic Corticotropin-Releasing Hormone-Synthesizing Neurons in the Rat, *Endocrinology* 146: 2985-91, 2005.

Fekete C, Sarka S, Christoffolete MA, Emerson CH, Bianco AC, Lechan RM, Bacterial Lipopolysaccharide (LPS)-Induced Type 2 Iodothyronine Deiodinase (D2) Activation in the Mediobasal Hypothalamus (MBH) is Independent of the LPS-Induced Fall in Serum Thyroid Hormone Levels, *Brain Res* 1056: 97-99, 2005.

Singru, P, Fekete C, Lechan RM, Neuroanatomical Evidence for Participation of the Hypothalamic Dorsomedial Nucleus (DMN) in Regulation of the Hypothalamic Paraventricular Nucleus (PVN) by  $\alpha$ -Melanocyte Stimulating Hormone, *Brain Research* 1064: 42-51, 2005.

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Lechan RM, Fekete Cs, Role of Thyroid Hormone Deiodination in the Hypothalamus, *Thyroid* 15: 883-97, 2005.

Fekete, Singru PS, Sanchez E, Sarkar S, Riberio RS, Rand WM, Emerson CH, Bianco AC, Lechan RM, Differential Effects of Central Leptin, Insulin or Glucose Administration During Fasting on the Hypothalamic-Pituitary-Thyroid (HPT) Axis and Feeding-Related Neurons in the Arcuate Nucleus *Endocrinology* 147: 520-529, 2006.

Christoffolete MA, Ribeiro R, Singru P, Fekete C, Gordon DF, Harney JW, Ridgway EC, Larsen PR, Lechan RM, Bianco AC, Sustained Expression of Type 2 Iodothyronine Deiodinase in Thyrotrophs Explains the Pituitary TSH Feed-back Mechanism, *Endocrinology* 147:1735-1743,2006.

Fekete C, Lechan RM, Neuroendocrine Implications for the Association between CART and Hypophysiotropic TRH, *Peptides* 27: 2012-2018, 2006.

Lechan RM, Fekete C, Central Mechanisms for Thyroid Hormone Regulation, *Am J Psychiatry* 163:9, 2006.

Lechan RM, Fekete C, The TRH Neuron: A Hypothalamic Integrator of Energy Metabolism, *Progress in Brain Research*, vol 153, 209-235, 2006.

Fekete C, Lechan RM, Negative Feedback Regulation of Hypophysiotropic Thyrotropin-Releasing Hormone (TRH) Synthesizing Neurons; Role of Neuronal Afferents and Type 2 Deiodinase, *Frontiers in Neuroendocrinology* 28:97-114, 2007. PMID: PMC2000455

Sánchez E, Fekete C, Lechan R M, and Joseph-Bravo P, Cocaine- and Amphetamine-Regulated Transcript (CART) Expression is Differentially Regulated in the Hypothalamic Paraventricular Nucleus of Lactating Rats Exposed to Suckling or Cold Stimulation, *Brain Research* 1132: 120-128, 2007. PMID: PMC1963438

Singru PS, Sanchez E, Fekete C, Lechan RM, Importance of Melanocortin Signaling in Refeeding-Induced Neuronal Activation and Satiety, *Endocrinology* 148: 638-646, 2007.

Menyhért J, Wittmann G, Lechan RM, Keller E, Liposits Z, Fekete C, Cocaine- and amphetamine-regulated transcript (CART) is colocalized with the orexigenic neuropeptide Y and agouti-related protein and absent from the anorexigenic alpha-melanocyte-stimulating hormone neurons in the infundibular nucleus of the human hypothalamus, *Endocrinology* 148: 4276-4281, 2007.

Fuzesi T, Wittmann G, Liposits Z. Lechan RM, Fekete C, Relative contribution of catecholaminergic brainstem and AGRP-containing arcuate nucleus neurons to the neuropeptide-Y-immunoreactive innervation of the hypophysiotropic corticotrophin-releasing hormone-synthesizing neurons in the rat, *Endocrinology* 148: 5442-5450, 2007.

Wajner SM, Wagner MS, Melo RCN, Parreira GG, Fekete C, Bianco AC, Lechan RM, and Maia AL, Type 2 Iodothyronine Deiodinase is Highly Expressed in Germ Cells of Adult Rat Testis, *J Endocrinol* 194: 47-54, 2007.

Fekete C, Freitas BCG, Zeold A, Liposits Z, Christoffolete MA, Lechan RM, Bianco AC, Gereben B, Expression patterns of WSB-1 and USP-33 underlie cell-specific post-translational control of type 2 deiodinase (D2) in the rat brain, *Endocrinology* 148:4865-4874, 2007.

Lechan RM, Fekete CS, Infundibular Tanycytes as Modulators of Neuroendocrine Function: Hypothetical Role in the Regulation of the Thyroid and Gonadal Axis, *Acta Bio Medica* 78 Supp1:84-98, 2007.

Dandekar MP, Singru PS, Kokare DM, Lechan RM, Thim L, Thorn Clausen J and Subhedar N, Importance of Cocaine-and Amphetamine-Regulated Transcript Peptide (CART) in the Central Nucleus of the Amygdala in Anxiogenic Responses Induced by Ethanol Withdrawal, *Neuropsychopharmacology*, Apr;33(5):1127-36, 2008. PMID: 17637604

Singru PS, Mazumdar M, Barsagade V, Lechan RM, Thim L, Clausen JT, Subhedar N, Association of cocaine-and amphetamine-regulated transcript and neuropeptide Y In the forebrain and pituitary of the catfish, *Clarias batrachus*: A double Immunofluorescent labeling study, *J Chem Neuroanatomy* 36:239-250, 2008. PMID: 18675898

Singru PS, Sanchez E, Fekete C, Lechan RM, Mitogen-activated Protein Kinase Contributes to Lipopolysaccharide-Induced Activation of Corticotropin-Releasing Hormone-Synthesizing Neurons in the Hypothalamic Paraventricular Nucleus, *Endocrinology* 149: 2283-2292, 2008. PMID: PMC2329264 [Available on 2009/05/01]

Sanchez, E, Singru PS, Fekete C, Lechan RM, Induction of Type 2 Iodothyronine Deiodinase (D2) in the Mediobasal Hypothalamus (MBH) by Bacterial Lipopolysaccharide (LPS) is Independent of Changes in Circulating Corticosterone, *Endocrinology* 149: 2484-2493, 2008. PMID: PMC2329263 [Available on 2009/05/01]

Sánchez E, Singru PS, Acharya R, Bodria M, Fekete C, Zavacki AM, Bianco AC, Lechan RM, Differential Effects of Refeeding on Melanocortin-Responsive Neurons in the Hypothalamic Paraventricular Nucleus, *Endocrinology* 149: 4329-4335, 2008. PMID: PMC2553369 [Available on 2009/09/01]

Füzesi T, Sánchez E, Wittmann G, Singru PS, Fekete C and Lechan RM, Regulation of cocaine-and amphetamine-regulated transcript-(CART) synthesizing neurons of the hypothalamic paraventricular nucleus by endotoxin; Implications for LPS-induced regulation of energy homeostasis, *J Neuroendocrinology* 20: 1058-1066, 2008. NIHMSID 106382

Lechan RM, The Dilemma of the Nonthyroidal Illness Syndrome, *Acta Bio Medica*, 79: 165-171, 2008. NIHMSID 106512

Lechan RM, Fekete C, Hypothalamo-Pituitary-Thyroid Axis: Organization, Neural/Endocrine Control of TRH, Lechan RM, Toni R, Functional Anatomy of the Hypothalamus and Pituitary, in *Endotext.com*, M. Besser, Ed., 2008.

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Deli L, Wittmann G, Kallo I, Lechan RM, Watanabe M, Liposits Z, Fekete C, Type 1 Cannabinoid Receptor (CB1)-Containing Axons Innervate Hypophysiotropic Thyrotropin-Releasing Hormone-Synthesizing Neurons, *Endocrinology* 150:98-103, 2009. PMID: PMC2630898 [Available on 2010/01/01]

Sánchez E, Vargas MA, Singru PS, Pascual I, Romero F, Fekete Cs, Charli JI, Lechan RM, Contribution of Tanycyte Pyroglutamyl Peptidase II to Regulation of the Hypothalamic-Pituitary-Thyroid Axis Through Glial-Axonal Associations in the Hypothalamic Median Eminence, *Endocrinology* 150:2283-2291, 2009.

Wittmann G, Fuzesi T, Singru PS, Liposits Z, Lechan RM, Fekete C, Efferent projections of thyrotropin-releasing hormone-synthesizing neurons residing in the anterior parvocellular subdivision of the hypothalamic paraventricular nucleus, *J Compr Neurol* 515:313-330.

Wittmann G, Füzési T, Liposits Zs, Lechan RM, Fekete Cs, Distribution and axonal projections of neurons co-expressing thyrotropin-releasing hormone and urocortin 3 in the rat brain, *J Compr Neurol*, in press.

Fuzesi T, Wittmann G, Lechan RM, Liposits Z, Noradrenergic Innervation of Hypophysiotropic Thyrotropin-Releasing Hormone-Synthesizing Neurons in Rats. *Brain Res*, in press.

Fekete CS, Lechan RM, Cocaine and Amphetamine Regulated Transcript (CART), in *Brain Peptides*, A. Kastin, Ed, Elsevier, in press.

Lechan, RM, Fekete, C, Toni R, Thyroid Hormones in Neural Tissue, in *Hormones, Brain and Behavior*, 2<sup>nd</sup> edition, D. W. Pfaff, Ed, Academic Press, in press.

Lechan, RM, Fekete, C, Toni R, Thyroid Hormones in Neural Tissue, in *Hormones, Molecular Mechanisms of Hormone Actions on Behavior*, A.M. Etgen, D.W. Pfaff, Ed, Academic Press, in press.

Danilova OV, Mele D, Tai AK, Beinborn M, Leiter AB, Greenberg AS, Perfield JW II, Singru PS, Lechan RM, and HuberBT, Neurogenin 3-Specific DPP2 deficiency causes impaired glucose tolerance, insulin resistance and visceral obesity, *Endocrinology*, in press.

Lechan, RM, Fekete C, Neuroendocrine and Metabolic Adaptations in the Central Nervous System to Weight Loss that Facilitate Weight Re-Gain, *Pediatric Obesity: Etiology, Pathogenesis, and Treatment*, Humana Press/Springer, in press.

**C. Research Support**

**Ongoing Research Support**

RO1 DK37021 (Lechan) 02/01/86- 08/31/11  
NIH/NIDDK

TRH Regulation/Biosynthesis in the Paraventricular Nucleus

The major goals of this project are to elucidate the mechanism of control of the biosynthesis of thyrotropin-releasing hormone in a discrete population of neurons in the hypothalamic paraventricular nucleus that is critical for the regulation of anterior pituitary TSH secretion.

Role: Principal Investigator

R21 DK078998 (Lechan) 05/10/2009 – 04/30/11  
NIH/NIDDK

Tanycytes and Nonthyroidal Illness

Tanycyte-specific genes will be identified by microarray analysis to allow the generation of transgenic mice that express Cre-recombinase specifically in these cells as a way to explore the role of tanycytes in nonthyroidal illness.

1R03TW007834 (Csaba Fekete PI) 08/01/08 – 04/30/11  
NIH/Fogarty International Center

Role of Oleylethanolamine in the Regulation of HPT Axis

The major goal of this grant is to elucidate the role of the newly discovered anorexigenic lipid mediator (OEA) in the regulation of the hypophysiotropic TRH neurons and to define the pathways involved in this regulatory process.

Lilly Pharmaceutical, Inc. (Lechan) 1998 - 2012  
HypoCCS Trial

This is an observational study whose purpose is to identify any long-term consequences of growth hormone replacement in patients with hypopituitarism and growth hormone deficiency.

Role: Principal Investigator