

# Robert M. Cabrera, Ph.D.

Baylor College of Medicine  
One Baylor Plaza  
Houston TX 77030

bcm.edu  
Robert.Cabrera@bcm.edu  
Phone: 713-798-6404

---

## Summary of Qualifications

### Academic Experience

Over 10 years of experience managing an academic research laboratory  
Active in pharmaceutical and environmental chemical testing for developmental toxicity  
Performs nutritional research for mitigating diseases and prevention of birth defects  
Lecturer for UT Nutritional Sciences and TAMU Baylor College of Dentistry  
Writing federal grants, contracts, and scientific publications  
- Authored two multi-million dollar grants with the Environmental Protection Agency  
- Authored a 12.25 million dollar contract with the Defense Threat Reduction Agency

### Professional Experience

Expert witness on reproductive and developmental toxicity  
Experience in review of preclinical Segment I-III studies  
Greater than 2 years of commercial laboratory research experience  
Experience with GLP and CLIA regulatory compliance  
Provided scientific technical support for in-field marketing and sales

## Education

**09/2001-05/2006**                      **Texas A&M University HSC-IBT**                      **Houston, TX**  
**Ph.D. in Medical Sciences**

Studied gene-environment interactions and neural development  
Performed teratology studies for pharmaceuticals  
Developed immunoassays for measuring autoantibody and protein-ligand interactions

**09/1995 – 05/1999**                      **Texas A&M University**                      **College Station, TX**  
**B.A. in Biology, Minor in Chemistry**

Member of Phi Eta Sigma National Honor Society.

## Laboratory Experience

Supervised, coordinated and mentored research groups of more than 12 colleagues  
Over 15 years of experience in genetic research:  
- DNA sequencing, vector design, and production of mouse models of human diseases  
More than 15 years of experience conducting pharmacologic and teratogenic testing  
Extensive experience in biologic assay design, fabrication, processing, and data analysis  
- 10 years developing and performing immunologic and hematologic testing  
Six years performing and managing embryonic stem cell isolation, culture, and research

## Employment

**10/2017 – Present**                      **Baylor College of Medicine**                      **Houston, TX**  
**Associate Professor**

Manage research studies with Texas Children's Autism Center.  
Establish embryonal tumor research panels for chemotherapeutic testing.  
Develop cellular and mouse models of gene-environmental interactions with birth defects.

**10/2013 – Present**                      **Teratomics Consulting LLC**                      **Austin, TX**  
**Partner**

Expert witness on reproductive and developmental toxicity testing.  
Expert reports for multi-million dollar personal injury litigation.  
Writing contracts, conducting research, and submitting research reports to clients.

**09/2010 – 10/2017**                      **Dell Pediatric Research Institute**                      **Austin, TX**  
**Faculty Lecturer & Research Scientist**

Manage EPA Science to Achieve Results (STAR) and Small Business Innovative Research.  
Management of stem cell research group (post-doctoral, graduate, and undergraduates).  
Writing grants, contracts, publications, and presenting research.

**06/2006 – 09/2010**                      **Texas Institute for Genomic Medicine**                      **Houston, TX**  
**Research Scientist**

Writing grants, contracts, publications, and scientific technical support for sales.  
Conception and management for EPA and DOD funded research projects.

**01/2000 – 07/2001**                      **Genometrix**                      **Woodlands, TX**  
**Research Associate II, Process Development**

Manual and automated microarray fabrication, processing, and statistical analysis.  
Design, testing, and establishing GLP protocols and quality control assays.

**06/1999 – 12/1999**                      **SeqWright, Inc.**                      **Houston, TX**  
**Laboratory Technician**

Sample processing: DNA-preps, primer design and synthesis, PCR and DNA sequencing.  
Sequencing analysis, genetic assembly (Sequencher) and data distribution.

**03/1995 – 05/1999**                      **Texas A&M University**                      **College Station, TX**  
**Laboratory Assistant**

Development and testing mouse models. Phenotypic analysis of congenital malformations.  
Stocking reagents, cleaning, sterilization of equipment, and radiation safety monitoring.

## Patents

- 1. Methods of Detecting Anti-folic acid Antibodies and Uses Thereof**  
(Pending, Publication number WO2017218632)
- 2. Methods and Compositions for Reducing Bisphenol A Release**  
(Publication number WO2014011166 A1)
- 3. Enzymatic Coatings and Methods for Degrading Bisphenol A**  
(Publication number WO2013095350 A1)
- 4. Methods and Compositions for Oxidizing Bisphenol A**  
(Publication number US20130157336 A1)
- 5. Synthetic Serous Membranes and Methods for Making the Same**  
(Publication number US20120283843 A1)

## Publications

1. Kim J, Lei Y, Guo J, Kim SE, Wlodarczyk BJ, Cabrera RM, Lin YL, Nilsson TK, Zhang T, Ren A, Wang L, Yuan Z, Zheng YF, Wang HY, Finnell RH. Formate rescues neural tube defects caused by mutations in Slc25a32. *Proc Natl Acad Sci U S A*. 2018 May 1;115(18):4690-4695.
2. Cabrera RM, Wlodarczyk BJ, Finnell RH. Elucidation of Folate-Mediated Cascades in the Developing Neural Tube: Congenital Malformations Induced by Methyltransferase Inhibition. *J Mol Clin Med*. 2018 April; 1:121-128.
3. Vichier-Guerre C, Parker M, Pomerantz Y, Finnell RH, Cabrera RM. Impact of selective serotonin reuptake inhibitors on neural crest stem cell formation. *Toxicol Lett*. 2017 Nov 5;281:20-25.
4. Yang N, Wang L, Finnell RH, Li Z, Jin L, Zhang L, Cabrera RM, Ye R, Ren A. Levels of folate receptor autoantibodies in maternal and cord blood and risk of neural tube defects in a Chinese population. *Birth Defects Res A Clin Mol Teratol*. 2016 May 11.
5. Denny KJ, Kelly CF, Kumar V, Witham KL, Cabrera RM, Finnell RH, Taylor SM, Jeanes A, Woodruff TM. Autoantibodies against homocysteinylated protein in a mouse model of folate deficiency-induced neural tube defects. *Birth Defects Res A Clin Mol Teratol*. 2016 Feb 22.
6. Hill DS, Cabrera R, Wallis Schultz D, Zhu H, Lu W, Finnell RH, Wlodarczyk BJ. Autism-Like Behavior and Epigenetic Changes Associated with Autism as Consequences of In Utero Exposure to Environmental Pollutants in a Mouse Model. *Behav Neurol*. 2015;2015:426263.
7. Kur E, Mecklenburg N, Cabrera RM, Willnow TE, Hammes A. LRP2 mediates folate uptake in the developing neural tube. *J Cell Sci*. 2014 May 15;127(Pt 10):2261-8.
8. Gulvady AA, Ciolino HP, Cabrera RM, Jolly CA. Resveratrol inhibits the deleterious effects of diet-induced obesity on thymic function. *J Nutr Biochem*. 2013 Sep;24(9):1625-33.
9. Lai SC, Nakayama Y, Sequeira JM, Wlodarczyk BJ, Cabrera RM, Finnell RH, Bottiglieri T, Quadros EV. The transcobalamin receptor knockout mouse: a model for vitamin B12 deficiency in the central nervous system. *FASEB J*. 2013 Jun;27(6):2468-75.

10. Wang X, Cabrera RM, Li Y, Miller DS, Finnell RH. Functional regulation of P-glycoprotein at the blood-brain barrier in proton-coupled folate transporter (PCFT) mutant mice. *FASEB J*. 2012 Dec 4
11. Gulvady AA, Murphy EJ, Ciolino HP, Cabrera RM, Jolly CA. Glycerol-3-phosphate acyltransferase-1 gene ablation results in altered thymocyte lipid content and reduces thymic T cell production in mice. *Lipids*. 2013 Jan;48(1):3-12.
12. Cabrera RM, Finnell RH, Zhu H, Shaw GM, Wlodarczyk BJ. Transcriptional analyses of two mouse models of spina bifida. *Birth Defects Res A Clin Mol Teratol*. 2012 Oct;94(10):782-9.
13. Boyles AL, Ballard JL, Gorman EB, McConnaughey DR, Cabrera RM, Wilcox AJ, Lie RT, Finnell RH. Association between inhibited binding of folic acid to folate receptor alpha in maternal serum and folate-related birth defects in Norway. *Hum Reprod*. 2011 Aug;26(8):2232-8.
14. Salojin KV, Cabrera RM, Sun W, Chang P, Lin C, Smith L, Platt KA, Vogel P, Liu Q, Finnell RH, Oravec T. A mouse model of megaloblastic anemia: deletion of the PCFT/HCP1 gene leads to systemic folate deficiency. *Blood*. 2011 Feb 23.
15. Bille C, Pedersen DA, Andersen AM, Mansilla MA, Murray JC, Christensen K, Ballard JL, Gorman EB, Cabrera RM, Finnell RH. Autoantibodies to folate receptor alpha during early pregnancy and risk of oral clefts in Denmark. *Pediatr Res*. 2010 Mar;67(3):274-9.
16. Jakubowski H, Perla-Kajan J, Finnell RH, Cabrera RM, Wang H, Gupta S, Kruger WD, Kraus JP, Shih DM. Genetic or nutritional disorders in homocysteine or folate metabolism increase protein N-homocysteinylation in mice. *FASEB J*. 2009 Jun;23(6):1721-7.
17. Cabrera RM, Shaw GM, Ballard JL, Carmichael SL, Yang W, Lammer EJ, Finnell RH. Autoantibodies to folate receptor during pregnancy and neural tube defect risk. *J Reprod Immunol*. 2008 Oct;79(1):85-92.
18. Zhu H, Cabrera RM, Wlodarczyk BJ, Bozinov D, Wang D, Schwartz RJ, Finnell RH. Differentially expressed genes in embryonic cardiac tissues of mice lacking Folr1 gene activity. *BMC Dev Biol*. 2007 Nov; 20(7):128.
19. Wlodarczyk BJ, Cabrera RM, Hill DS, Bozinov D, Zhu H, Finnell RH. Arsenic-induced gene expression changes in the neural tube of folate transport defective mouse embryos. *Neurotoxicology*. 2006 Jul; 27(4):547-57.
20. Massa V, Cabrera RM, Menegola E, Bozinov D, Giavini E, Finnell RH. Valproic Acid Induced Skeletal Malformations: Associated Gene Expression Cascades. *Pharmacogenetics*. 2005 Nov; 15(11):787-80).
21. Cabrera RM, Hill DS, Etheredge AJ, and Finnell RH. Investigations into the etiology of neural tube defects. *Birth Defects Res C Embryo Today*. 2004 Dec; 72(4):330-44.
22. Spiegelstein O, Cabrera RM, Bozinov D, Wlodarczyk B, and Finnell RH. Folate-regulated changes in gene expression in the anterior neural tube of folate binding protein-1 (Folbp1) deficient murine embryos. *Neurochem Res*. 2004 Jun; 29(6):1105-12.
23. Lundberg YW, Cabrera RM, Greer KA, Zhao J, Garg R and Finnell RH. Mapping a chromosomal locus for valproic acid-induced exencephaly in mice. *Mamm Genome*. 2004 May; 15(5):361-9.
24. Finnell R.H., Junker WM, Wadman LK, and Cabrera RM. Gene expression profiling within the developing neural tube. *Neurochem Res*. 2002 Oct; 27(10):1165-80.

## Presentations

- 2017 – Children's Environmental Health Institute Ninth Biennial Scientific Symposium - Emerging Science of Endocrine Disruptors and the Unborn Child – Austin, TX - *How Relevant is Food as a Pathway to EDC Exposure?*
- 2017 – Teratology Society 57th Annual Meeting – Denver, CO - *Fine Mapping for Genetic Susceptibility to Valproic Acid-Induced Exencephaly in Mice*
- 2016 – 6th International Folate Receptors Symposium - Breckenridge, CO - *Folates That Lie down with Folate Receptor Autoantibodies, Shall Rise up with Antibodies*
- 2016 – FASEB Folic Acid, Vitamin B12, and One-Carbon Metabolism - Steamboat, CO - *Health Risks of Antibodies to Folic Acid -Poster*
- 2016 – Teratology Society 56th Annual Meeting – Austin, TX - *Sertraline (Zoloft®) Induced Craniofacial Malformations: Impact of SSRI Exposure on Neural Crest Stem Cells -Poster*
- 2013 – 8th International Neural Tube Defects Conference – Austin, TX - *Use of Mouse Embryonic Stem Cells as an in vitro Model for Developmental Toxicity Evaluation of Environmental and Commercial Chemicals -Poster*
- 2012 – Folic Acid, Vitamin B12 & One Carbon Metabolism - Crete , Greece - *Proton-Coupled Folate Transporter and Tissue Uptake of Folates*
- 2012 – Tools & Technologies in Stem Cells & Regenerative Medicine – Edinburgh, Scotland – *Assessing Developmental Toxicity using Mouse Embryonic Stem Cells*
- 2012 – ChemScreen Symposium – Amsterdam, Netherlands - *Mouse Embryonic Stem Cell models for Environmental Pollutant Testing*
- 2011 – 7th International Neural Tube Defects Conference – Austin, TX - *Transcriptional analyses of two mouse models of spina bifida – Poster*
- 2009 – EPA STAR - Houston, TX - *Mouse embryonic stem cells as a model to elucidate the morphological and mechanistic effects of environmental pollutants.*
- 2009 – 6th International Neural Tube Defects Conference - Burlington, Vermont. – *Autoantibodies to folate receptor  $\alpha$  during early pregnancy and risk of neural tube defects in Norway.*
- 2008 – Folate Receptors and Transporters – Villa Vigoni, Como, Italy - *Proton-Coupled Folate Transporter Knockout Mice: Hematologic Consequences*
- 2007 – Reproductive Biology Forum – College Station, TX - *Mechanisms of Folic Acid in the Reduction of Neural Tube Defect.*
- 2005 – 4th International Workshop on Neural Tube Defects - Palm Springs, CA – Award.

- 2005 – 5th Int. Conference on Homocysteine Metabolism - Milano, Italy - *Elucidation of Folate Mediated Cascades in the Developing Neural Tube: Congenital Malformations Secondary to Methyltransferase Inhibition.*
- 2005 – 13th Int. Symposium on Chemistry & Biology of Pteridines & Folates - Egmond aan Zee, The Netherlands - *Influence of Folic Acid and Metabolites of Folate Biochemistry on NTD rates* - Award.
- 2004 – FASEB Summer Research Conference - Folic Acid, Vitamin B12 and One-Carbon Metabolism - Snowmass, CO - *Gene Expression Analysis in the Developing Neural Tube: Elucidation of Folate Mediated Cascades.*
- 2003 – Neural Tube Defects Conference – Durham, SC - *Folate responsive genes during neural tube closure: Microarray analysis of the Folbp1 knockout mouse.*

## **Expert Witness Engagements**

### **Testimony at Court**

April, 2015, Pesante v. Pfizer Inc., 1222-CCO-2441, Missouri Circuit Court, 22nd Judicial District (St. Louis).

April, 2014- Daubert hearing: Zoloft (Sertraline Hydrochloride) Products Liability Litigation in the United States District Court for the Eastern District of Pennsylvania (MDL 2342).

### **Testimony at Deposition**

March, 2018 – Sparton Corporation Occupational Safety

February, 2018 - Celexa / Lexapro (citalopram / escitalopram) Products Liability Litigation

July, 2016 – Paxil (paroxetine) Products Liability Litigation

June, 2016 - Zoloft (sertraline) Products Liability Litigation

December, 2015 – Celexa / Lexapro (citalopram / escitalopram) Products Liability Litigation

September, 2015 – Paxil (paroxetine) Products Liability Litigation

May, 2015 – Celexa / Lexapro (citalopram / escitalopram) Products Liability Litigation

March, 2015 - Prozac (fluoxetine) Products Liability Litigation

February, 2015- Zoloft (sertraline) Products Liability Litigation

November, 2013- Zoloft (sertraline) Products Liability Litigation (MDL 2342)

### **Settled Prior to Testimony**

Torres Vs GSK, 2013

Hill Vs GSK, 2013

### **Representative Law Firm Clients**

Phillips & Paolicelli, LLP, New York, NY

Tracey & Fox, Houston, TX

Matthews & Associates, Houston, TX

Reilly Pozner LLP, Denver, CO

Bailey Peavy Bailey, PLLC, Houston, TX

Clark Love Hutson, GP, Houston, TX

Arnold & Itkin LLP, Houston, TX

Merchant Law Group LLP, Regina, Saskatchewan, Canada