

CURRICULUM VITAE

Bowen Yan

CONTACT INFORMATION:

E-mail: yanbowen@cop.ufl.edu

bowenyan@gmail.com

EDUCATION:

INSTITUTION AND LOCATION	DEGREE (if applicable)	START DATE MM/YYYY	END DATE MM/YYYY	FIELD OF STUDY
China Agriculture University	BA	08/2003	06/2007	Biological Sciences
China Agriculture University	PHD	08/2007	06/2012	Physiology

RESEARCH EXPERIENCE:

- 01/2021-present Research Assistant Professor** Department of Pharmacodynamics, College of Pharmacy, University of Florida
 - Investigate the effects of aging or chemotherapy on hematopoietic stem cell (HSC) self-renewal and genomic stability
- 02/2020-12/2020 Assistant Professor** College of Medicine, Pennsylvania State University, U.S.
 - We found low frequency p53 mutation can drive chemo-resistance development through clonal expansion. Further study of missense p53 mutations' functions become the key of the puzzle.
 - Our interest is to study leukemia chemotherapy-resistant mechanism in cell and preclinical animal models, to answer the question how variety of p53 mutations behave during leukemia progression and find potential therapeutic strategies for precise medicine to treat individual AML patients with different p53 mutations.
- 08/2017-01/2020 Assistant Scientist** in Laboratory of Dr. Yi Qiu, College of Medicine, University of Florida, U.S.
 - Study of chemotherapy-resistant mechanism in human acute myeloid.
This part of work has been published on *Leukemia*, 2018.
 - Further, we found clonal expansion of *TP53* mutated cells is another factor contributes

to chemoresistance and relapse in acute myeloid leukemia. Interestingly, epigenetic drug Romidepsin can reactivate p53 target genes and preferentially targets p53 mutant cells, which can potentially be therapeutic strategies for treatments and prevention on chemoresistance and relapse.

This part of work has been published on ***Leukemia*, 2019.**

4. **07/2012-06/2017 Postdoctoral fellow** in Laboratory of Dr. Yi Qiu, Department of Anatomy and Cell Biology, College of Medicine, University of Florida, U.S.

- Study the role of histone deacetylase 1 (HDAC1) in regulating the activity of hematopoietic specific transcription factor GATA-1 through a FOG-1 independent manner. In conclusion, HDAC1/GATA-1 interaction is needed during erythroid differentiation. Disrupting of this interaction will cause failure of hematopoiesis in vitro and vivo. Manuscript is in preparation for ***Blood*** journal.

This project has been successfully developed into a funded R01.

5. **09/2007-06/2012 PhD student** in Laboratory of Dr. Kemian Gou, Department of Animal Physiology, The State Key Lab for Agro biotechnology, China Agricultural University, Beijing, China

- Explore the integration mechanism of foreign DNA in transgenic mice. Investigating the process of homologous illegitimate random integration (HIRI) when foreign DNA insert into the host genome.
- Generating transgenic mice by microinjection technique.
- Investigating the change on fatty acid synthesis in *stearoyl-CoA desaturase-1(hSCD1)* transgenic mice.

LEADERSHIP EXPERIENCE

I have been training/mentoring team members, undergraduate students, graduate students, postdocs and visiting scholars.

- Undergraduate students: Brian Hamburg (2013-2014), Rylan Harris (2018-2019)
- Graduate students: Alta Johnson (2015-2018), Bihan Wang (2017-2019)
- Visiting scholars: Xutao Guo (2018-2019), Ruiqing Zhou (2020)
- Visiting students: Qinwei Chen (2017-2018), Fusheng Lin (2018-2019)
- Postdoctoral fellow: Kangning Li (2020)

COMPUTATIONAL SKILLS/EXPERIENCE:

- Data analysis: RNA-seq, Transcriptome mutation analysis, ChIP-seq, single cell seq.
- NGS tools: Bowtie 2, Tophat, cufflinks, STAR, MACS2, SamTools, Seurat, Galaxy.
- Database: TCGA, UCSC, NCBI-GEO, ICGC, ProteomicsDB, ELM, JASPAR, CellMiner.
- Pathway Analysis: DAVID, KEGG, REACTOME, ConsensusPathDB, GSEA.
- Algorithms: Statistical tests, ANOVA test, Linear and Non-linear Regression.
- Basic Database/tools: UniProtKB/Swiss-Prot, COSMIC, Kaplan-Meier Plotter.

EXPERIMENTAL SKILLS:

- Biochemistry and Molecular Biology: DNA cloning, PCR, Tail-PCR, Real-time PCR, Western blot, Protein purification, Chromatin immunoprecipitation (ChIP), ChIP DNA library construction, ChIP-seq, RNA-seq, single cell seq, Immunoprecipitation (IP).
- Cell biology: Cell culture, Flow cytometry analysis, Immunofluorescence staining.
- Animal: Microinjection, Mouse xenograft and drug treatment, Mouse bone marrow and tissue cell isolation, Animal surgery and handling.

HONORS AND AWARDS:

ASH Abstract Achievement Award	2017
Excellent graduate student, CAU	2012
Academic Achievement Award, CBS, CAU	2010
NIBS Scholarship, National Institute of Biological Sciences	2006
Excellent Undergraduate Scholarship, CAU	2006
Xizhi Scholarship, CBS, CAU	2005
Excellent Social work Honor, CBS, CAU	2005

PUBLICATIONS:

Journal Articles:

Bowen Yan, Defa Li, Kemian Gou. Homologous illegitimate random integration of foreign DNA into the X chromosome of a transgenic mouse line. *BMC Molecular Biology* 2010, 11:58. PMID: 20707910

Ping Wang, Zhiguo Wei, **Bowen Yan**, Tan Huang, KeMian Gou, YunPing Dai, Min Zheng, MeiLi Wang, XueQian Cheng, XiFeng Wang, Chen Xu, Yi Sun. Establishment of a transgenic mouse model with liver-specific expression of secretory immunoglobulin D. *Sci China Life*

Sci, 2012, 55:219-227. PMID: 22527518

Yong-Gang Chen*, **Bo-Wen Yan***, Wen-Guang Cao, Shu-Yu Ma, Ke-Mian Gou. Decreased saturated fatty acids, total cholesterol and LDL-C in sdd17 mice. *Frontiers in Bioscience*, 2013, 18:901-900. PMID: 23747855 (*equal contribution authors)

Bo-wen Yan, Yao-Feng Zhao, Wen-guang Cao, Ning Li, Kemian Gou. Mechanism of random integration of foreign DNA in transgenic mice. *Transgenic Res*, 2013, 22:983-992. PMID: 23483296

Hui Yang, **Bowen Yan**, Daiqing Liao, Suming Huang, Yi Qiu. Acetylation of HDAC1 and degradation of SIRT1 form a positive feedback loop to regulate p53 acetylation during heat-shock stress. *Cell death & disease*, 2015, 6 (5), e1747. PMID: 25950477

Xuehui Li*, Yang Mei*, **Bowen Yan***, Eric Vitriol, Suming Huang, Peng Ji, Yi Qiu. Histone deacetylase 6 regulates cytokinesis and erythrocyte enucleation through deacetylation of formin protein mDia2. *Haematologica*. 2017; 102(6):984-994. PMID: 28255013 (*equal contribution authors)

Wei Jian, **Bowen Yan**, Suming Huang, Yi Qiu. Histone deacetylase 1 (HDAC1) activates PU.1 gene transcription through regulating TAF9 deacetylation and TFIID assembly. *The FASEB Journal*, 2017 Sep; 31(9):4104-4116. PMID: 28572446

Huacheng Luo, Fei Wang, Jie Zha, Haoli Li, **Bowen Yan**, Qinghua Du , Fengchun Yang, Amin Sobh, Christopher Vulpe, Leylah Drushosky, Christopher Coglo, Louri Chepelev, Bing Xu, Stephen D. Nimer, Jonathan Licht, Yi Qiu, Baoan Chen, Mingjiang Xu, Suming Huang. CTCF boundary remodels chromatin domain and drives aberrant HOX gene transcription in acute myeloid leukemia. *Blood*. 2018 Aug 23; 132(8):837-848. PMID: 29760161

Bowen Yan, Qinwei Chen, Koji Shimada, Ming Tang, Haoli Li, Aishwarya Gurumurthy, Joseph D. Khoury, Bing Xu*, Suming Huang*, Yi Qiu*. Histone deacetylase inhibitor targets CD123/CD47 positive cells and reverse chemoresistance phenotype in acute myeloid leukemia. *Leukemia* 2019 Apr; 33(4): 931-944. PMID: 30291336

Huacheng Luo, Ganqian Zhu, Jianfeng Xu, Qian Lai, **Bowen Yan**, Ying Guo, Tsz Kan Fung, Bernd B Zeisig, Ya Cui, Jie Zha, Christopher Cogle, Fei Wang, Bing Xu, Feng-Chun Yang, Wei Li, Chi Wai Eric So, Yi Qiu, Mingjiang Xu, Suming Huang. HOTTIP lncRNA promotes hematopoietic stem cell Self-Renewal leading to AML-like disease in mice. *Cancer Cell*

2019 Dec; 36 (6):645-659. e8. PMID: 31786140

Bowen Yan, Qinwei Chen, Jianfeng Xu, Wei Li, Bing Xu, Yi Qiu. Low frequency *TP53* hotspot mutation contributes to chemoresistance through clonal expansion in acute myeloid leukemia. *Leukemia* 2020 Jan; 27(34):1816–1827. PMID: 31988438

Bowen Yan, David Claxton, Suming Huang, Yi Qiu. AML chemoresistance: The role of mutant *TP53* subclonal expansion and therapy strategy. *Exp Hematol.* 2020 Jun; 19(87):13-19. PMID: 32569759

MinYoung Kim, **Bowen Yan**, Suming Huang, Yi Qiu. Regulating the Regulators: The Role of Histone Deacetylase 1 (HDAC1) in Erythropoiesis. *Int J Mol Sci.* 2020; 21(22):8460 PMID: 33187090

Bowen Yan, Jennifer Yang, Huacheng Luo, MinYoung Kim, Nicholas Cesari, Tao Yang, John strouboulis, Jiwang Zhang, Ross Hardison, Suming Huang, Yi Qiu. Histone deacetylase 1 (HDAC1) deacetylates GATA-1 and regulates its activity through a FOG-1 independent manner. *Blood.* 2021 (Manuscript in preparation)

Book Chapter:

Yan B, Li X, Johnson A, Yang Y, Jian W and Qiu Y. Chapter 18: Epigenetic drugs for cancer therapy. In **Epigenetic Gene Expression and Regulation**. pp397-423. Suming Huang (ed.), Elsevier ISBN: 978-0-12-799958-6

SELECTED ABSTRACT PRESENTATIONS:

Bowen Yan, Qinwei Chen, Jianfeng Xu, Wei Li, Bing Xu, Suming Huang, Yi Qiu. Low frequency *TP53* mutation contributes to chemo resistance through clonal expansion in acute myeloid leukemia. **61th Annual meeting of American Society of Hematology**, Orlando, FL, 2019

Bowen Yan, Qinwei Chen, Jianfeng Xu, Wei Li, Bing Xu, Yi Qiu. Clonal expansion of *TP53* mutated cells is associated with chemoresistance in acute myeloid leukemia. **110th Annual meeting of American Association for Cancer Research**, Atlanta, GA, 2019

Bowen Yan, Qinwei Chen, Ming Tang, Haoli Li, Bing Xu, Suming Huang, Yi Qiu. Histone deacetylase inhibitor selectively targets CD123 positive chemoresistant AML cells. **109th**

Annual meeting of American Association for Cancer Research, Chicago, IL, 2018

Bowen Yan, Suming Huang, Yi Qiu. GATA-1 Deacetylation and Interaction with HDAC1 Is Critical for GATA-1 Mediated Gene Transcription. 59th Annual meeting of American Society of Hematology, Atlanta, GA, 2017

Bowen Yan, Tao Yang, Suming Huang, Yi Qiu. HDAC1 can deacetylate GATA-1 and regulates its activity through a FOG-1 independent manner. 56th Annual meeting of American Society of Hematology, San Francisco, CA, 2014