

**CURRICULUM VITAE**  
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**Place of Birth:** New York City, NY

**Education:**

1977 B.A. Haverford College  
1981 M.D. Harvard Medical School

**Postdoctoral Training:**

1981-1982 Intern in Pediatrics, Children's Hospital Boston  
1982-1983 Junior Resident in Pediatrics, Children's Hospital Boston  
1983-1984 Senior Resident in Pediatrics, Children's Hospital Boston  
1984-1986 Research Fellow in Cardiology, Children's Hospital Boston  
1987-1988 Clinical Fellow in Cardiology, Children's Hospital Boston

**Licensure and Certification:**

1982 National Board of Medical Examiners  
1984 Massachusetts Board of Registration in Medicine  
1986 American Board of Pediatrics  
1988 Sub-Board of Pediatric Cardiology, American Board of Pediatrics  
1995 Sub-Board of Pediatric Cardiology, American Board of Pediatrics, Recertification  
2002 Sub-Board of Pediatric Cardiology, American Board of Pediatrics, Recertification

**Academic Appointments:**

1987-1990 Instructor in Pediatrics, Harvard Medical School  
1990 Assistant Professor of Pediatrics, Harvard Medical School (Academic Part Time 1999-2002)

**Hospital or Affiliated Institution Appointments:**

1988-1990 Assistant in Cardiology, Children's Hospital Boston  
1990- Associate in Cardiology, Children's Hospital Boston (Part time 1996-2002)  
2002- Affiliate Staff, Department of Newborn Medicine, Brigham and Women's Hospital

**Other Professional Positions and Major Visiting Appointments:**

1996-1997 Director of Preclinical Research, Millennium Pharmaceuticals, Cambridge, MA  
 1998-2002 Senior Director, Cardiovascular Discovery, Millennium Pharmaceuticals, Cambridge, MA

**Hospital and Health Care Organization Service Responsibilities:**

1988- Attending Physician, Cardiology Services (Inpatient, Consult, Clinic, Faculty Practice), Children's Hospital Boston

**Major Administrative Responsibilities:**

1989-1996 Director, Thursday Cardiology Clinic, Children's Hospital Boston  
 1996-2004 Director, Monday Cardiology Clinic, Children's Hospital Boston  
 2006- Interim Chief, Cardiology Inpatient Service, Children's Hospital Boston

**Major Committee Assignments:**

**Harvard Medical School**

1978-1979 Advisory Committee on Affirmative Action Policy, Harvard Medical School  
 1980-1981 Admissions Committee, Harvard Medical School  
 1991-1996 MD-PhD Program Admissions Committee, Harvard Medical School  
 1994-1996 Committee on Student Research, Harvard Medical School

**Affiliated Institutions**

1982-1986 Premedical Committee, Leverett House, Harvard College  
 1982-1984 Planning Committee for New Inpatient Building, Children's Hospital Boston  
 1988- Cardiology Fellowship Training Program Recruiting and Admissions Committee, Children's Hospital Boston  
 1991-1996 Research Faculty Council; Education Subcommittee, Library Subcommittee, Children's Hospital Boston  
 1994 Biopolymer Facility Planning Committee, Children's Hospital Boston  
 1994-1996 Faculty Advisory Committee, Animal Resource Facility, Children's Hospital Boston  
 1999-2000 Research Faculty Search Committee, Department of Cardiology, Children's Hospital Boston  
 2002- Resuscitation Review Committee, Cardiovascular Program, Children's Hospital Boston  
 2002- Scientific Review Committee, Department of Cardiology, Children's Hospital Boston  
 2003 Selection Committee, J. Ira and Nicki Harris Family Research Award, Division of Cardiology, Brigham and Women's Hospital  
 2003-2004 Planning Committee, Cardiovascular Program, New Clinical Building, Children's Hospital Boston  
 2004- Cardiovascular and Critical Care Policy and Practice Committee, Children's Hospital Boston  
 2005 Chairperson, Conflict-of-Interest Policy Committee, Department of Cardiology, Children's Hospital Boston  
 2005 Chairperson, Committee to Develop Patient Hand-Off Communication Policy, Cardiovascular Program, Children's Hospital Boston

**National**

- 1992 Site Visit Review Committee, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health
- 1995 Molecular Biology of Muscle Study Committee, American Heart Association
- 1995 Cardiovascular Study Section, National Institutes of Health
- 2000-2003 External Advisory Committee, Research Centers in Minority Institutions, Morehouse School of Medicine
- 2003- Steering Committee, Pediatric Heart Network, National Heart, Lung and Blood Institute, National Institutes of Health
- 2004 Research Grant Reviewer, The Children's Heart Foundation, Lincolnshire, IL
- 2004-2006 Presentation, Publication and Ancillary Study Committee, Pediatric Heart Network, National Heart, Lung and Blood Institute, National Institutes of Health
- 2006- Chairperson, Publications and Presentations Committee, Pediatric Heart Network, National Heart, Lung and Blood Institute, National Institutes of Health
- 2006- Executive Committee, Pediatric Heart Network, National Heart, Lung and Blood Institute, National Institutes of Health

#### **Professional Societies:**

- 1986- American College of Cardiology, Member
- 1992- Council on Cardiovascular Disease in the Young, American Heart Association, Member
- 1992- Council on Basic Science, American Heart Association, Member
- 1992- American Heart Association, Member

#### **Editorial Boards:**

- 2002- Ad-Hoc Reviewer, *Journal of Molecular and Cellular Cardiology*
- 2004- Ad-Hoc Reviewer, *Journal of the American College of Cardiology*
- 2004- Ad-Hoc Reviewer, *Circulation*

#### **Awards and Honors:**

- 1975 Crown-Zellerbach Foundation Award, Haverford College
- 1976 Phi Beta Kappa, Haverford College
- 1977 Highest College Honors, Chemistry and Biology, Haverford College
- 1977 B.A., *magna cum laude*, Haverford College
- 1985 Young Investigator Award, Finalist: Section on Cardiology, American Academy of Pediatrics
- 1985 Physician Scientist Award, National Heart, Lung and Blood Institute, National Institutes of Health
- 1986 Bugher Fellow, American Heart Association-Bugher Foundation Center for Molecular Biology in the Cardiovascular System
- 1988 Young Investigator Award, The Society for Pediatric Research
- 1990 Fellow, American College of Cardiology
- 1990 Samuel Rosenthal Foundation Scholar, Harvard Medical School
- 1995 Established Investigator, American Heart Association

### Part III: Bibliography

#### Original Articles

1. Kaplan MM, Tatro JB, **Breitbart RE**, Larsen PR. Comparison of thyroxine and 3,3',5'-triiodothyronine metabolism in rat kidney and liver homogenates. *Metabolism*. 1979;28:1139-46.
2. **Breitbart RE**, Nguyen HT, Medford RM, Destree AT, Mahdavi V, Nadal-Ginard B. Intricate combinatorial patterns of exon splicing generate multiple regulated troponin T isoforms from a single gene. *Cell*. 1985;41:67-82.
3. **Breitbart RE**, Nadal-Ginard B. Complete nucleotide sequence of the fast skeletal troponin T gene. Alternatively spliced exons exhibit unusual interspecies divergence. *J Mol Biol*. 1986;188:313-24.
4. **Breitbart RE**, Nadal-Ginard B. Developmentally induced, muscle-specific trans factors control the differential splicing of alternative and constitutive troponin T exons. *Cell*. 1987;49:793-803.
5. Yu YT, **Breitbart RE**, Smoot LB, Lee Y, Mahdavi V, Nadal-Ginard B. Human myocyte-specific enhancer factor 2 comprises a group of tissue-restricted MADS box transcription factors. *Genes Dev*. 1992;6:1783-98.
6. Leifer D, Krainc D, Yu YT, McDermott J, **Breitbart RE**, Heng J, Neve RL, Kosofsky B, Nadal-Ginard B, Lipton SA. MEF2C, a MADS/MEF2-family transcription factor expressed in a laminar distribution in cerebral cortex. *Proc Natl Acad Sci U S A*. 1993;90:1546-50. \
7. **Breitbart RE**, Liang CS, Smoot LB, Laheru DA, Mahdavi V, Nadal-Ginard B. A fourth human MEF2 transcription factor, hMEF2D, is an early marker of the myogenic lineage. *Development*. 1993;118:1095-106.
8. Chen H, Charlat O, Tartaglia LA, Woolf EA, Weng X, Ellis SJ, Lakey ND, Culpepper J, Moore KJ, **Breitbart RE**, Duyk GM, Tepper RI, Morgenstern JP. Evidence that the diabetes gene encodes the leptin receptor: identification of a mutation in the leptin receptor gene in db/db mice. *Cell*. 1996;84:491-5.
9. Ticho BS, Stainier DY, Fishman MC, **Breitbart RE**. Three zebrafish MEF2 genes delineate somitic and cardiac muscle development in wild-type and mutant embryos. *Mech Dev*. 1996;59:205-18.
10. Lee KH, Xu Q, **Breitbart RE**. A new tinman-related gene, nkx2.7, anticipates the expression of nkx2.5 and nkx2.3 in zebrafish heart and pharyngeal endoderm. *Dev Biol*. 1996;180:722-31.
11. Park M, Lewis C, Turbay D, Chung A, Chen JN, Evans S, **Breitbart RE**, Fishman MC, Izumo S, Bodmer R. Differential rescue of visceral and cardiac defects in *Drosophila* by vertebrate tinman-related genes. *Proc Natl Acad Sci U S A*. 1998;95:(9366-71.
12. Angelo S, Lohr J, Lee KH, Ticho BS, **Breitbart RE**, Hill S, Yost HJ, Srivastava D. Conservation of sequence and expression of *Xenopus* and zebrafish dHAND during cardiac, branchial arch and lateral mesoderm development. *Mech Dev*. 2000;95:231-7.
13. Donoghue M, Hsieh F, Baronas E, Godbout K, Gosselin M, Stagliano N, Donovan M, Woolf B, Robison K, Jeyaseelan R, **Breitbart RE**, Acton S. A novel angiotensin-converting enzyme-related carboxypeptidase (ACE2) converts angiotensin I to angiotensin 1-9. *Circ Res*. 2000;87:E1-9.

14. Herman MP, Sukhova GK, Libby P, Gerdes N, Tang N, Horton DB, Kilbride M, **Breitbart RE**, Chun M, Schönbeck U. Expression of neutrophil collagenase (matrix metalloproteinase-8) in human atheroma: a novel collagenolytic pathway suggested by transcriptional profiling. *Circulation*. 2001;104:1899-904.
15. Donoghue M, Wakimoto H, Maguire CT, Acton S, Hales P, Stagliano N, Fairchild-Huntress V, Xu J, Lorenz JN, Kadambi V, Berul CI, **Breitbart RE**. Heart block, ventricular tachycardia, and sudden death in ACE2 transgenic mice with downregulated connexins. *J Mol Cell Cardiol*. 2003;35:1043-53.
16. Rodrigue-Way A, Burkhoff D, Geesaman BJ, Golden S, Xu J, Pollman MJ, Donoghue M, Jeyaseelan R, Houser S, **Breitbart RE**, Marks A, Acton S. Sarcomeric genes involved in reverse remodeling of the heart during left ventricular assist device support. *J Heart Lung Transplant*. 2005;24:73-80.
17. Gurley SB, Allred A, Le TH, Griffiths R, Mao L, Philip N, Haystead TA, Donoghue M, **Breitbart RE**, Acton SL, Rockman HA, Thomas M, Coffman TM. Altered blood pressure responses and normal cardiac phenotype in ACE2-null mice. *J Clin Invest*. 2006;116:2218-2225.
18. Atz AM, Cohen MS, Sleeper LA, McCrindle BW, Lu M, Prakash A, **Breitbart RE**, Williams RV, Sang CJ, Wernovsky G. Functional state of patients with heterotaxy syndrome following the Fontan operation. *Cardiol Young*. 2007;17 (Suppl 2):44-53.
19. Kühn B, Peters AS, Marx GR, **Breitbart RE**. Etiology, management, and outcome of pediatric pericardial effusions. *Pediatr Cardiol*. 2008;29:90-4.
20. Anderson PAW, Sleeper LA, Mahony L, Colan SD, Atz AM, **Breitbart RE**, Gersony WM, Gallagher D, Geva T, Margossian R, McCrindle BW, Paridon S, Schwartz M, Stylianou M, Williams RV, Clark BJ. Contemporary outcomes after the Fontan procedure: a Pediatric Heart Network Multicenter Study. *J Am Coll Cardiol*. 2008. In press.
21. Blaufox AD, Sleeper LA, Bradley DJ, **Breitbart RE**, Hordof A, Kanter RJ, Stephenson EA, Stylianou M, Vetter VL, Saul JP. Functional status, heart rate, and rhythm abnormalities in 521 Fontan patients 6-18 years of age. *J Thorac Cardiovasc Surg*. 2008. In press.

### Proceedings of Meetings

1. Nadal-Ginard B, **Breitbart RE**, Strehler EE, et al. Alternative splicing: a common mechanism for the generation of contractile protein diversity from single genes. In: Emerson C, Fischman DA, Nadal-Ginard B, Siddiqui MAQ, editors. *Molecular biology of muscle development*. New York: AR Liss; 1986. p. 387-410.
2. Smith CWJ, Gallego ME, Andreadis A, **Breitbart RE**, et al. Alternative splicing of contractile protein minigene constructs is directed by cis and trans mechanisms. In: Cullen B, Gage LP, Siddiqui MAQ, Skalka AM, Weissbach H, editors. *Mechanisms of control of gene expression*. New York: AR Liss; 1988. p. 265-77.

### Reviews, Chapters, and Editorials

1. Kaplan MM, **Breitbart RE**. Conversion of thyroxine to triiodothyronine in the anterior pituitary gland and the influence of this process on thyroid status. *Horm Metab Res Suppl*. 1984;14:79-85.
2. **Breitbart RE**, Andreadis A, Nadal-Ginard B. Alternative splicing: a ubiquitous mechanism for the generation of multiple protein isoforms from single genes. *Annu Rev Biochem*. 1987;56:467-95.

3. Nadal-Ginard B, Gallego M, Andreadis A, **Breitbart RE**, et al. Promoter selection and alternative pre-mRNA splicing are used to generate complex contractile protein phenotypes. In: Norman AW, Vanaman TC, Means AR, editors. *Calcium-binding Proteins in Health and Disease*. San Diego: Academic Press; 1987. p. 518-532.
4. **Breitbart RE**, Nadal-Ginard B. Tissue specific alternative splicing in the troponin T multigene family. In: Renkawitz R, editor. *Tissue Specific Gene Expression*. Weinheim: VCH Verlagsgesellschaft; 1989. p. 199-215.
5. Nadal-Ginard B, Smith CW, Patton JG, **Breitbart RE**. Alternative splicing is an efficient mechanism for the generation of protein diversity: contractile protein genes as a model system. *Adv Enzyme Regul.* 1991;31:261-86.
6. **Breitbart RE**, London B, Nguyen HT, Satler CA. Recent advances in the Laboratory of Molecular and Cellular Cardiology. *Ann Thorac Surg.* 1995;60(6 Suppl):S509-12.
7. Fishman MC, Stainier DY, **Breitbart RE**, Westerfield M. Zebrafish: genetic and embryological methods in a transparent vertebrate embryo. *Methods Cell Biol.* 1997;52:67-82.
8. Ross JS, Stagliano NE, Donovan MJ, **Breitbart RE**, Ginsburg GS. Atherosclerosis and cancer: common molecular pathways of disease development and progression. *Ann NY Acad Sci.* 2001;947:271-92.
9. Ross JS, Stagliano NE, Donovan MJ, **Breitbart RE**, Ginsburg GS. Atherosclerosis: a cancer of the blood vessels? *Am J Clin Pathol.* 2001;116 Suppl:S97-107.
10. Acton S, Jeyaseelan R, Kadambi VJ, **Breitbart RE**. Array transcription profiling: molecular phenotyping of rodent cardiovascular models. In: Hoit BD, Walsh RA, editors. *Cardiovascular physiology in the genetically engineered mouse*. Boston: Kluwer; 2002. p. 53-61.
11. **Breitbart RE**. Pericardial diseases. In: Keane JB, Lock, JE, Fyler DC, editors., *Nadas' Pediatric Cardiology*, 2nd ed. Philadelphia: Saunders Elsevier; 2006. p. 459-466.
12. **Breitbart RE**, Fyler DC. Tetralogy of Fallot. In: Keane JB, Lock, JE, Fyler DC, editors., *Nadas' Pediatric Cardiology*, 2nd ed. Philadelphia: Saunders Elsevier; 2006. p. 559-579.
13. Conta JH, **Breitbart RE**. Genomics of congenital heart disease. In: Willard HF, Ginsburg GS, editors., *Handbook of genomic medicine*. New York: Elsevier; 2008. In press.

### Clinical Communications

1. Cua CL, Sanghavi D, Voss S, Laussen PC, del Nido P, Marshall A, **Breitbart RE**. Right ventricular pseudoaneurysm after modified Norwood procedure. *Ann Thorac Surg.* 2004;78:e72-3.