

## Li Run-Ze

Position: Assistant professor

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**Teaching Modules:** Internal Medicine of Traditional Chinese Medicine, Treatise on Febrile Disease

**Research direction:** Clinical of Integrated Chinese and Western medicine, innovative drugs research by anti-cancer metabolism

**Certification:** Qualification Certificate of Physician (Integrated Chinese and Western medicine) of People's Republic of China.

Dr. Run-Ze Li is an assistant professor in Macau University of Science and Technology (MUST). He obtained his Ph.D. degree in MUST majoring in Chinese and Western Integrative Medicine. His B.S. degree and M.S. degree were obtained in Beijing University of Chinese medicine. During 2011- 2014, he received a scientific education and gained experiences through clerkships and internal medicine rotations in Medical Oncology of China and Japan Friendship Hospital, Beijing and achieved the qualification as a certified doctor in China. He has experience in clinical trial research by attending RCT clinical studies and can master biological experiments. He

has published 19 papers in SCI in late 5 years about the mechanism and novel treatment in cancer research. From 2017, he, as a key research member, has been working on project “Immunophenotyping, molecular analysis and functional characterization of immune cell populations in response to pembrolizumab in Chinese NSCLC patients” supported by Janssen, Pharmaceutical Companies of Johnson & Johnson.

### **Education:**

2014/09-2018/07, Macau University of Science and Technology, Integrated Chinese and Western Medicine; Doctor Degree; Supervisor: Liang Liu.

2012/06-2014/07, Beijing University of Chinese Medicine, 7-Year-Program Clinical Integrated Chinese and Western Medicine (China-Japan Friendship Hospital, Department of Integrated Medical Oncology); Master Degree; Supervisor: Dong-Gui Wan.

2007/09-2012/06, Beijing University of Chinese Medicine, 7-Year-Program Clinical Integrated Chinese and Western Medicine (undergraduate course); Bachelor Degree.

### **Published / unpublished papers:**

1. Huan-Ling Lai<sup>#</sup>, Xing-Xing Fan<sup>#</sup>, **Run-Ze Li<sup>#</sup>**, Yu-Wei Wang, Jun-Min Zhang, Liang Liu, Erwin Neher, Xiao-Jun Yao\* & Elaine Lai-Han Leung\*. Role of ion fluxes, metabolism and redox balance in cancer therapy. *Antioxidants and Redox Signaling* (# co-first author). 29 Oct 2020, <https://doi.org/10.1089/ars.2020.8125> (2019 IF: 7.04)
2. Ying Xie<sup>#</sup>, Wei-Yu Meng<sup>#</sup>, **Run-Ze Li<sup>#</sup>**, Yu-Wei Wang, Xing-Xing Fan, Hu-Dan Pan, Qi-Biao Wu, Pui-Yu Yan, Liang Liu, Yi-Jun Tang, Xiao-Jun Yao\*, Mei-Fang Wang\* & Elaine Lai-Han Leung\*. Early lung cancer diagnostic biomarker discovery by machine learning methods. *Translational Oncology* (# co-first author). 10.1016/j.tranon.2020.100907. (2019 IF: 3.558)
3. Elaine Lai-Han Leung<sup>#</sup>, Huan-Ling Lai<sup>#</sup>, **Run-Ze Li**, Hu-Dan Pan, Ze-Bo Jiang, Ying Li, Fu-Gang Duan, Jia-Hui Xu, Yi-Zhong Zhang, A-Xi Shi, Chun-Li Wei,

Fang-Yuan Zhang, Xiao-Jun Yao and Liang Liu\*. SAA1 protein isoforms induce Rheumatoid Arthritis. *Engineering*. 10.1016/j.eng.2020.08.018. (2019 IF: 6.495)

4. **Run-Ze Li**<sup>#</sup>, Xing-Xing Fan<sup>#</sup>, Fu-Gang Duan, Ze-Bo Jiang, Hu-Dan Pan, Lian-Xiang Luo, Yan-Ling Zhou, Ying Li, Ying-Jia Yao, Xiao-Jun Yao, Elaine Lai-Han Leung\* & Liang Liu\*. Proscillaridin A induces apoptosis and suppresses tumor growth in non-small cell lung cancer via calcium-induced DR4 upregulation (# co-first author). *Cell Death Dis.* 2018 Jun 13;9(6):696. doi: 10.1038/s41419-018-0733-4. (2018 IF 5.959)

5. **Run-Ze Li**, Xing-Xing Fan, Dan-Feng Shi, Lian-Xiang Luo, Hu-Dan Pan, Xiao-Jun Yao\*, Elaine Lai-Han Leung\* & Liang Liu\*. Identification of a new Pyruvate kinase M2 isoform (PKM2) activator for treatment of non-small cell lung cancer (NSCLC). *Chem Biol Drug Des.* 2018 Jun 21. doi: 10.1111/cbdd.13354. (2018 IF: 2.256)

6. Mei-Fang Wang<sup>#</sup>, **Run-Ze Li**<sup>#</sup>, Ying Li, Xue-Qin Cheng, Jun Yang, Wen Chen, Xing-Xing Fan, Hu-Dan Pan, Xiao-Jun Yao, Tao Ren, Xin Qian, Liang Liu\*, Leung Lai-Han Leung\* & Yi-Jun Tang\*. Journal of Thoracic Disease. Clinical statistics analysis on the characteristics of pneumoconiosis of Chinese miner population 2016 Aug;8(8):2203-11. doi: 10.21037/jtd.2016.07.53. (2016 IF: 2.365)

7. Xi Dai, **Run-Ze Li**, Ze-Bo Jiang, Chun-Li Wei, Lian Xiang Luo, Xiao Jun Yao, Guoping Li, Elaine Leung. Honokiol inhibits proliferation, invasion and induces apoptosis through targeting Lyn kinase in human lung adenocarcinoma cells. *Front Pharmacol.* 2018 May 28;9:558. doi: 10.3389/fphar.2018.00558. eCollection 2018. (2018 IF: 3.845)

8. Hui You, Yi-Zhong Zhang, Huan-Ling Lai, Dan Li, Yu-Quan Liu, **Run-Ze Li**, Imran Khan, Wendy Wen-Lun Hsiao, Fu-Gang Duan, Xing-Xing Fan, Xiao-Jun Yao, Ya-Bing Cao, Qi-Biao Wu, Elaine Lai-Han Leung & Mei-Fang Wang. Prognostic significance of tumor poliovirus receptor and CTLA4 expression in patients with surgically resected non-small-cell lung cancer. *J Cancer Res Clin Oncol* 146, 1441–1450 (2020). <https://doi.org/10.1007/s00432-020-03189-8> (2019 IF: 3.332)

9. Fu-Gang Duan, Mei-Fang Wang, Ya-Bing Cao, Dan Li, **Run-Ze Li**, Xing-Xing Fan...Liang Liu, Yi-Jun Tang and Elaine Lai-Han Leung. MicroRNA-421 confers paclitaxel resistance by binding to the KEAP1 3'UTR and predicts poor survival in non-small cell lung cancer. *Cell Death Dis* 10, 821 (2019). doi:10.1038/s41419-019-2031-1 (2019) (2019 IF: 6.304)
10. Yu-Wei Wang, Chun-Ping Tang, Sheng Yao, Huan-Ling Lai, **Run-Ze Li**, Jia-Hui Xu, Qian-Qian Wang, Xing-Xing Fan, Qi-Biao Wu, Elaine Lai-Han Leung, Yang Ye, Xiao-Jun Yao. Discovery of a novel protein kinase C activator from *Croton tiglium* for inhibition of non-small cell lung cancer. *Phytomedicine* Volume 65, December 2019, 153100. 10.1016/j.phymed.2019.153100. (2019 IF: 4.268)
11. Jia-Xin Li, Ju-Min Huang, Ze-Bo Jiang, **Run-Ze Li**, Ao Sun, Elaine Lai-Han Leung, and Pei-Yu Yan. Current clinical progress of PD-1/PD-L1 immunotherapy and potential combination treatment in non-small cell lung cancer. *Integrative Cancer Therapies* 2019. 10.1177/1534735419890020 (2019 IF: 2.381)
12. Hu-Dan Pan, Rui-Jin Guo, Yanmei Ju...**Run-Ze Li**, Huijue Jia and Liang Liu. A single bacterium restores the microbiome dysbiosis to protect bones from destruction in a rat model of rheumatoid arthritis. *Microbiome* 7, 107 (2019) doi:10.1186/s40168-019-0719-1 (2019 IF: 11.607)
13. Hu-Dan Pan, Rui-Jin Guo, Jie Zhu...**Run-Ze Li**, Zhong-Wen Yuan, Huan-Ming Yang, Jian Wang, Karsten Kristiansen, Hui-Jue Jia and Liang Liu. A gene catalogue of the Sprague-Dawley rat gut metagenome. *Gigascience*. 2018 May 1;7(5). doi: 10.1093/gigascience/giy055. (2018 IF: 4.688)
14. Hu-Dan Pan, **Run-Ze Li**, Ting Li, Jun Wang, Liang Liu\*. Whether Probiotic Supplementation Benefits Rheumatoid Arthritis Patients: A Systematic Review and Meta-Analysis. *Engineering*3, 115-121, doi:10.1016/j.eng.2017.01.006 (2017 IF: 2.667).
15. Liang Liu, Ying Li, Elaine Leung, Hudan Pan, Xiao Jun Yao, Qing-Chun Huang, Min Wu, Ting Xu, Yuwei Wang, Jun Cai, **Runze Li**, Wei Liu. Identification of Potential Genetic Causal Variants for Rheumatoid Arthritis by Whole-Exome Sequencing. *Oncotarget*. 2017 Nov 22;8(67):111119-111129. doi: 10.18632 (2017 IF:

4.794)

16. Lian-Xiang Luo, Ying Li, Zhong-Qiu Liu, Xing-Xing Fan, Fu-Gang Duan, **Run-Ze Li**, Xiao-Jun Yao\*, Elaine Lai-Han Leung\* and Liang Liu\*. Honkiol induces apoptosis, G1 arrest and autophagy in KRAS mutant lung cancer cells. *Frontiers in pharmacology*. 2017 Apr 11;8:199. doi: 10.3389/fphar.2017.00199. eCollection 2017. (2017 IF: 3.831)

17. Jun Huang<sup>#</sup> , Xing-Xing Fan<sup>#</sup> , Jia-Xi He, Hui Pan, **Run-Ze Li**, Li-Yan Huang, Ze-Bo Jiang, Xiao-Jun Yao, Liang Liu, Elaine Lai-Han Leung\* & Jian-Xing He\*. SCD1 is associated with tumor promotion, late stage and poor survival in lung adenocarcinoma. *Oncotarget*. 2016. May 19. doi: 10.18632/oncotarget.9461. (2016 IF: 5.168)

18. Ju-Min Huang...**Run-Ze Li**...Elaine Lai-Han Leung. Ginseng polysaccharides alter the gut microbiota and kynurenine/tryptophan ratio, potentiating the anti-tumor effect of PD-1/PD-L1 immunotherapy. *Gut*. (2019 IF: 19.819) (Under review)

19. Hui-Hui Chen<sup>#</sup>, Wei-Yu Meng<sup>#</sup>, **Run-Ze Li**<sup>#</sup>, Qing-Yi Wang, Yu-Wei Wang, Hu-Dan Pan, Pei-Yu Yan, Qi-Biao Wu, Liang Liu, Xiao-Jun Yao\*, Min Kang\* & Elaine Lai-Han Leung\*. Potential prognostic factors in progression-free survival for patients with cervical cancer. *BMC Cancer* (2019 IF: 3.19) (Under review)

## **Patents:**

1. Bufadienolide for treatment of non-small cell lung cancer. LIU, Liang; LEUNG, Lai-Han Elaine; YAO, Xiao-Jun; **LI, Run-Ze** and FAN, Xing-Xing. (Australia patent awarded for 8 years-2017100644)

2. Methods for treating lung cancer. LIU, Liang; LEUNG, Lai-Han Elaine; YAO, Xiao-Jun and **LI, Run-Ze**. (Australia patent awarded for 8 years-2017100105)

3. An oral liquid probiotics formulation and method of preventing and/or treating arthritis. LIU, Liang; PAN, Hudan; ZHENG, Yanfang and **LI, Runze** (Australia patent awarded for 8 years-2017100632)

4. An invention relates to a PD-1 inhibitor and its preparation method and application.

Pei-Yu Yan, Elaine Lai-Han Leung, Jia-Xin Li, **Run-Ze Li**, Liang Liu (China Patent, 2021100364012)

### **Conference papers:**

1. **Runze Li**, Ze-Bo Jiang, Xing-Xing Fan, Xiao-Jun Yao, Elaine Lai-Han Leung and Liang Liu. Proscillaridin A induces apoptosis in non-small cell lung cancer cells with minimal cytotoxic effect to normal lung epithelial cells. The Second Annual Meeting of Immunology of Traditional Chinese Medicine of the World Federation of Chinese Medicine Societies. 3-5 Dec, 2015 Macau, China.
2. **Run-Ze Li**, Mei-Fang Wang, Ying Li, Xing-Xing Fan, Xiao-Jun Yao, Yi-Jun Tang, Liang Liu, & Elaine Lai-Han Leung. Clinical Statistics Analysis on the Characteristics of Pneumoconiosis of Chinese Miner Population. The Third Annual Meeting of Immunology of Traditional Chinese Medicine of the World Federation of Chinese Medicine Societies. 7-12 Aug, 2016 Mainz, Germany.
3. **Run-Ze Li**, Elaine Lai-Han Leung, Xiao-Jun Yao, Liu Liang. Identification of new chemical structure as PKM2 activator for treating Non-Small Cell Lung Cancer Cells. 2016 World Life Science Conference. 1-3 Nov, 2016 Beijing, China.
4. **Run-Ze Li**, Xing-Xing Fan, Hu-Dan Pan, Lian-Xiang Luo, Xi-Chen, Yan-Ling Zhou, Xiao-Jun Yao<sup>1</sup>, Elaine Lai-Han Leung<sup>1\*</sup> & Liang Liu. Identification of new chemical structure as Pyruvate kinase M2 isoform (PKM2) activator for treatment of lung cancer. The 13th Organization for Oncology and Translational Research (Poster). 9-10 Jun, 2017 Hong Kong, China.
5. **Run-Ze Li**, Xing-Xing Fan, Dan-Feng Shi, Lian-Xiang Luo, Hu-Dan Pan, Xiao-Jun Yao, Elaine Lai-Han Leung & Liang Liu. Identification of a new Pyruvate kinase M2 isoform (PKM2) activator for treatment of non-small cell lung cancer (NSCLC). The 4th Annual Meeting of Immunology of Traditional Chinese Medicine of the World Federation of Chinese Medicine Societies. 2-5 Nov, 2017 Nanjing, China.
6. **Run-Ze Li**, Xing-Xing Fan, Fu-Gang Duan, Ze-Bo Jiang, Hu-Dan Pan,

Lian-Xiang Luo, Yan-Ling Zhou, Ying Li, Ying-Jia Yao, Xiao-Jun Yao, Elaine Lai-Han Leung & Liang Liu. ProscillaridinA induces DR4 up-regulation and suppresses non-small cell lung cancer tumor growth. 2018 World Science Life Conference (2018 WSLC). (Oct.27-29) in Beijing, China.

7. **Run-Ze Li**, Ya-Hong Cai, Xing-Xing Fan, Hu-Dan Pan, Wen-Jun Wang, Wei-Yu Meng, Xiao-Jun Yao, Liang Liu, Hong Lin & Elaine Lai-Han Leung. Prevalent status and survival in women with breast cancer in Southern region of China. The 7th Annual Meeting of the Specialty Committee on Immunology of Traditional Chinese Medicine of the World Federation of Chinese Medicine Societies cum the Cross-Strait-Hong Kong-Macau Forum on Advanced Research in Treating Rheumatism with Chinese Medicine. 2020. Dec. 12-14, Changsha, China

### **Membership and community services:**

1. Council Member of the Macau Society of Clinical Oncology, 2016 - Present
2. Council Member of the China Anti-Cancer Association, 2020 - Present
3. Council Member of the 1<sup>st</sup> Board of Specialty Committee of Chinese Medicine Healthcare Products of World Federation of China Immunology Society, 2015-Present
4. Council Member of the Chinese Medicine and Immunology Association, World Federation of China Immunology Society, 2018 – Present