

## Simon Wing-Fai MOK (莫永暉)

Assistant Professor  
Faculty of Medicine  
Macau University of Science and Technology (MUST)



### **Education:**

**2009:** Dr.rer.nat. (magna cum laude), Freie Universität Berlin (worked at the Robert Koch Institut - German federal institution for disease control and prevention)

**2001:** MPhil, Department of Anatomy, The Chinese University of Hong Kong (CUHK)

**1999:** BSc (2<sup>nd</sup> class honors division I), Department of Biochemistry, The Hong Kong University of Science and Technology (HKUST)

### **Professional Experience**

**2020-present:** Assistant Professor, Faculty of Medicine, MUST

**2016-2019:** Postdoctoral Fellow, SKL of Quality Research in Chinese Medicine, MUST

**2013-2015:** Research Associate, School of Biomedical Sciences, CUHK

**2008-2012:** Postdoctoral Fellow, Roslin Institute, Neurobiology Division, The University of Edinburgh

### **Professional Affiliation**

Review editor - Frontier Pharmacology (Ethnopharmacology)

### **Teaching Area**

Biochemistry

Immunology

Molecular Biology Laboratory Practicals

Medical Humanities, Law, and Ethics (Coordinator)

### **Research Interest**

During the course of my research career, I have been focusing on diseases associated with the dysregulation of immune system presented as inflammation in affected sites. Amongst the various types of immune-related disorders, prion diseases, allergic asthma, rheumatoid arthritis, and cancers are of interest, with my work concerning their pathomechanism and pharmacological interventions. Inspired by my extensive experience in the field, I became fascinated by the research topic of controlling local

inflammation via the manipulation of systemic immunity. Provided that the spleen is the largest secondary lymphoid organ, my current research interest center around the splenic involvement in the pathogenesis of inflammatory disorders. Hopefully, such work can eventually facilitate the search of novel drugs targeting the spleen for the treatment or prevention of the different immune-related disorders.

### **Academic Publications**

1. Zeng W, Wu AG, Zhou XG, Khan I, Zhang RL, Lo HH, Qu LQ, Song LL, Yun XY, Wang HM, Chen J, Ng JPL, Ren F, Yuan SY, Yu L, Tang Y, Huang GX, Wong VKW, Chung SK, **Mok SWF**, Qin DL, Sun HL, Liu L, Hsiao WLW, Law BYK (2021) Saponins isolated from Radix polygalae extent lifespan by modulating complement C3 and gut microbiota. *Pharmacol Res.* 170:105697
2. Huang Q, Zhang H, Bai LP, Betty Law BYK, Xiong H, Zhou X, Xiao R, Qu YQ, **Mok SWF**, Liu L, Wong VKW (2020) Novel ginsenoside derivative 20(S)-Rh2E2 suppresses tumor growth and metastasis in vivo and in vitro via intervention of cancer cell energy metabolism. *Cell Death Dis.* 14;11(8):621
3. Xu SW, Law BYK, Qu SLQ, Hamdoun S, Chen J, Zhang W, Guo JR, Wu AG, **Mok SWF**, Zhang DW, Xia C, Sugimoto Y, Efferth T, Liu L, Wong VKW (2020) SERCA and P-glycoprotein inhibition and ATP depletion are necessary for celastrol-induced autophagic cell death and collateral sensitivity in multidrug-resistant tumor cell. *Pharmacol Res.*153:104660
4. **Mok SWF**, Wong VKW, Lo HH, de Seabra Rodrigues Dias IR, Leung ELH, Law BYK, Liu L (2020) Polypharmacological modulation of peripheral immune system for the treatment of neuropsychiatric disorders. *Pharmacol Ther.* 208:107480
5. Han Y, Tang B, Yuan Qu YQ, **Mok SWF**, Chen J, He HQ, Li Z, Zhang W, Qiu CL, Liu L, Law BYK, Wong VKW (2019) A Novel Drug Resistance Mechanism: Genetic loss of xeroderma pigmentosum complementation group C (XPC) enhances glycolysis-mediated drug resistance in DLD-1 colon cancer cells. *Front Pharmacol.* 10:912
6. Zeng W, Law BYK, Wong VKW, Chan DSB, **Mok SWF**, Gao JJY, Ho RKY, Liang X, Li JH, Lee MT, Yoon WL, Smolinski MP, Lau JYN, Lam CWK, Manson Fok M (2019) HM30181A, a potent P-glycoprotein inhibitor, potentiates absorption and in vivo anti-tumor efficacy of paclitaxel in an orthotopic brain tumor model.

7. Law BYK, Michelangeli F, Xu SW, Qu YQ, Han Y, **Mok SWF**, Javed MH, Chan WK, Xue WW, Yao XJ, Zeng W, Wang JR, Liu L, Wong VKW (2019) Neferine induces autophagy-dependent cell death in apoptosis-resistant cancers via ryanodine receptor and Ca<sup>2+</sup> dependent mechanism. *Sci Rep.* 9(1):20034
8. Wong VKW, Xu SW, Qiu C, Law BYK, Zeng W, Wang H, de Seabra Rodrigues Dias IR, **Mok SWF**, Pan H, Hamdoun S, Efferth T, Michelangeli F, Han Y, Zhang N, Qu YQ, Chan TW, Zhang W, Guo JR, Xie Y, Luo R, Jiang Q, Liu L (2019) Ca<sup>2+</sup> signalling plays a critical role in celastrol-mediated suppression of synovial fibroblasts of rheumatoid arthritis patients and experimental arthritis in rats. *Br J Pharmacol.* 176(16):2922-294
9. Zhou X, Qu YQ, Zheng Z, Law BYK, **Mok SWF**, Jiang ZH, Wong VKW, Bai LP (2018) Novel duricine derivatives suppress cancer via autophagy-dependent cell death. *Bioorg Chem.* 83:450-60
10. Coghi P, Yaremenko IA, Prommana P, Radulov PS, Syroeshkin MA, Wu YJ, Gao JY, Gordillo FM, **Mok S**, Wong VKW, Uthaipibull C, Terent'ev AO (2018) Novel Peroxides as Promising Anticancer Agents with Unexpected Depressed Antimalarial Activity. *ChemMedChem.* 13:2249
11. Yang GJ, Wang W, **Mok SWF**, Wu C, Law BYK, Miao XM, Wu KJ, Zhong HJ, Wong CY, Wong VKW, Ma DL, Leung CH (2018) Selective inhibition of lysine-specific demethylase 5A (KDM5A) using a rhodium(III) complex for triple-negative breast cancer therapy. *Angew Chem Int Ed Engl.* 57(40):13091-5 (**second author**)
12. **Mok SWF**, Wu YJ, Niu Y, Coghi P, Sin WM, Ng SI, Gordillo-Martínez F, Gao JY, Law BYK, Liu L, Yao X, Wong VKW (2018) A method for rapid screening of anilide-containing AMPK modulators based on computational docking and biological validation. *Front Pharmacol.* 9:71
13. Qu YQ, Gordillo-Martinez F, Law BYK, Han Y, Wu A, Zeng W, **Mok SWF**, Wong VKW, Wang R (2018) 2-aminoethoxydiphenylborane (2-APB) suppresses bortezomib (BZM)-induced protective autophagy and sensitizes the anti-tumor effect of BZM in vivo. *Cell Death Dis.* 9:361

14. de Seabra Rodrigues Dias IR, **Mok SWF**, Gordillo-Martínez F, Khan I, Hsiao WWL, Law BYK, Wong VKW, Liu L (2018) The calcium-induced regulation in the molecular and transcriptional circuitry of human inflammatory response and autoimmunity. *Front Pharmacol.* 8:962. **(co-first author)**
15. Law BYK, Qu YQ, **Mok SWF**, Liu H, Zeng W, Han Y, Gordillo-Martínez F, Chan WK, Wong KM, Wong VKW (2017) New perspectives of cobalt tris(bipyridine) system: anti-cancer effect and its collateral sensitivity towards multidrug-resistant (MDR) cancers. *Oncotarget.* 8:55003-21
16. Sun XL, Law BY, de Seabra Rodrigues Dias IR, **Mok SWF**, He YZ, Wong VK (2017) Pathogenesis of thromboangiitis obliterans: Gene polymorphism and immunoregulation of human vascular endothelial cells. *Atherosclerosis.* 265:258-65
17. Law BYK, **Mok SWF**, Chen J, Michelangeli F, Jiang ZH, Han Y, Qu YQ, Qiu ACL, Xu SW, Xue WW, Yao XJ, Gao JY, Javed MU, Coghi PS, Liu L, Wong VKW (2017) N-desmethyldaurocine induces autophagic cell death in apoptosis-defective cells via Ca<sup>2+</sup> mobilization. *Front Pharmacol.* 8:388. **(co-first author)**
18. Kadioglu O, Law BYK, **Mok SWF**, Xu SW, Efferth T, Wong VKW (2017) Mode of Action Analyses of Neferine, a Bisbenzylisoquinoline Alkaloid of Lotus (*Nelumbo nucifera*) against Multidrug-Resistant Tumor Cells. *Front Pharmacol.* 8:238
19. Kang TS, Wang W, Zhong HJ, Dong ZZ, Huang Q, **Mok SW**, Leung CH, Wong VK, Ma DL (2017) An anti-prostate cancer benzofuran-conjugated iridium(III) complex as a dual inhibitor of STAT3 and NF- $\kappa$ B. *Cancer Lett.* 396:76-84
20. Law BYK, Gordillo-Martínez F, Qu YQ, Zhang N, Xu SW, Coghi PS, **Mok SWF**, Guo J, Zhang W, Leung ELH, Fan XX, Wu AG, Chan WK, Yao XJ, Wang JR, Liu L, Wong VKW. (2017) Thalidezine, a novel AMPK activator, eliminates apoptosis-resistant cancer cells through energy-mediated autophagic cell death. *Oncotarget.* 8:30077-91
21. **Mok SW**, Wong VK, Law BY (2016) Comment: New potential pharmacological functions of Chinese herbal medicines via regulation of autophagy: the search of reliable pharmaceutical candidates for chronic disorders therapy The need for new

pharmaceutical therapy for chronic diseases. *J Neurol Neuromed.* 1:6-9

22. Xu SW, Law BY, **Mok SW**, Leung EL, Fan XX, Coghi PS, Zeng W, Leung CH, Ma DL, Liu L, Wong VK (2016) Autophagic degradation of epidermal growth factor receptor in gefitinib-resistant lung cancer by celastrol. *Int J Oncol.* 49:1576-88
23. Law BY, **Mok SW**, Wu AG, Lam CW, Yu MX, Wong VK (2016) New Potential Pharmacological Functions of Chinese Herbal Medicines via regulation of autophagy. *Molecules.* 21:359 (**co-first author**)
24. Law BY, **Mok SW**, Chan WK, Xu SW, Wu GA, Wang JR, Liu L, Wong VKM (2016) Hernandezine, a novel AMPK activator induces autophagic cell death in drug-resistant cancers. *Oncotarget.* 7:8090-104
25. Cao CY, **Mok SW**, Cheng VW, Tsui SK (2015) The FHL2 regulation in the transcriptional circuitry of human cancers. *Gene.* 572:1-7 (**co-first & corresponding author**)
26. Leung KS, Cheng VW, **Mok SW**, Tsui SK (2014) The involvement of DNA methylation and histone modification on the epigenetic regulation of embryonic stem cells and Induced pluripotent stem cells. *Curr Stem Cell Res Ther.* 9:388-95 (**corresponding author**)
27. **Mok SW**, Proia RL, Brinkmann V, Mabbott NA (2012) B cell-specific S1PR1 deficiency blocks prion dissemination between secondary lymphoid organs. *J Immunol.* 188:5032-40
28. Brown KL, Gossner A, **Mok S**, Mabbott NA (2012) The effects of host age on the transport of complement-bound complexes to the spleen and the pathogenesis of intravenous scrapie infection. *J Virol.* 86:25-35
29. Riemer C, Schultz J, Burwinkel M, Schwarz A, **Mok SW**, Gültner S, Bamme T, Norley S, van Landeghem F, Lu B, Gerard C, Baier M (2008) Accelerated prion replication in, but prolonged survival times of, prion-infected CXCR3<sup>-/-</sup> mice. *J Virol.* 82:12464-71
30. Riemer C, Burwinkel M, Schwarz A, Gültner S, **Mok SW**, Heise I, Holtkamp N,

Baier M (2008) Evaluation of drugs for treatment of prion infections of the central nervous system. *J Gen Virol.* 89:594-7

31. **Mok SW**, Riemer C, Madela K, Hsu DK, Liu FT, Gültner S, Heise I, Baier M (2007) Role of galectin-3 in prion infections of the CNS. *Biochem Biophys Res Commun.* 359:672-8
32. **Mok SW**, Thelen KM, Riemer C, Bamme T, Gültner S, Lütjohann D, Baier M (2006) Simvastatin prolongs survival times in prion infections of the central nervous system. *Biochem Biophys Res Commun.* 348:697-702
33. Riemer C, Bamme T, **Mok SW**, Baier M (2006) 3-Methyl-4-chlorophenol for prion decontamination of medical devices. *Infect Control Hosp Epidemiol.* 27:778-8