

柳素玲

中国科学技术大学教授，博士生导师，中国科学院“百人计划”入选者；中组部“青年千人计划”入选者；2013年获得国家自然科学基金委“优青”基金。1997年毕业于中国科学技术大学生物系并获得学士学位；2003年获美国俄亥俄州立大学博士学位；2003-2010年在美国密歇根大学癌症研究中心从事癌症干细胞博士后研究工作；2010-2012年任美国密歇根大学医学院助理教授（作为独立PI分别获得了美国国防部，苏珊库门癌症基金会和AstraZeneca公司的研究经费）。2005-2008年获美国苏珊-库门癌症基金会博士后奖，2006年获美国癌症协会默克学者奖，2010年获美国癌症协会苏珊-库门学者奖，2014年获得USCACA - NCFR学术奖。在PNAS、Cancer Res.、Stem Cell Reports、JCI、Cell Stem Cell、JCO等国际杂志上共发表论文51篇（18篇为第一或通讯作者），论文他引超过4600次。现任World Journal of Stem Cells和ISRN cell biology等国际期刊编委。共申请国际专利五项。自从2003年首次发现实体瘤干细胞（乳腺肿瘤干细胞）以来，一直致力于创建和优化乳腺肿瘤干细胞的体内外实验技术，建立起来的体内外模型现已被广大肿瘤干细胞研究者所采用；研究了多种信号传导通路、肿瘤微环境以及小分子RNA对乳腺肿瘤干细胞的自我更新和分化的调控，其研究成果对于乳腺癌的新型治疗提供了强有力的理论依据。

代表性论文(27 out of 47)(*通讯作者):

1. J.Ke, Z. Zhao, S. Hong, S. Bai, Z. He, F. Malik, J. Xu, L. Zhou, W. Chen, R. Martin-Trevino, X. Wu, P. Lan, Y. Yi, C. Ginestier, I. Ibarra, L. Shang, S. McDermott, T. Luther, S.G. Clouthier, M.S. Wicha, **S. Liu***. Role of MicroRNA221 in regulating normal mammary epithelial hierarchy and breast cancer stem-like cells. *Oncotarget* 2014 (In press).
2. L. Deng, L. Shang, S. Bai, J. Chen, X. He, R. Martin-Trevino, S. Chen, X. Li, X. Meng, B. Yu, X. Wang, Y. Liu, S.P. McDermott, A.E. Ariazi, C. Ginestier, I. Ibarra, J. Ke, T. Luther, S.G. Clouthier, L. Xu, G. Shan, E. Song, H. Yao, G.J. Hannon, S.J. Weiss, M.S. Wicha, and **S. Liu***. MicroRNA100 Inhibits Self-Renewal of Breast Cancer Stem-like Cells and Breast Tumor Development. *Cancer Research* 74(22): 6648-6660, 2014. PMID: 25217527
3. S. Sun, **S. Liu**, S. Duan, L. Zhang, H. Zhou, Y. Hu, X. Zhou, C. Shi, R. Zhou, Z. Zhang. Targeting the c-Met/FZD8 signaling axis eliminates patient-derived cancer stem-like cells in head and neck squamous carcinomas. *Cancer Research* (In press), 2014.
4. Y. Liu, P. Qian, C. Chen, X. Lu, B. Sun, X. Zhang, L. Wang, X. Gao, H. Li, Z. Chen, J. Tang, W. Zhang, J. Dong, R. Bai, P.E. Lobie, Q. Wu, **S. Liu**, H. Zhang, F. Zhao, M.S. Wicha, T. Zhu, Y. Zhao. Fullerenol nanomaterial as a novel class of non-toxic cancer stem cell specific inhibitors. *Nat Communication* 2014 In press.
5. **S. Liu***, Y. Cong, D. Wang, Y. Sun, L. Deng, Y. Liu, R. Martin-Trevino, L. Shang, S.P. McDermott, M.D. Landis, S. Hong, A. Adams, R. D'Angelo, C. Ginestier, E. Charafe-Jauffret, S.G. Clouthier, D. Birnbaum, S.T. Wong, M. Zhan, J.C. Chang, M.S. Wicha. Breast cancer stem cells transition between epithelial and mesenchymal states reflective of their normal counterparts. *Cell: Stem Cell Reports* 2 (1): 78-91, 2014. PMC3916760
6. M. Luo, X. Zhao, S. Chen, **S. Liu**, M.S. Wicha, J.L. Guan. Distinct FAK activities determine progenitor and mammary stem cell characteristics. *Cancer Research* 73(17): 5591-602, 2013.
7. **S. Liu***, S.H. Patel, C. Ginestier, I. Ibarra, R. Martin-Trevino, S. Bai, S. McDermott, L. Shang, J. Ke, S.J. Ou, A. Heath, K.J. Zhang, H. Korkaya, S.G. Clouthier, E. Charafe-Jauffret, D. Birnbaum, G.J. Hannon, and M.S. Wicha. MicroRNA93 Modulates Breast Cancer Stem Cells by Regulating their EMT/MET States, Proliferation and Differentiation. *PlosGenetics* 8(6), 2012. (*Corresponding Author). PMID: 22685420.
8. **S. Liu**, H. Korkaya, M.S. Wicha. Are cancer stem cells ready for prime time? *The Scientist*. April 1, 2012.
9. H. Korkaya, G. Kim, A. Davis, F. Malik, L.N. Henry, S. Ithimakin, A.A. Quraishi, N. Tawakkol, R. D'Angelo, A.K. Paulson, S. Chung, T. Luther, H.J. Paholak, S. Liu, K.A. Hassan, Q. Zen, S.G. Clouthier, and M.S. Wicha. Activation

of an IL6 Inflammatory Loop Mediates Trastuzumab Resistance in HER2+ Breast Cancer by Expanding the Cancer Stem Cell Population. *Molecular Cell* 47: 1-15, 2012.

10. **S. Liu**, S.G. Clouthier, M.S. Wicha. Role of microRNAs in the regulation of breast cancer stem cells. *Journal of mammary gland biology and neoplasia February* 14 (online), 2012.

11. J. Wu, **S. Liu**, G. Liu, A. Dombkowski, J. Abrams, R. Martin-Trevino, M.S. Wicha, S.P. Ethier, Z.Q. Yang. Identification and functional analysis of 9p24 amplified genes in human breast cancer. *Oncogene*. 31(3):333-41, 2012. PMID: 21666724

12. **S. Liu***, C. Ginestier, S.J. Ou, S.G. Clouthier, S.H. Shivani, F. Monville, H. Korkaya, A. Heath, J. Dutcher, C. Kleer, Y. Jung, G. Dontu, R. Taichman, M.S. Wicha*. Breast Cancer Stem Cells Are Regulated by Mesenchymal Stem Cells through Cytokine Networks. *Cancer Res* 71(2); 614–24, 2011. (Cover featured, *Corresponding Author). PMID: 21224357

13. H. Korkaya, **S. Liu**, M.S. Wicha. Breast cancer stem cells, cytokine networks, and the tumor microenvironment. *Journal of Clinical Investigation*. 2011 Oct 3;121(10):3804-9. PMID: 21965337

14. I. Kryczek, **S. Liu**, M. Roh, L. Vatan, W. Szeliga, S. Wei, M. Banerjee, Y. Mao, J. Kotarski, M.S. Wicha, R. Liu, and W. Zou. Expression of aldehyde dehydrogenase and CD133 defines ovarian cancer stem cells. *International Journal of Cancer*. 2011. PMID: 21480217

15. H. Korkaya, **S. Liu**, M.S. Wicha*. Regulation of Cancer Stem Cells by Cytokine Networks: Attacking Cancers Inflammatory Roots. *Clin Cancer Res*. 17 (19) : 6125-6129, 2011. PMID: 21685479.

16. **S. Liu**, M. S. Wicha. Targeting breast cancer stem cells. *Journal of Clinical Oncology* 28(25): 4006-4012, 2010. PMID: 20498387

17. Y. Li, T. Zhang, H. Korkaya, **S. Liu**, H.F. Lee, B. Newman, Y. Yu, S.G. Clouthier, S.J. Schwartz, M.S. Wicha, and D. Sun. Sulforaphane, a Dietary Component of Broccoli/Broccoli Sprouts, Inhibits Breast Cancer Stem Cells. *Clinical Cancer Research* 16(9):2580-90, 2010. PMID: 20388854

18. C. Ginestier, **S. Liu**, M.E. Diebel, H. Korkaya, M. Luo, J. Dutcher, M. Brown, E. Charafe-Jauffret, D. Birnbaum, J.L. Guan, G. Dontu, M.S. Wicha. CXCR1 blockade selectively targets human breast cancer stem cells in vitro and in xenografts. *JCI* 120(2):485-97. PMID: 20051626

19. C. Ginestier, **S. Liu**, M.S. Wicha. Getting to the root of BRCA1-deficient breast cancer. *Cell Stem Cell* 5 (3): 229-230, 2009. PMID: 19733528

20. G Deniz, **S. Liu**, M.S. Wicha, A. Shukla, D Krag. Identification of Single Chain Antibodies to Breast Cancer Stem Cells Using Phage Display. *Biotechnology progress* 25(6):1780-7, 2009. PMID: 19899107

21. M. Luo, H. Fan, T. Nagy, H. Wei, C. Wang, S. Liu, M.S. Wicha, J.L. Guan. Mammary Epithelial-Specific Ablation of the Focal Adhesion Kinase Suppresses Mammary Tumorigenesis by Affecting Mammary Cancer Stem/Progenitor Cells. *Cancer Research* 62 (2): 466-474, 2009. PMID: 19147559

22. M. Kakarala, D.E. Brenner, H. Korkaya, C. Cheng, K. Tazi, C. Ginestier, **S. Liu**, G. Dontu, M.S. Wicha. Targeting breast stem cells with the cancer preventive compounds curcumin and piperine. *Breast Cancer Res Treat*. 2009. PMID: 19898931

23. S. Liu, C. Ginestier, E. Charafe-Jauffret, H. Foco, C.G. Kleer, S.D. Merajver, G. Dontu, M.S. Wicha. BRCA1 Regulates Human Mammary Stem/Progenitor Cell Fate. *PNAS (USA)* 105 (5): 1680-1685, 2008. PMID: 18230721

24. C. Ginestier, M.H. Hur, E. Charafe-Jauffret, F. Monville, J. Dutcher, M. Brown, J. Jacquemier, P. Viens, C.G. Kleer, **S. Liu**, A. Schott, D. Hayes, D. Birnbaum, M.S. Wicha, D. Dontu. ALDH1 is a marker of normal and malignant human mammary stem cells and a predictor of poor clinical outcome. *Cell Stem Cell* 1: 555-567, 2007. PMID:

18371393

25. **S. Liu**, G. Dontu, I. Mantle, S. Patel, N. Ahn, K.W. Jackson, P. Suri, and M.S. Wicha. Hedgehog signaling and Bmi-1 regulate self-renewal of normal and malignant human mammary stem cells. *Cancer Research* 66: 6063-6071, 2006.PMID: 16778178

26. M.S. Wicha, **S. Liu**, and G. Dontu. Cancer Stem Cells: An Old Idea--A Paradigm Shift. *Cancer Research* 66(4): 1883-1890, 2006.PMID: 16488983

27. **S. Liu**, G. Dontu, and M.S. Wicha. Mammary stem cells, self-renewal pathways, and carcinogenesis. *Breast cancer research* 7(3): 86-95, 2005.PMID: 15987436