Zhen Gao, PhD (Bioinformatics, Pharmaceutics & Cancer Biology)

Education

MS	Computer Information Systems, Boston University, MA. *May 2013*
PhD	Cancer Biology, University of Iowa, IA. *Dec. 2007*
BS	Bio-pharmaceutics, Nanjing University, China. *Jul. 1999*

Work Experience

10/2016- current   Associate Scientist   Biostatistics & Bioinformatics Core
Sylvester Comprehensive Cancer Center   University of Miami
Research Field: Bioinformatics & Biomedical Data Science

07/2015- 08/2016   Postdoctoral Associate in Medical Informatics/Drug Repositioning
Department of Population and Quantitative Health Sciences   Case Western Reserve University
Research Field: High Dimension Data Mining Algorithms & Novel Usage of Mature Drugs

02/2015-07/2015   Postdoctoral Associate in Bioinformatics   University of Massachusetts Medical School
Research Field: NGS analysis pipeline for Adenovirus Associated Virus (AAV) *in vivo* Products

08/2010-04/2012   Postdoctoral Associate in Cancer Biology   Washington University in St. Louis
Research Field: Next Generation Sequencing for Cancer Biomarker & miRNA Target

07/2008-07/2010   Postdoctoral in Pharmacology   Dept of Drug Development   Nevada Cancer Institute
Research Field: Induced Cancer Senescence by Natural Product and Mechanism

Publications

Alejandro Moro, **Zhen Gao** , Lily Wang, Aixin Yu, Sunnie Hsiung, Yuguang Ban, Aimin Yan,Corneliu Sologon, Xi Chen, Thomas R. Malek1 (2021) Dynamic transcriptional activity and chromatin remodeling of regulatory T cells after varied duration of IL-2R signaling. 2nd (revised) version submitted to *Nature Immunology*

Zhen Gao, Yang Chen, Xiaoshu Cai and Rong Xu (2017) Predict Drug Permeability to Blood-Brain-Barrier from Drug Clinical Phenotypes. *Bioinformatics* 33(6):901-908.

Xiaosu Cai, Yang Chen, **Zhen Gao** and Rong Xu (2016) Explore Small Molecule-induced Genome-wide Transcriptional Profiles for Novel Inflammatory Bowel Disease Drug Discovery. *AMIA 2016 Joint Summits on Translational Science* (Marco Ramoni Distinguished Paper Award Finalist).

Austin Dosch, Samara Singh, Xizi Dai, Siddharth Mehra, Anna Bianchi, Iago De Castro Silva, Supriya Srinivasan, **Zhen Gao**, Yuguang Ban, Xi Chen, Sulagna Banerjee, Nagaraj Nagathiahalli, Jashodeep Datta, and Nipun B. Merchant (2021) Targeting tumor-stromal IL-6/STAT3 signaling through IL-1 receptor inhibition in pancreatic cancer. *Molecular Cancer Therapeutics (accepted)*

Vineet Gupta, Nikita Sharma, Brittany Durden, Vanessa Garrido, Kousik Kesh, Dujon Edwards, Dezhen Wang, Ciara Myer, Beatriz Mateo-Victoriano, Sai Sundeep Kollala, Yuguang Ban, **Zhen Gao**, Sanjoy K Bhattacharya, Ashok Saluja, Pankaj K Singh, Sulagna Banerjee (2021) Hypoxia-driven oncometabolite L-2HG maintains stemness-differentiation balance and facilitates immune evasion in pancreatic cancer . *Cancer Research DOI: 10.1158/0008-5472.CAN-20-2562*

Aimin Yan, Yuguang Ban, **Zhen Gao**, Xi Steven Chen, Lily Wang (2018) PathwaySplice:An R package for unbiased pathway analysis of alternative splicing in RNA-Seq data. *Bioinformatics* 34(18):3220-3222

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E-mail: zhen.gao@yahoo.com   Phone: (305)-590-3082

Koteswararao Garikapati, Kilan Ashad-Bishop, Pingping Chen, Megan E. Rieger, Linsey E. Lindley, Bin Wang, Diana Azzam, Mahsa Khanlari, Mehrad Nadji, Susan Kesmode, Chaitanya Jain, Deukwoo Kwon, Yuguang Ban, **Zhen Gao**, Steven X. Chen, Andrew H. Sims, Joyce Slingerland, and Karoline J. Briege (2021) LBH is a key factor for cancer stemness promoting metastasis and chemoresistance in Triple-Negative Breast Cancer. **submitted to** *Cancer Cell*

Artavazd Arumov, Piumi Y Liyanage, Asaad Trabolsi, Evan Roberts, Lingxiao Li, Braulio CLB Ferreira, **Zhen Gao**, Yuguang Ban, Austin Newsam, Melissa W Taggart (2021) Optimized doxorubicin chemotherapy for diffuse Large B-Cell lymphoma exploits nanocarrier delivery to transferrin receptors. *Cancer Research* 81(3):763-775

Erietta Stelekati, Zhangying Cai, Sasikanth Manne, Zeyu Chen, Jean-Christophe Beltra, Lance Alec Buchness, Xuebing Leng, Svetlana Ristin, Kito Nzingha, Viktoriya Ekshyyan, Christina Niavi, Mohamed S. Abdel-Hakeem, Mohammed-Alkhatim Ali, Sydney Drury, Chi Wai Lau, **Zhen Gao**, Yuguang Ban, Mark Ansel, Makoto Kurachi, Martha S. Jordan, Alejandro V. Villarino, Shin Foong Ngiow, and E. John Wherry (2021) MicroRNA-29a attenuates CD8 T cell exhaustion and induces memory-like CD8 T cells during chronic infection. 2nd (revised) version submitted to *PNAS*

Gillian E Jacobsen, Irina Fernández, Maria A Quintero, Ana M Santander, Judith Pignac-Kobinger, Oriana M Damas, Amar R Deshpande, David H Kerman, Yuguang Ban, Tiago C Silva, Zhen Gao, Lily Wang, Ashley H Beecham, Jacob L McCauley, Juan F Burgueño, Maria T Abreu (2021) Lamina propria CD11b+ cell profiling reveals targetable signaling pathways in refractory inflammatory bowel. Submitted to *Cellular and Molecular Gastroenterology and Hepatology*

Juan F Burgueño,Adrian Reich, Hajar Hazimi, Maria A Quintero, Irina Fernandez, Julia Fritsch, Ana M Santander, Nivis Brito, Oriana M Damas, Amar Deshpande, .. **Zhen Gao** ... (2020). Expression of SARS-CoV-2 entry molecules ACE2 and TMPRSS2 in the gut of patients with IBD. *Inflammatory bowel diseases* 26(6):797-808

Lissette Gomez,Gabriel Odom, Juan I Yong, Eden R Martin, Lizhong Liu, Xi Chen, Anthony JGriswold, **Zhen Gao**, Lanyu Zhang, Lily Wang (2019). coMethDMR: accurate identification of co-methylated and differentially methylated regions in epigenome-wide association studies with continuous phenotypes, *Nucleic acids research* 47(17): e98-e98

Saurav Malek, Gabriel Odom, **Zhen Gao**, Lissette Gomez, Xi Chen, Lily Wang (2019). An evaluation of supervised methods for identifying differentially methylated regions in Illumina methylation arrays. *Briefings in bioinformatics* 20:62224-2235

Jun Xie, Qin Mao, Ran He, Phillip Tai, Qin Su, Ye Zhu, Hong Ma, Jia Li, Dan Wang, **Zhen Gao**, Mengxin Li, Li Zhong, Heather Zhou, and Guangping Gao (2017) Short DNA Hairpin directs the Adeno associated Virus Genome replication. *Molecular Therapy* 25(6):1365-1374

Zhou Jiang, Weijun Liu, Yuhui Wang, **Zhen Gao**, Ge Gao and Xiaowei Wang. (2013) Rational design of microRNA-siRNA chimeras for multifunctional target suppression. *RNA* 19(12):1745-54.

Zhen Gao, Tamara Barnett, and C. Wilson Xu. (2011) Resveratrol induces senescence of human glioma cells through epigenetical modification in histone". *Biochem Biophys Res Commun* 407(2):271-276.

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E-mail: zhen.gao@yahoo.com   Phone: (305)-590-3082

Changbin Du, **Zhen Gao**, Venkatasubbaiah A. Venkatesha, Amanda L. Kalen, Leena Chaudhuri, Douglas R. Spitz, Joseph J. Cullen, Larry W. Oberley and Prabhat C. Goswami. (2009) Mitochondrial ROS and radiation induced transformation in mouse embryonic fibroblasts" *Cancer Biology & Therapy* 8(20):1-9.

Zhen Gao, Ehab H. Sarsour, Maneesh G. Kumar, Amanda L. Kalen, Ling Li, and Prabhat C. Goswami. (2008) Delayed ROS-accumulation and Radiosensitivity in CuZnSOD Overexpressing Human Glioma Cells. *Free Radical Biology & Medicine* 45(11):1501-1509

Conference Abstract

Zhen Gao, Amanda Kalen, Sarita G. Menon,Hualei Li, Ling Li and Prabhat C. Goswami (2005) Enhanced G_2-accumulation and down regulation of cyclin B1 expression in radioresistant human glioma cells over-expressing Cu-Zn-superoxide dismutase (CuZnSOD) antioxidant enzyme. *12th Annual Meeting for the Society for Free Radical Biology and Medicine (SFRBM). Austin, Texas.*

Zhen Gao, Hualei Li, Ling Li, Frederick E. Domann and Prabhat C. Goswami. (2006) CuZn-superoxide dismutase enhances radioresistance of human glioma cells by increasing cyclin B1 mRNA turnover and suppressing late reactive oxygen species accumulation. *13th Annual Meeting for the Society for Free Radical Biology and Medicine (SFRBM). Denver, Colorado.*

Daisuke Izumi, **Zhen Gao**, Raju Kandimalla, Ajay Goel, Xi Steven Chen, Lily Wang (2018) Novel, Methlation-based nomogram predicts recurrence in gastric cancer patients. *Digestive Disease Week (DDW) Washington D.C.*

Reviewer for Academic Journals

Bioinformatics
Journal of Biomedical Informatics
Statistical Methods in Medical Research
BMC Medical Informatics & Decision Making
Journal of Experimental Pharmacology
Bioinformatics and Biology Insights
Current Cancer Drug Targets
Nutrition and Metabolic Insights
Research and Reports in Biology
Biomarkers in Cancer
Cancer Growth and Metastasis
PLOS One

Professional Membership

Associated membership in American Medical Informatics Association

Associated membership in American Association for Cancer Research

Associated membership in Society for Free Radical Biology and Medicine

Associated membership in Radiation Research Society

E-mail: zhen.gao@yahoo.com   Phone: (305)-590-3082