

BIOGRAPHICAL SKETCH

January 20, 2015

NAME: Bruce J. Baum

POSITION TITLE: NIH Scientist Emeritus

<u>EDUCATION</u>	<u>DEGREE</u>	<u>YEAR</u>	<u>FIELD OF STUDY</u>
University of Virginia, Charlottesville	B.A.	1967	History
Tufts University, Boston, MA	D.M.D.	1971	Dentistry
Boston University, MA	Ph.D.	1974	Biochemistry

RESEARCH AND PROFESSIONAL EXPERIENCE

1974 - 76	Naval Dental Research Officer, Dental Sciences Dept., NNMC, Bethesda, MD
1976 - 78	Staff Investigator, Pulmonary Branch, NHLBI, NIH, Bethesda, MD
1978 - 81	Senior Investigator, Lab. of Molecular Aging, NIA, NIH, Baltimore, MD
1982 - 96	Clinical Director & Chief, Clinical Investigations and Patient Care Branch, NIDR, NIH
1996 - 05	Chief, Gene Therapy and Therapeutics Branch, NIDCR, NIH, Bethesda, MD
2005 - 11	Chief, Gene Transfer Section, MPTB, NIDCR, NIH, Bethesda, MD
2011 - 14	Director, NIH Medical Research Scholars Program, Clinical Center, Bethesda, MD
2014- present	NIH Scientist Emeritus, MPTB, NIDCR, Bethesda, MD

HONORS (selected)

1992	Fellow, AAAS
1993	Salivary Research Award, IADR; Samuel Charles Miller Award, Am Acad Oral Med
1994	J. Murray Gavel Clinical Research Lectureship, Forsyth Dental Center
1995	Geriatric Oral Research Group Award, IADR
1996	NIH Senior Biomedical Research Service
1997	Columbia University Birnberg Research Award
1999.	Jack Lewin Epstein Memorial Lectureship, Hebrew University, Jerusalem, Israel; Norton Ross Award, American Dental Association
2000.	Leo M. Sreebny Visiting Scholar, SUNY-Stony Brook; Isidore Cabakoff Lectureship, Hebrew University, Jerusalem, Israel
2001.	New York University, Distinguished Scientist Award
2002.	Tufts University Alumni Distinguished Service Award; Broegelmann Lecturer, University of Bergen, Norway
2006	J. A. Young Lecturer, Federation Asian & Oceanian Physiological Societies, Seoul, KR
2007	Oral Medicine and Pathology Research Award, IADR; Elected member, Institute of Medicine of the National Academies
2009	Chalmers J. Lyons Lecturer, Am Acad OMFS, Toronto, Canada
2011	Bernard Sarnat Lecturer, University of California-Los Angeles
2014	Jack Hein Public Service Award, AADR, NIH Scientist Emeritus
2015	Honorary PhD, Hebrew University, Jerusalem, Israel (to be awarded May 31, 2015)

REPRESENTATIVE OTHER ACTIVITIES

1994 - 1996	Special Consultant in Dental Education, Indiana University; Chair-elect, then Chair, Section R (Dentistry) AAAS
1995 - 1997	Member, NIH Committee on Scientific Conduct and Ethics
1996 - 2006	Board of Tutors, NIH Clinical Research Training Program
1996 - 2009	Associate Editor, <u>European Journal of Dental Education</u>
1999	Chair, Salivary Glands and Saliva Gordon Research Conference
1999 - 2011	Member, Board of Overseers, Tufts University School of Dental Medicine; Chair, Admissions Committee, NIH-Duke Master of Health Sciences Clinical Research Program
1999 - present	Senior Editor, <u>Oral Diseases</u> , Visiting Professor, Tokyo Dental College
1999 - 2002	Member, Scientific Advisory Board, Generic, Inc., Alameda, CA
2003 - 2009	Member, Scientific Advisory Board, Harvard School of Dental Medicine, Boston, MA
2006 - 2010	Member, NIH Central Tenure Committee
2010 - 2012	Chair, Section 10, Institute of Medicine of the National Academies
2010 - present	Visiting Professor, Hebrew University, Faculty of Dental Medicine
2013 - present	Visiting Professor, University of the Philippines, College of Dentistry

REPRESENTATIVE PUBLICATIONS (of >330 peer-reviewed research, 105 invited, 8 edited volumes)

Voutetakis A, Kok MR, Zheng C, Bossis I, Wang J, Cotrim AP, Marracino N, Goldsmith CM, Chiorini JA,

- Loh YP, Nieman LK, **Baum BJ**. Reengineered salivary glands are stable endogenous bioreactors for systemic gene therapeutics. *Proc Natl Acad Sci USA*. 101:3053-3058, 2004.
- Shan Z, Li J, Zheng C, Liu X, Zhang C, Goldsmith CM, Wellner RB, **Baum BJ**, Wang, S. Increased fluid secretion after adenoviral-mediated transfer of the human aquaporin-1 cDNA to irradiated miniature pig parotid glands. *Mol Ther*. 11: 444-451, 2005.
- Zheng C, Goldsmith CM, Mineshiba F, Chiorini JA, Kerr A, Wenk ML, Vallant M, Irwin RD, **Baum BJ**. Toxicity and biodistribution of a first-generation recombinant adenoviral vector encoding aquaporin-1 after retroductal delivery to a single rat submandibular gland. *Hum Gene Ther*. 17: 1122-1133, 2006.
- Baum BJ**. Inadequate training in the biological sciences and medicine for dental students: An impending crisis for dentistry. *J Amer Dent Assoc*. 138:16-26, 2007.
- Voutetakis A, Zheng C, Mineshiba F, Cotrim AP, Goldsmith CM, Schmidt M, Afione S, Roescher N, Metzger M, Eckhaus MA, Chiorini JA, Dunbar CE, Donahue RE, **Baum BJ**. AAV2-mediated gene transfer to the parotid glands of non-human primates. *Hum Gene Ther*. 18:142-150, 2007.
- Voutetakis A, Zheng C, Metzger M, Cotrim AP, Donahue RE, Dunbar CE, **Baum BJ**. Sorting of transgenic secretory proteins in rhesus macaque parotid glands following adenoviral mediated gene transfer. *Hum Gene Ther* 19:1401-1406, 2008.
- Zheng C, Cotrim AP, Sunshine AN, Sugito T, Liu L, Sowers A, Mitchell JB, **Baum BJ**. Prevention of radiation-induced oral mucositis after adenoviral vector-mediated transfer of the keratinocyte growth factor cDNA to mouse submandibular glands. *Clin Cancer Res* 15:4641-4648, 2009.
- Zheng C, Nikolov NP, Alevizos I, Cotrim AP, Liu S, McCullagh L, Chiorini JA, Illei GG, **Baum BJ**. Transient detection of E1-containing adenovirus in saliva after the delivery of a first generation adenoviral vector to human parotid gland. *J Gene Med* 12:3-10, 2010.
- Gao R, Yan X, Zheng C, Goldsmith CM, Afione S, Hai B, Xu J, Zhou J, Zhang C, Chiorini JA, **Baum BJ**, Wang S. AAV2-mediated transfer of the human aquaporin-1 cDNA restores fluid secretion from irradiated miniature pig parotid glands. *Gene Ther* 18:38-42, 2011.
- Acosta A, Hurtado MD, Gorbatyuk O, La Sala M, Duncan D, Aslanidi G, Campbell-Thompson M, Zhang L, Herzog H, Voutetakis A, **Baum BJ**, Zolotukhin S. Salivary PYY: A putative bypass to satiety. *PLoS One* 6 (10):e26137, 2011.
- Cotrim AP, Yoshikawa M, Sunshine AN, Zheng C, Sowers AL, Thetford AD, Cook JA, Mitchell JB, **Baum BJ**. Pharmacological protection from radiation ± cisplatin-induced oral mucositis. *Int J Radiat Oncol Biol Phys* 83:1284-1290, 2012.
- Baum BJ**, Alevizos I, Zheng C, Cotrim AP, Liu S, McCullagh L, et al, Early responses to adenoviral-mediated transfer of the aquaporin-1 cDNA for radiation-induced salivary hypofunction. *Proc Natl Acad Sci USA* 109:19403-19407, 2012.
- Rowzee AM, Perez-Riveros PJ, Zheng C, Krygowski S, **Baum BJ**, Cawley NX. Expression and secretion of human proinsulin-B10 from mouse salivary glands: Implications for treatment of Type 1 diabetes mellitus. *PLoS One* 8 (3):e59222, 2013.
- Guo L, Guo R, Xu J, Jin L, Cotrim AP, Zheng C, Goldsmith CM, Shan Z, Hai B, Zhou J, Zhang C, **Baum BJ**, Wang S. AdLTREFla-FGF2-mediated prevention of fractionated irradiation-induced salivary hypofunction in swine. *Gene Ther* 21:866-8733, 2014.