Bing Han

PERSONAL INFORMATION

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EDUCATION/TRAINING

University of California, Los Angeles Los Angeles, USA
Postdoctoral Scholar, cancer biology 2020/12-present

Yale University New Haven, USA
Visiting scholar, cancer biology 2019/09-2020/11

Zhejiang University Hangzhou, China
Ph.D., Nutrition and Food Hygiene. 2015/09-2020/12

Wuhan University Wuhan, China
Bachelor of Medicine, Preventive Medicine. 2010/09-2015/06

RESEARCH INTERESTS

Cancer initiation and development:

- Identify oncogenes and tumor suppressor genes systematically and unbiasedly using various models.
- Screen signals that control cancer initiation and development.
- Explore cancer diagnosis and treatment implications prior to clinical trials by in vitro and in vivo studies.

RNA biology:

- RNA modifications.
- RNA translational mechanisms.

New drugs identification and preclinical verification:

- Screen, assess and verify pharmacological and toxicological activity of new small-molecule/biologics drugs.

RESEARCH EXPERIENCE

2020/12-present

Main Project 1: Exploring oncogenes/stress on colorectal cancer development.

- Discover new cancer risk factors, especially for gut microbiota.
- Detect and verify cancer-related factors in vitro and in vivo.
- Delve into underlying molecular/signal pathways

Main Project 2: Identifying small molecules targeting BMI1 on colorectal cancer treatment.

- Screen and identify new small-molecule agents that inhibit BMI1 expression on colorectal cancer cells.
- Assess the anti-cancer capability of new molecules in mouse models.
- Assess the toxicological of new small-molecule agents.
- Explore the anti-cancer mechanisms of small-molecule agents.

2019/09-2020/11

Main Project: M6A Regulation of Pancreatic Cancer Development.

- Explore the role of the epitranscriptome in pancreatic cancer metastasis.
- Determine the impact of pancreatic cancer mutations in the methylation enzymes at the biochemical, molecular and cellular levels.

2015/09-2019/08

Main Project: The Role of YTHDF1 in Intestinal Development and Tumorigenesis

- Identify m6A reader protein YTHDF1 as an upregulated protein in colorectal cancer.
- Investigate the role of YTHDF1 in intestinal system in vitro and in vivo.
- Explore the molecular mechanisms of the function of YTHDF1.
- Explore the potential therapeutic role of targeting YTHDF1 in cancers with mouse experiments.

PUBLICATIONS

- **Bing Han,** Sujun Yan, Saisai Wei, Jie Xiang, Kangli Liu, Zhanghui Chen, Rongpan Bai, Jinghao Sheng, Zhengping Xu, and Xiangwei Gao. YTHDF1-Mediated Translation Amplifies Wnt-Driven Intestinal Stemness. *Embo Rep*. 2020 Feb; doi:10.15252/embr.201949229.
- **Bing Han,** Saisai Wei, Fengying Li, Jun Zhang, Zhongxiang Li, Xiangwei Gao. Decoding m6A mRNA methylation by reader proteins in cancer. *Cancer Letters.* 2021 Oct; 518:256-265.
- Marcelo Perez-Pepe, Anthony W Desotell, Hengyi Li, Wenxue Li, **Bing Han**, Qishan Lin, Daryl E Klein, Yansheng Liu, Hani Goodarzi, Claudio R Alarcón. 7SK methylation by METTL3 promotes transcriptional activity. *Sci. Adv.* 2023, May. 9, eade7500.
- Lingda Zhang[1], **Bing Han[1]**, Jie Xiang, Kangli Liu, Haojie Dong, Xiangwei Gao. Silica nanoparticle releases SIRT6-induced epigenetic silencing of follistatin. *Int J Biochem Cell Biol.* 2018 Feb; 95:27-34. (Co-first author)
- Sujun Yan, Xiaoling Zhou, Canlan Wu, Yunyi Gao, Yu Qian, Jingyu Hou, Renxiang Xie, **Bing Han,** Zhanghui Chen, Saisai Wei&Xiangwei Gao. Adipocyte YTH N (6)-methyladenosine RNA-binding protein 1 protects against obesity by promoting white adipose tissue beiging in male mice. *Nat Commun.* 2023 Mar; 14, 1379.
- Min Fang[1], Hechun Du[1], **Bing Han[1]**,Guiyu Xia, Xiaoliang Shi, Feng Zhang, Qiqin Fu, Tao Zhang. Hypoxia-inducible microRNA-218 inhibits trophoblast invasion by targeting LASP1: Implications for preeclampsia development. *Int J Biochem Cell Biol.* 2017 Jun; 87:95-103. (Co-first author)
- Lingda Zhang, Kangli Liu, **Bing Han**, Zhengping Xu, Xiangwei Gao. The emerging role of follistatin under stresses and its implications in diseases. *Gene.* 2018 Jan; 639:111-116.
- Liling Su, Longtao Zhu, Zhenchao Liu, Jianyao Lou, **Bing Han**, Chen Lin, Dongyu Li, Jun Qian, Xinyuan Zhao, Guangdi Chen. The decreased permittivity of zebrafish embryos culture medium by magnetic fields did not affect early development of zebrafish embryos. *Ecotox Environ Safe.* 2020 Feb; 193:110350.

INVITED LECTURES

- Oral presentation: 2017 Annual Meeting of Biochemistry and Molecular Biology in Six Provinces and Shanghai of East China. Hefei, Anhui, China. Oct 29-30th, 2017.
- Poster presentation: 2018 ASCB | EMBO (The American Society for Cell Biology | The European Molecular Biology Organization) Meeting. San Diego, CA, USA. Dec 8-12th, 2018.

SKILLS

- Research design, data collection and analysis.
- Basic biochemical and molecular experimental techniques:
  - DNA (PCR, molecular clone, gene editing, DNA-DNA interaction, ChIP-seq, etc.)
  - RNA (RNA-IP, RNA-seq, etc.)
  - Protein (ribosome/polysome profiling, western blot, immunoprecipitation, Ribo-seq, etc.)
- Mouse techniques: mouse model, organoid culture, cell culture.
- Morphology techniques: tissue and cell morphology analysis.
- Writing papers and grant proposals.

PROFESSIONAL EXPERIENCE

Teaching Assistant | Zhejiang University – Hangzhou, Zhejiang 03/2018-06/2018
TA for a core course of Ph.D. program *Molecular Medicine*.
Worked with professors by providing instructional and clerical support, supervised students by preparing course materials, teaching lessons and grading papers.

Volunteer | The 16th SCBA International Symposium – Hangzhou, Zhejiang 06/2017-07/2017
Responsible for research posters exhibition, provided information for conference attendees and sponsors.

Intern | Wuhan Centers for Disease Prevention and Control – Wuhan, Hubei 07/2014-10/2014
Provided direct assistance to the center office by performing water quality tests, collecting and analyzing data.

Intern | Zhongnan Hospital of Wuhan University – Wuhan, Hubei 07/2013-09/2013
Worked under the supervision of an MD providing beside care, treatment and clinical documentation for patients in internal medicine, obstetrics, gynaecology, respiration departments.

PARTICIPATED GRANTS

- The role of YTHDF1 in colorectal cancer metastasis through regulating HIF-1α translation. (Grant No. 81672847, 2017-2020, supported by National Natural Science Foundation of China)
- The mechanism of AUF1 nuclear translocation upon AMPK activation under metabolic stress in cancer cells. (Grant No. 31600630, 2017-2019, supported by National Natural Science Foundation of China)