Wu Qiang（吳強）

Position: Associate Professor
Faculty: The State Key Laboratory of Quality Research in Chinese Medicine, Macau University of Science and Technology
E-mail: qwu@must.edu.mo
Telephone: (853) 88972708
Fax: (853) 28822799
Mobile: (853) 68818759
Webpage: https://www.must.edu.mo/images/FC/files/Wu_Qiang.pdf
ORCID: https://orcid.org/0000-0003-2049-1639
ResearchGate: https://www.researchgate.net/profile/Qiang-Wu-55
Address: Room I-01-108, Block I, Macau University of Science and Technology, Avenida Wai Long, Taipa, Macau

Academic Qualifications

1986-1990	B. Agri.	Department of Horticulture, Huazhong Agricultural University
1992-1995	M.Sc.	Department of Genetics, Wuhan University
1998-2003	Ph. D	Department of Biological Sciences, National University of Singapore

Employment History

2017-present	Associate professor, Macau University of Science and Technology
2009-2016	Assistant professor, Department of Biochemistry, National University of Singapore
2006-2008	Research associate, The Gurdon Institute, University of Cambridge (Advisor: Prof Magdalena Zernicka-Goetz)
2003-2006	Postdoctoral fellow, Genome Institute of Singapore (Advisor: Prof Ng Huck Hui)
2002-2003	Research assistant, National University of Singapore (Supervisor: Dr. Philippa Melamed)
1996-1998	Administrator, Wuhan Science and Technology Committee, China
1995-1996	Assistant Lecturer, Tongji Medical University, Wuhan, China
1990-1992	Administrator, Qingling Horticultural Farm, Wuhan, China

Recent Awards

2006-2008 Wellcome Trust postdoctoral fellowship

2003-2006 Genome Institute of Singapore postdoctoral fellowship

1998-2002 National University of Singapore postgraduate scholarship

Editorial Services

Academic editor of *PLoS ONE* (July 2010-present)
Guest editor of *Stem Cells International* (2015)
Lead guest editor of *Stem Cells International* (2016-2017, 2020)
Academic Editor of *Frontiers in Cell and Developmental Biology* (from 2021)
Academic editor of *Stem Cell Review and Reports* (from 2021)
Section editor of *Current Gene Therapy* (from 2021)
Section editor of *Heliyon* (Genetics section) (from 2021)

Membership in Professional Societies

Member of the International Society for Stem Cell Research
Member of the Stem Cell Society Singapore
Member and the Vice president of Macau Society for Stem Cell Research

Research Interests:

Stem Cell Biology, Epigenetics, Gene Regulation, Chinese Medicine. Cancer Biology.

Peer Reviewing Services

Referee for *Nucleic Acids Research*, *Nature Communications, Stem Cells, Stem Cell Research*, *Protein & Cell, Cell Proliferation, Frontiers in Cell and Developmental Biology, Frontiers in Immunology, Frontiers in Oncology, Frontiers in Pharmacology, Stem Cells, Stem Cell Reviews and Reports, Stem Cells Translational Medicine, Stem Cell Research, Stem Cells International, Stem Cells and Development, Oncotarget*s, *Experimental Cell Research*, *International Journal of Biochemistry & Cell Biology*, *Journal of Genetics and Genomics*, *BMC Medical Genetics, Phytomedicine, Biochimica et Biophysica Acta, PLoS ONE, Heliyon, Scientific Reports, Phytomedicine, Current Opinion in Pharmacology, STAR Protocols.*

Grant reviewing Services

Medical Research Council UK grants
China National Natural Science Foundation (Key and General program)

Singapore Biomedical Research Council grants

Hong Kong Research Grants Council grants

National University Heath System (Singapore) (Seed grants, Bench to Bedside grants, Aspiration grants)

National University of Singapore (Academic research grants).

Teaching History:

***In Macau University of Science and Technology (MUST)*:**

Undergraduate modules: Life Sciences (coordinator and the sole teacher), Biochemistry and Molecular Biology, Pharmacology and Toxicology, Molecular Pharmacology (Creator and coordinator).

Graduate modules: Methodology in Pharmacology of Chinese Medicines, Modern Biotechnology, Advances in Chinese Medicine Pharmaceutics.

In National University Singapore (NUS):

Undergraduate modules: Epigenetics and Chromatin Biology (creator and coordinator), Stem Cell Biology, Experimental Biochemistry, Laboratory Techniques in Life Sciences.

Graduate Modules: Techniques in Biomedical Research, Stem Cells and Regenerative Medicine.

Publications ((50 publications. Total citations over 5,000. H-index 17)

1. Wang X, Song C, Ye Y, Gu Y, Li X, Chen P, Leng D, Xiao J, Wu H, Xie S, Liu W, Zhao Q, Chen D, Chen X, **Wu Q#,** Chen G#, Zhang W#. BRD9-mediated control of the TGF-β/Activin/Nodal pathway regulates self-renewal and differentiation of human embryonic stem cells and progression of cancer cells. ***Nucleic Acids Research*** 2023 Oct 23:gkad907.

2. Ma L, He X and **Wu Q#**. The Molecular Regulatory Mechanism in Multipotency and Differentiation of Wharton's Jelly Stem Cells ***International Journal of Molecular Sciences*** 2023 24(16):12909.

3. Ma L, **Wu Q#** and Tam PK#. The Current Proceedings of PSC-Based Liver Fibrosis Therapy. ***Stem Cell Reviews and Reports.*** 2023 Jul 25. doi: 10.1007/s12015-023-10592-4.

4. Zhang M, Liao X, Ji G, Fan X# and **Wu Q#**. High Expression of COA6 Is Related to Unfavorable Prognosis and Enhanced Oxidative Phosphorylation in Lung Adenocarcinoma. ***International Journal of Molecular Sciences*** 2023 Mar 16;24(6):5705.

5. Wang X, Fan Y and **Wu#**. The regulation of transcription elongation in embryonic stem cells. ***Frontiers in Cell and Developmental Biology*** 2023 Feb 16;11:1145611.

6. Yin L, Huang G, Khan I, Su L, Xia W, Law BYK, Wong VKW, **Wu Q**, Wang J, Leong WK, Hsiao WLW.Poria cocos polysaccharides exert prebiotic function to attenuate the adverse effects and improve the therapeutic outcome of 5-FU in ApcMin/+ mice. ***Chinese Medicine*** 2022 Oct 3;17(1):116.

7. Huang Y, **Wu Q#**, Tam PKH#. Immunomodulatory Mechanisms of Mesenchymal Stem Cells and Their Potential Clinical Applications. ***International Journal of Molecular Sciences*** 2022 Sep 2;23(17):10023.

8. Huang M, **Wu Q#**, Jiang ZH#. Epigenetic Alterations under Oxidative Stress in Stem Cells. ***Oxidative Medicine and Cellular Longevity*** 2022 Aug 29;2022:6439097.

9. Wang X, **Wu Q#**. The Divergent Pluripotent States in Mouse and Human Cells. ***Genes*** (Basel). 2022 Aug 16;13(8):1459.

10. Ma L, Huang M, Liao X, Cai X, **Wu Q#.** NR2F2 Regulates Cell Proliferation and Immunomodulation in Whartons' Jelly Stem Cells. ***Genes*** **(**Basel). 2022 Aug 16;13(8):1458.

11. Chen J, Lu Y, Ye F, Zhang H, Zhou Y, Li J, **Wu Q,** Xu X, Wu Q, Wei B, Zhang H, Wang H. A Small-Molecule Inhibitor of the Anthranilyl-CoA Synthetase PqsA for the Treatment of Multidrug-Resistant Pseudomonas aeruginosa. ***Microbiology Spectrum*** 2022 Aug 31;10(4):e0276421.

12. Ji G, Xiao X, Huang M, **Wu Q**. Jmjd6 regulates ES cell homeostasis and enhances reprogramming efficiency. ***Heliyon***. 2022 Mar 15;8(3):e09105.

13. Fan XX#, **Wu Q#**. Decoding Lung Cancer at Single-Cell Level. ***Frontiers in Immunology*** 2022 May 23;13:883758.

14. Chen J, Lu Y, Du Y, Wang H#, **Wu Q#**. Recent development of small-molecular inhibitors against Clostridioides difficile infection. ***Bioorganic Chemistry*** 2022 Aug;125:105843.

15. Guo Z, Sun Y, Liang L, Lu W, Luo B, Wu Z, Huo B, Hu Y, Huang P, **Wu Q**, Wen S. Design and Synthesis of Dual EZH2/BRD4 Inhibitors to Target Solid Tumors. ***Journal of Medicinal Chemistry*** 2022 May 12;65(9):6573-6592.

16. Chen J, Li Y, Wang S, Zhang H, Du Y, **Wu Q#**, Wang H#. Targeting Clostridioides difficile: New uses for old drugs. ***Drug Discovery Today***. 2022 Jul;27(7):1862-1873.

17. Chen J, Zhang H, Wang S, Du Y, Wei B, **Wu Q#**, Wang H#. Inhibitors of Bacterial Extracellular Vesicles. ***Frontiers in Microbiology*** 2022 Feb 23;13:835058.

18. Liu J, Zhuang Y, Wu J, Wu Q, Liu M, Zhao Y, Liu Z, Wang C, Lu L, Meng Y, Lei K, Li X, **Wu Q**, Leung EL, Guo Z, Liu L, Li T. IKKβ mediates homeostatic function in inflammation via competitively phosphorylating AMPK and IκBα. ***Acta Pharmaceutica Sinica B*** 2022 Feb;12(2):651-664.

19. Leong W, Huang G, Liao W, Xia W, Li X, Su Z, Liu L, Wu Q, Wong VKW, Law BYK, Xia C, Guo X, Khan I, Wendy Hsiao WL. Traditional Patchouli essential oil modulates the host's immune responses and gut microbiota and exhibits potent anti-cancer effects in ApcMin /+ mice. ***Pharmacological Research*** 2022 Feb;176:106082.

20. Huang M, Xiao X, Ji G, **Wu Q#**. Histone modifications in neurodifferentiation of embryonic stem cells. ***Heliyon***. 2021 Dec 23;8(1):e08664.

21. Yu S, Li J, Ji G, Ng ZL, Siew J, Lo WN, Ye Y, Chew Y, Long YC, Zhang W, Ernesto Guccione E, Loh YH, Jiang ZH, Yang H and **Wu Q#**. Npac Is a Co-factor of Histone H3K36me3 and Regulates Transcriptional Elongation in Mouse ES Cells. ***Genomics, Proteomics and Bioimfomatics*** 2021 Mar 3;S1672-0229(21)00053-X. doi: 10.1016/j.gpb.2020.08.004. Online ahead of print.

22. Ng ZL, Siew J, Li J, Ji G, Yu S, Chew Y, Png CW, Zhang Y, Wen S, Yang H, Zhou Y, Long YC, Jiang ZH, **Wu Q#**. PATZ1 Cooccupies Genomic Sites with p53 and Inhibits Liver Cancer Cell Proliferation via Regulating p27. ***Frontiers in Cell and Developmental Biology*** Feb 1;9:586150. doi: 10.3389/fcell.2021.586150. eCollection 2021.

23. He MY, Xu SB, Qu ZH, Guo YM, Liu XC, Cong XX, Wang JF, Low BC, Li L, Wu Q, Lin P, Yan SG, Bao Z, Zhou YT, Zheng LL. Hsp90β interacts with MDM2 to suppress p53-dependent senescence during skeletal muscle regeneration. ***Aging Cell*** 2019 Oct;18(5):e13003.

24. Wong YQ, Xu H, **Wu Q**, Liu X, Lufei C, Xu XQ, Fu XY. STAT3-Inducible Mouse ESCs: A Model to Study the Role of STAT3 in ESC Maintenance and Lineage Differentiation. ***Stem Cells International*** 2018:8632950.

25. Chen L, Ye Y, Dai H, Zhang H, Zhang X, Wu Q, Zhu Z, Spalinskas R, Ren W, Zhang W. User-Friendly Genetic Conditional Knockout Strategies by CRISPR/Cas9. ***Stem Cells International*** 2018:9576959. 3.989

26. Yu S, Ma H, Ow JR, Goh Z, Chiang CM, Yang H[#], Loh YH[#] and **Wu Q[#]**. Zfp553 is essential for maintenance and acquisition of pluripotency. ***Stem Cells and Development*** 2016 25(1):55-67.

27. Ma H, Ow JR, Tan BC, Goh Z, Feng B, Loh YH, Fedele M[#], Li H[#] and **Wu Q[#]**. The dosage of Patz1 modulates reprogramming process. ***Scientific Reports*** 2014 Dec 17;4:7519.

28. Yang W, Lee YH, Jones AE, Woolnough JL, Zhou D, Dai Q, **Wu Q**, Giles KE, Townes TM and Wang H. The histone H2A deubiquitinase Usp16 regulates embryonic stem cell gene expression and lineage commitment. ***Nature Communications*** 2014 May 2;5:3818.

29. Ow JR, Ma H, Jean A, Lee YH, Chong YM, Soong R, Fu XY, Yang H[#] and **Wu Q[#]**. Patz1 regulates embryonic stem cell identity. ***Stem Cells and Development*** 2014 23 (10):1062-1073**.**

30. Ma H, Ng HM, Teh X, Li H, Lee YH, Chong YM, Loh YH, Collins JJ, Feng B, Yang H[#] and **Wu Q[#]**. Zfp322a regulates mouse ES cell pluripotency and enhances reprogramming efficiency. ***PLoS Genetics*** 2014 10(2): e1004038.

31. Do DV, Ueda J, Messerschmidt DM, Lorthongpanich C, Zhou Y, Feng B, Guo G, Lin PJ, Hossain MZ, Zhang W, Moh A, **Wu Q**, Robson P, Ng HH, Poellinger L, Knowles BB, Solter D and Fu XY. A genetic and developmental pathway from STAT3 to the OCT4-NANOG circuit is essential for maintenance of ICM lineages in vivo. ***Genes & Development*** 2013 27:1378-1390.

32. Ma H, Ow JR, Chen X and **Wu Q[#]**. With or without them: essential roles of cofactors in ES Cells. ***Journal of Stem Cell Research & Therapy*** 2012 S10:006.

33. Lee YH, Ma H, Tan TZ, Ng SS, Soong R, Mori S, Fu XY, Zernicka-Goetz M and **Wu Q[#]**. Protein arginine methyltransferase 6 regulates embryonic stem cell identity. ***Stem Cells and Development*** 2012 21(14):2613-2622.

34. **Wu Q[#]** and Ng HH[#]. Mark the transition: chromatin modifications and cell fate decision. ***Cell Research*** 2011 21(10):1388-1390.

35. Lee YH and **Wu Q[#]**. Chromatin regulation landscape of embryonic stem cell identity. ***Bioscience Reports*** 2011 31(2): 77-86.

36. **Wu Q***, Bruce AW*, Jedrusik A, Ellis PD, Andrews RM, Langford CF, Glover DM and Zernicka-Goetz M. CARM1 is required in ES cells to maintain pluripotency and resist differentiation. ***Stem Cells*** 2009 27(11):2637-2645.

37. Wu Q*, Chen X*, Zhang J, Loh YH, Low TY, Zhang W, Zhang W, Sze SK, Lim B, and Ng HH**.** Sall4 interacts with Nanog and co-occupies Nanog genomic sites in embryonic stem Cells. ***Journal of Biological Chemistry*** 2006 (281):24090-24094.

38. Loh YH*, **Wu Q***, Chew JL*, Vega VB, Zhang W, Chen X, Bourque G, George J, Leong B, Liu J, Wong KY, Sung KW, Lee CWH, Zhao XD, Chiu KP, Lipovich L, Kuznetsov VA, Robson P, Stanton LW, Wei CL, Ruan Y, Lim B and Ng HH. The Oct4 and Nanog transcription network regulates pluripotency in mouse embryonic stem cells. ***Nature Genetics*** 2006 (38): 431-440.

39. Wei CL, **Wu Q**, Vega V, Chiu KP, Ng P, Zhang T, Shahab A, Ridwan A, Fu YT, Weng Z, Liu JJ, Kuznetsov VA, Sung K, Lim B, Liu ET, Yu Q, Ng HH and Ruan Y. The precise global map of p53 transcription factor binding sites in the human genome. ***Cell*** 2006 (124): 207-219.

40. Zhang J, Tam WL, Tong GQ, **Wu Q**, Chan HY, Soh BS, Lou Y, Yang J, Ma Y, Chai L, Ng HH, Lufkin T, Robson P and Lim B. Sall4 modulates embryonic stem cell pluripotency and early embryonic development by the transcriptional regulation of *Pou5f1.* ***Nature Cell Biology*** 2006 (8):1114-1123.

41. Vikhanskaya F, Toh WH, Dulloo I, **Wu Q**, Boominathan L, Ng HH, Vousden KH and Sabapathy K. p73 supports cellular growth through c-Jun-dependent AP-1 transactivation. ***Nature Cell Biology*** 2007 9 (6): 698 –706.

42. Yan J, Jiang J, Lim CA, **Wu Q**, Ng HH and Chin KC**.** BLIMP1 regulates cell growth through repression of p53 transcription. ***Proceedings of the National Academy of Sciences*** 2007 104(6):1841-1846.

43. Wang X, Kua HY, Hu Y, Guo K, Zeng Q, **Wu Q**, Ng HH, Karsenty G, Crombrugghe BD, Yeh J and Li B. p53 functions as a negative regulator of osteoblastogenesis, osteoblast-dependent osteoclastogenesis, and bone remodeling ***Journal of Cell Biology*** 2006 172(1):115-125.

44. Luo M, Koh M, Feng J, **Wu Q** and Melamed P. Cross talk in hormonally regulated gene transcription through induction of estrogen receptor ubiquitylation. ***Molecular and Cellular Biology*** 2005 25 (16): 7386-7398.

45. Melamed P, Xue Y, Poon JFP, **Wu Q**, Xie H, Yeo J, Foo TWJ and Chua HK. The male seahorse synthesizes and secretes a novel C-type lectin into the brood pouch during early pregnancy ***FEBS Journal*** 2005 272(5):1221-1235.

46. **Wu Q**, Zhang W, Pwee KH and Kumar PP. Rice HMGB1 protein recognizes DNA structures and bends DNA efficiently. ***Archives of Biochemistry and Biophysics*** 2003 (411):105-111.

47. **Wu Q**, Zhang W, Pwee KH and Kumar PP. Cloning and characterization rice *HMGB1* gene. ***Gene*** 2003 (312):103-109.

48. Zhang W, **Wu Q**, Pwee KH and Kini MR. Interaction of wheat high-mobility-group proteins with four-way-junction DNA and characterization of the structure and expression of HMGA gene. ***Archives of Biochemistry and Biophysics*** 2003 (409):357-366.

49. Zhang W, **Wu Q**, Jois SDS, Pwee KH and Kini MR. Characterization of the interaction of wheat HMGa with linear and four-way junction DNAs. ***Biochemistry*** 2003 (42):6596-6607.

50. **Wu Q**, Liao L, Yang D, He G and Shu L. Random amplified polymorphic DNAs (RAPD) in wild rice. ***Journal of Tropical and Subtropical Botany*** (in Chinese), 1998 (6): 260-266.