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職稱: 教授

學院/部門: 埃爾文內爾博士生物物理與創新藥物實驗室，中藥質量研究國家重點實驗室，澳門科技大學

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簡介: 2009 年博士畢業于香港中文大學生理系，先後在香港中文大學、美國德克薩斯大學休斯頓健康科學中心進行博士後研究。2024 年加入澳門科技大學，主要研究方向集中在離子通道相關的病理生理功能、藥物研發及人類遺傳病。在 Cell Research、Nature Communications、Circulation Research 等國際 SCI 收錄雜誌發表 130 餘篇科研成果，並積極進行醫學轉化研究，獲得國家發明專利多項。主持國家自然科學基金面上項目、安徽省傑出青年基金等多項科研基金。獲得中華醫學科學技術獎、安徽省自然科學獎、湖北省自然科學獎、安徽省教學成果獎等多項獎項。兼任高等學校基礎醫學創新創業協同育人工作組常委、中國神經科學學會離子通道與受體分會委員、中國藥理學會神經精神藥理學專業委員會委員、中國毒理學會生物毒素毒理專業委員會委員、中國生物物理學會細胞鈣信號分會委員。

教研領域

教學科目：待定

研究方向：作用於離子通道的中藥小分子發現及藥物研發

離子通道和鈣信號生理病理功能

離子通道相關的糖尿病、心血管疾病、神經退行性疾病及癌症

研究興趣：實驗室採用膜片鉗、鈣成像、生物大數據、分子生物、細胞生物等實驗方法研究離子通道、鈣信號的生物學功能及其與重大疾病的關係，在中藥成分中發現調節離子通道的小分子藥物。

- 中藥成分中調節離子通道的小分子藥物發現
- 離子通道生理病理功能
- 細胞鈣信號產生、細胞器鈣信號相互交流機制及生物學功能

Research interest:

- Physiological and pathological functions of ion channels
- Mechanism and functions of calcium signal and crosstalk of calcium signal between organelles
- Discovering small molecules acting on ion channels in traditional Chinese medicine

學歷

1993.9-1998.6 安徽醫科大學臨床醫學學士學位

2000.9-2003.6 暨南大學藥學院藥理學碩士學位

2006.8-2009.12 香港中文大學生理學博士學位

教學經驗

- (1) 2024.01-至今：澳門科技大學中藥質量研究國家重點實驗室教授
- (2) 2015.08-2023.12：安徽醫科大學基礎醫學院生理學教授
- (3) 2011.11-2013.01：美國德克薩斯大學休斯頓健康科學中心博士後研究員
- (4) 2009.09-2015.08：安徽醫科大學基礎醫學院生理學副教授
- (5) 2009.09-2010.09：香港中文大學生物醫學學院博士後研究員
- (6) 2005.09-2006.05：香港中文大學醫學院生理系研究助理
- (7) 2003.07-2005.09：中國科學技術大學生命科學學院講師

學術成果（近 5 年）

- (1) Keyan Hu[#], Lei Liu[#], Songtao Tang[#], Xin Zhang, Hongfeng Chang, Wenyang Chen, Taotao Fan, Leshan Zhang, **Bing Shen***, Qiu Zhang*. MicroRNA-221-3p inhibits the inflammatory response of keratinocytes by regulating the DYRK1A/STAT3 signaling pathway to promote wound healing in diabetes. *Communication Biology*. 2024 Feb.
- (2) Qunhua Wang[#], Yan Fang[#], Yuan Li, Huali Liu, Maoni Zhu, Xue Hu, Jinzhuo Zhou, Anqi Deng, **Bing Shen***, Hongbo Chen*. Pregnancy-specific beta-1-glycoprotein 1 increases HTR-8/SVneo cell migration through the Orai1/Akt signaling pathway. *Biomolecules*. 2024 Jan 27.
- (3) Tianyue Wang*, Hidemi Nakata*, **Bing Shen**, Ziyang Jiao, Kaori Yokota, Shinji Kuroda, Shohei Kasugai, Eriko Marukawa. Involvement of miR-199a-5p-loaded mesoporous silica nanoparticle-polyethyleneimine-KALA in osteogenic differentiation. *Journal of Dental Sciences*. 2024 Jan.
- (4) Li Ji[#], Ziyang Jiao[#], Lin Zhang, Jia Shi, Qianqian Wan, Chunzhi Qian, Han Wang, Xiaoyan Cao, **Bing Shen***, Lijuan Jiang*. Role of increased IGFBP2 in trophoblast cell proliferation and recurrent spontaneous abortion development: A pilot study. *Physiological Reports*. 2024 Jan 27.
- (5) Chen Gong, Ji Ma, Ya Deng, Qiaoling Liu, Zixiang Zhan, Hong Gan, Xinjian Xiang, Meng Zhang, Kangli Cao, Tingting Shen, Lulu Fang, **Bing Shen***, Shichun Shen*, Shenggang Ding*. S100A9^{-/-} alleviates LPS-induced acute lung injury by regulating M1 macrophage Polarization and inhibiting pyroptosis via TLR4/MYD88/NFκB signaling axis. *Biomedicine & Pharmacotherapy*. 2024 Jan 30; (IF= 7.4996).
- (6) Zhang Chen, Liu Renhui, Chen Mengmeng, Xu Yang, Jin Xiaoqin, **Shen Bing**, Wang Jinye. Autophagy inhibitors 3-MA and BAF may attenuate hippocampal

neuronal necroptosis after global cerebral ischemia-reperfusion injury in male rats by inhibiting the interaction of the RIP3/AIF/CypA complex. *Journal of Neuroscience Research*. 2024.

- (7) Yaqin Zhang, Xiangzhi Zhang, Ruofei Chen, Ziyang Jiao, **Bing Shen***, Zongwen Shuai*. HSCs-derived exosomes regulate the levels of inflammatory cytokines in HIBECs through miR-122-5p mediated p38 MAPK signaling pathway. *Genomics*. 2024 Jan 14. <https://doi.org/10.1016/j.ygeno.2024.110795>.
- (8) Fangfang Xu[#], Fan Zheng[#], Ye Chen[#], Yang Wang[#], Shaobo Ma, Weng Ding, Lesha Zhang, Jizheng Guo, Changbo Zheng*, **Bing Shen***. Role of thrombospondin-1 in high-salt-induced mesenteric artery endothelial impairment in rats. *Acta Pharmacologica Sinica*. 2023 Nov 6. doi: 10.1038/s41401-023-01181-9.
- (9) Keyan Hu[#], Xueying Liu[#], Hongfeng Chang, Yi Zhang, Hui Zhou, Lei Liu, Xin Zhang, Ziyang Jiao, **Bing Shen***, Qiu Zhang*. MicroRNA-221-3p targets THBS1 to promote wound healing in diabetes. *Diabetes, Metabolic Syndrome and Obesity*. 2023 Sep 11; 16: 2765-2777. doi: 10.2147/DMSO.S424847.
- (10) Xiaoyan Li, Bin Zhang, Wen Ding, Xianfen Jia, Zhen Han, Lin Zhang, Yifeng Hu, **Bing Shen***, Huiqin Wang*. Serum proteomic signatures in umbilical cord blood of preterm neonates delivered by women with gestational diabetes. *Diabetes, Metabolic Syndrome and Obesity*. 2023 May 26; 2023(16): 1525-1539. doi: <https://doi.org/10.2147/DMSO.S406297>.
- (11) Yue Wang, Mengru Cai, Xianliang Jiang, Guangyu Lv, Daiju Hu, Guofeng Zhang, Jinli Liu, Wei Wei, Jun Xiao, **Bing Shen**, Jay H Ryu, Xiaowen Hu. Exons 1-3 deletion in FLCN is associated with increased risk of pneumothorax in Chinese patients with Birt-Hogg-Dubé syndrome. *Orphanet Journal of Rare Diseases*. 2023 May 12; 18(1): 115. doi: 10.1186/s13023-023-02710-9.
- (12) Junhao Huang^{#,*}, Huiwen Gao[#], Dongdong Gao[#], Weiyue Yang, Mengke Zhao, **Bing Shen***, Min Hu*. Exercise reduces airway smooth muscle contraction in asthmatic rats via inhibition of IL-4 secretion and store-operated Ca²⁺ entry pathway. *Allergy Asthma & Immunology Research*. 2023 May; 15(3): 361-373. doi: 10.4168/aair.2023.15.3.361.
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- (14) Qibing Wu[#], Yang Fang[#], Xiaoyu Huang, Fan Zheng, Shaobo Ma, Xinchun Zhang, Tingting Han, Huiwen Gao, **Bing Shen***. Role of Orai3-mediated store-operated calcium entry in radiation-induced brain microvascular endothelial cell injury. *International Journal of Molecular Sciences*. 2023 Apr 6; 24(7): 6818. doi: 10.3390/ijms24076818.
- (15) Ying Qin[#], Qinggang Meng[#], Qunhua Wang[#], Mingzhu Wu, Yan Fang, Chengcheng Tu, Xinyang Hu, **Bing Shen**, Hongbo Chen*, Xiaohong Xu*. Pregnancy-specific glycoprotein 9 enhances store-operated calcium entry and nitric oxide release in human umbilical vein endothelial cells. *Diagnostics (Basel)*. 2023 Mar 16; 13(6): 1134. doi: 10.3390/diagnostics13061134.

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- (24) Yaqin Zhang[#], Ziyang Jiao[#], Mingwei Chen, **Bing Shen**, Zongwen Shuai. Roles of non-coding RNAs in primary biliary cholangitis. *Frontiers in Molecular Biosciences*. 2022 July 08.
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- (27) Linghui Chen, Yanzhuo Chen, Wen Ding, Tao Zhan, Jie Zhu, Lesha Zhang, Han Wang, **Bing Shen*** and Yong Wang*. Oxidative stress-induced TRPV2 expression increase involves in diabetic cataract and apoptosis of lens epithelial cells in a high-glucose environment. *Cells*. 2022 Apr 2; 11(7): 1196. doi: 10.3390/cells11071196.
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- (37) Yuan Wei[#], Suwen Bai^{ih}, Yanheng Yao[#], Wenxuan Hou, Junwei Zhu, Haoshu Fang, Yinan Du, Wei He, **Bing Shen**, Juan Du^{*}. Orai-vascular endothelial cadherin signaling complex regulates high-glucose exposure-induced increased permeability of mouse aortic endothelial cells. *BMJ Open Diabetes Research & Care*. 2021 Apr; 9(1): e002085. doi: 10.1136/bmjdr-2020-002085.
- (38) Yong Wang[#], Suwen Bai[#], Ru Zhang[#], Lin Xia, Linghui Chen, Jizheng Guo, Fang Dai, Juan Du, **Bing Shen**^{*}. Orai3 exacerbates apoptosis of lens epithelial cells by disrupting Ca²⁺ homeostasis in diabetic cataract. *Clinical and Translational Medicine*. 2021 Mar 04; 11(3): 1-5. Article Number: e327, <https://doi.org/10.1002/ctm2.327>.
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- (40) Tao Dong[#], Ran Yin[#], Qingcai Yu, Wanwei Qiu, Kun Li, Lisheng Qian^{*}, He Li, **Bing Shen**^{*}, Guodong Liu^{*}. Sensitive detection of microRNA-21 in cancer cells and human serum with Au@Si nanocomposite and lateral flow assay. *Analytica Chimica Acta*. 2021 Feb 22; 1147: 56-63. doi: 10.1016/j.aca.2020.12.042.
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