



HUANG Xinhe

Associate Professor

Head of Lab of Aging and Age-related Diseases

School of Life Sciences and Engineering

Email: Xinhehuang@swjtu.edu.cn

Office: Room 3607, Building No.3, Jiuli Campus

Links: CV

BIO

Education

- **PhD**, Sichuan University, Biochemistry and Molecular Biology (2007)
- **B.S.**, Sichuan University, Biochemistry (2002)

Employment

Academic Appointments

- Associate Professor, School of Life Sciences and Engineering, Southwest Jiaotong University, China (2014-present)
- Research Associate, Dept. of Molecular and Cellular Biochemistry, College of Medicine, University of Kentucky, USA (2012-2014)
- Postdoctoral Fellow, Dept. of Molecular and Cellular Biochemistry, College of Medicine, University of Kentucky, USA (2008-2012)
- Research Associate, Microbial Research Center of Chengdu Institute of Biology, Chinese Academy of Sciences, China (2007-2008)

Administrative Appointments

- Secretary of the Faculty Branch of Bioengineering Department, School of Life Sciences and Engineering, Southwest Jiaotong University, China (2021-present)
- Secretary for Foreign Affairs, School of Life Sciences and Engineering, Southwest Jiaotong University, China (2014-present)

RESEARCH INTERESTS

- Molecular Mechanisms of Aging and Age-related Diseases;
- Research and Development of Anti-aging and Geriatric Drugs;
- Research and Development of Anti-aging Functional Food and Cosmetics.

SELECTED PUBLICATIONS

Principal Publications of the Last Five Years (Notes: #Co-first author, *Corresponding author)

1. **Xinhe Huang**, Jun Liu, Robert C. Dickson*. Down-regulating sphingolipid synthesis increases yeast lifespan. PLoS genetics 8, e1002493. (2012) [IF=10.05]
2. Yueh-Jung Lee, **Xinhe Huang**, Janette Kropat, Anthony Henras, Sabeeha S. Merchant, Robert C. Dickson*, Guillaume F. Chanfreau, Sphingolipid signaling mediates iron toxicity. Cell metabolism 16, 90-96. (2012) [IF=19.3]

-
3. **Xinhe Huang**, Jun Liu, Bradley R. Withers, Aaron J. Samide, Markos Leggas, Robert C. Dickson*. Reducing signs of aging and increasing lifespan by drug synergy. *Aging cell* 12, 652-660. (2013) [IF=7.4]
 4. Jun Liu, **Xinhe Huang**, Bradley R. Withers, Eric Blalock, Ke Liu*, Robert C. Dickson*. Reducing sphingolipid synthesis orchestrates global changes to extend yeast lifespan. *Aging cell* 12, 833-841. (2013) [IF=7.4]
 5. **Xinhe Huang**, Bradley R. Withers, Robert C. Dickson*. Sphingolipids and lifespan regulation. *Biochimica et biophysica acta* 1841, 657-664. (2014) [IF=4.9]
 6. **Xinhe Huang***, Markos Leggas, Robert C*. Dickson. Drug synergy drives conserved pathways to increase fission yeast lifespan. *PloS one* 10, e0121877. (2015) [IF=4.02]
 7. **Xinhe Huang**, Yuxing Li, Jingmei Pan, Ming Li, Yongqin Lai, Jie Gao, Xueru Li*. RNA-Seq identifies redox balance related gene expression alterations under acute cadmium exposure in yeast. *Environmental microbiology reports* 8, 1038-1047. (2016) [IF=3.5]
 8. Jingmei Pan[#], **Xinhe Huang[#]**, Yuxing Li, Ming Li, Ning Yao, Zhengdong Zhou, Xueru Li*. Zinc protects against cadmium-induced toxicity by regulating oxidative stress, ions homeostasis and protein synthesis. *Chemosphere* 188, 265-273. (2017) [IF=4.2]
 9. Sunyoung Hwang, H. Tobias Gustafsson, Ciara O' Sullivan, Gianna Bisceglia, **Xinhe Huang**, Christian Klose, Andrej Schevchenko, Robert C. Dickson, Paola Cavaliere, Noah Dephoure, and Eduardo M. Torres*. Serine-dependent sphingolipid synthesis is a metabolic liability of aneuploid cells. *Cell Reports* 21, 3807-3818. (2017) [IF=8.03]
 10. Zhewei Wang, Qiao Tong, Shuquan Rao, **Xinhe Huang***. Long non-coding RNAs in schizophrenia. *Neurology, Psychiatry and Brain Research*, 30:132-136. (2018) [IF=0.55]
 11. Zhihua Yang, Shuang Zhang, Fuquan Zhang, Yao Yao, Kwangwoo Kim, David Meyre, Hongmei Zhang, Hai Liao, Shuquan Rao*, **Xinhe Huang***. Allelic frequency differences of DAOA variants between Caucasians and Asians and their association with major mood disorders. *Signal Transduction and Targeted Therapy*, 31,135-139. (2019) [IF=13.5]
 12. Zijing Ruan, Jiaqi Cui, Zhenqing He, Yuting Guo, Xu Jia*, **Xinhe Huang***. Synergistic Activity of Cryptotanshinone in Combination with Fosfomycin Against Fosfomycin-Susceptible and Fosfomycin-Resistant *Staphylococcus aureus*, *Infection and Drug Resistance*, 13, 2837-2844. (2020) [IF=3.1]
 13. Min Shen, Chao Liu, Run Xu, Zijing Ruan, Shiyang Zhao, Huidong Zhang, Wen Wang, **Xinhe Huang**, Li Yang, Yong Tang, Tai Yang* and Xu Jia*. Predicting the Animal Susceptibility and Therapeutic Drugs to SARS-CoV-2 Based on Spike Glycoprotein Combined With ACE2. *Front. Genet.*, 575012-. (2020) [IF=3.3]
 14. Zijing Ruan, Chao Liu, Yuting Guo, Zhenqing He, **Xinhe Huang***, Xu Jia*, Tai Yang*. SARS-CoV-2 and SARS-CoV: Potential inhibitors targeting RNA-dependent RNA polymerase activity (NSP12). *J Med Virol*, 93, 389-400. (2021) [IF=2.9]
 15. Jing Hong, Zeyu Xie, Zhihua Yang, Fangyao Yang, Hai Liao, Shuquan Rao, **Xinhe Huang***. Inactivation of Wnt-LRP5 Signaling Suppresses the Proliferation and Migration of Ovarian Carcinoma Cells. *Translational Cancer Research*, (2021) [In Press]

SELECTED AWARDS AND HONORS

- Excellent Undergraduate Scholarship of Sichuan University, First Prize (2001)
- Outstanding Undergraduate Leader of Sichuan University (2002)
- Excellent Graduate Scholarship of Sichuan University, First Prize (2006)
- Outstanding Graduate of Sichuan University (2007)
- Lixin Tang Award for Excellent Teaching and Teachers of Southwest Jiaotong

-
- University (2018)
 - Eagle Scholar of Southwest Jiaotong University (2018)
 - Project Expert of Association of Science and Technology of Chengdu City (2018)
 - Reserved candidate for academic and technological leaders of Sichuan Province (2018)
 - “Thousand Talents Plan” of Sichuan Province (2019)

PROFESSIONAL ACTIVITIES

- Fellow of Anti-aging Committee, China Gerontology and Geriatrics Society (2017-Present)
- Young Fellow of Basic and Translational Committee, China Geriatrics Society (2016-Present)
- Council Member of Society for Cell Biology of Sichuan Province (2016- Present)
- Council Member of Society for Biochemistry and Molecular Biology of Sichuan Province (2016- Present)
- Council Member of Department of International Affairs of Southwest Jiaotong University (2016- Present)

RESEARCH

Our research interest is directed at better understanding of the fundamental molecular mechanisms of aging and age-related diseases (e.g., Neurodegenerative Diseases and Cancers). It is believed now aging is the biggest risk factor for the age-related diseases, therefore new strategies to slow aging and increase lifespan would lead to novel ways to reduce the incidence of human age-related diseases and likely make people healthier later in their lifespan. Recently, we have demonstrated at least two novel strategies to increase lifespan and slow aging and identified some mechanisms involved in model organisms *Saccharomyces cerevisiae* and *Schizosaccharomyces pombe*. One is the lifespan of yeast *Saccharomyces cerevisiae* can be extended by modulating the synthesis of sphingolipids (one critical membrane lipid as well as one important signaling molecule) (Huang et al., 2012. PLoS Genetics; Liu et al., 2013. Aging Cell; Huang et al., 2014. BBA; Gao et al., 2017, R&D of Natural Products); The other one is drug combination treatment by low dose of Myriocin (one specific inhibitor of Sphingolipid synthesis) and low dose of Rapamycin (one specific inhibitor of TORC1 kinase) can produce a synergistic increase in lifespan of yeast cells *Saccharomyces cerevisiae* and *Schizosaccharomyces pombe* (Huang et al., 2013. Aging Cell; Huang et al., 2015. PLoS One; Tong et al., 2018, R&D of Natural Products), the first time that this has been shown in any organism. Our current studies focus on working out the conserved ways/strategies/mechanisms/molecules to slow aging in multiple organisms (e.g., in both yeast and mammals). In the future we will continue to identify novel strategies/molecules to regulate lifespan/aging and eventually hope to utilize these strategies/molecules to develop anti-aging technologies/products and then to slow aging and treat age-related diseases in Humans.

TEACHING

Primary Teaching areas

-
- Biochemistry
 - Molecular Biology
 - Biotechnology
 - Advance in Life Sciences

Current Courses

- 《Biochemistry》 (Undergraduate)
- 《Genetic Engineering》 (Undergraduate)
- 《Frontiers in Biotechnology》 (Undergraduate)
- 《Systems Biology and Molecular Cytogenetics》 (Graduate)

GRADUATE SUPERVISION

I am available for supervision of Master Program Graduates including Biology (071000), Pharmacy (100700) and Biology and Medicine (086000). Over the past five years, I have supervised and graduated 7 Master Degree Graduates, currently 8 Graduates are studying and researching for sciences and their degrees as well, we warmly welcome more students to join us in the future.