

XING ZENG

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EDUCATION & TRAINING

- 2018-present Scientist I
Department of Cancer Biology, Dana Farber Cancer Institute
- 2012-2018 Postdoctoral Fellow
Department of Cancer Biology, Dana Farber Cancer Institute
Department of Cell Biology, Harvard Medical School
- 2005-2011 Ph.D.
Cell and Development Biology, Harvard University
- 2001-2005 B.S. with highest honor
Biological Sciences, Tsinghua University

RESEARCH EXPERIENCE

- 2020-present Assistant Professor of Physiology, Department of Physiology, University of Texas Southwestern Medical Center
- 2012-2020 Research with Dr. Bruce Spiegelman, Dana Farber Cancer Institute, Harvard Medical School
Molecular mechanisms of adipose thermogenesis
- 2005-2011 Doctoral Research with Dr. Randall King, Harvard Medical School
Mechanism of Small Molecule Inhibitor of Anaphase-Promoting Complex
- 2004-2005 Undergraduate Research with Dr. Yongzhang Luo, Tsinghua University
Fibrinogen-assisted refolding of denatured endostatin

HONORS

- 2001 First prize in National High School Physics Competition, China
- 2001 First prize in National High School Chemistry Competition, China
- 2002 Novozyme Scholarship
- 2002 Highest Distinction in Undergraduates' Physics Competition of Beijing
- 2004 Hewlett-Packard Scholarship (awarded to 30 undergraduates in China)
- 2005 Merit Student of Beijing (awarded to 1 student per department)
- 2005 Excellent Undergraduate of Beijing
- 2005 Excellent Undergraduate of Tsinghua University (awarded to 2 students per department)
- 2010 Chinese Government Award for Outstanding Self-financed Students Abroad

2014 American Heart Association Fellowship
2020 Endowed Scholar, UT Southwestern Medical Center
2020 Cancer Prevention and Research Institute of Texas, First-time Tenure Track Faculty Award

PUBLICATIONS

1. **Zeng, X.**, Sigoillot, F., Gaur, S., Choi, S., Pfaff, K.L., Oh, D.-C.C., Hathaway, N., Dimova, N., Cuny, G.D., and King, R.W. (2010). Pharmacologic inhibition of the anaphase-promoting complex induces a spindle checkpoint-dependent mitotic arrest in the absence of spindle damage. *Cancer Cell* 18, 382–395. [PMID: 20951947](#)
2. **Zeng, X.**, and King, R.W. (2012). An APC/C inhibitor stabilizes cyclin B1 by prematurely terminating ubiquitination. *Nat. Chem. Biol.* 8, 383–392. [PMID: 22366722](#)
3. Sackton, K.*, Dimova, N.*, **Zeng, X.***, Tian, W.*, Zhang, M., Sackton, T., Meaders, J., Pfaff, K., Sigoillot, F., Yu, H., et al. (2014). Synergistic blockade of mitotic exit by two chemical inhibitors of the APC/C. *Nature*, 514, 646–649. *co-first authors. [PMID: 25156254](#)
4. Ye, L., Wu, J., Cohen, P., Kazak, L., Khandekar, M.J., Jedrychowski, M.P., **Zeng, X.**, Gygi, S.P., and Spiegelman, B.M. (2013). Fat cells directly sense temperature to activate thermogenesis. *Proceedings of the National Academy of Sciences* 110, 12480–12485. [PMID: 23818608](#)
5. Long, J., Svensson, K., Tsai, L., **Zeng, X.**, Roh, H., Kong, X., Rao, R., Lou, J., Lokurkar, I., Baur, W., et al. (2014). A smooth muscle-like origin for beige adipocytes. *Cell Metabolism* 19, 810-820. [PMID: 24709624](#)
6. Cohen, P., Levy, J.D., Zhang, Y., Frontini, A., Kolodin, D.P., Svensson, K.J., Lo, J.C., **Zeng, X.**, Ye, L., Khandekar, M.J., et al. (2014). Ablation of PRDM16 and beige adipose causes metabolic dysfunction and a subcutaneous to visceral fat switch. *Cell* 156, 304–316. [PMID: 24439384](#)
7. **Zeng, X.**, Jedrychowski, P.M., Chen, Y., Serag, S., Lavery, G.G., Gygi, P.S, Spiegelman, B.S. (2016) Lysine-Specific Demethylase 1 Promotes Brown Adipose Tissue Thermogenesis via Repressing Glucocorticoid Activation. *Genes & Development*, 30, 1822-1836. [PMID: 27566776](#)
8. Chen, Y.*, **Zeng, X.***, Huang, X., Serag Sara & Spiegelman, B. (2017) Crosstalk Between Kcnk3-mediated Ion Currents and Adrenergic Signaling Regulates Brown Adipose Thermogenesis and Obesity. *Cell*, 171, 836-848. *co-first authors [PMID: 28988768](#)
9. **Zeng, X.**, Ye, M., Resch, M.J., Jedrychowski, P.M., Hu, B., Lowell, B.L., Ginty, D.D. & Spiegelman, B.S. (2019) Innervation of Thermogenic Adipose Tissue through a Calsyntenin-3 β /S100b axis. *Nature*, 569, 229-235, with News and Views “Why brown fat has a lot of nerve”. [PMID: 31043739](#)
10. Hu, B.*, Jin, C.*, **Zeng, X.***, Resch, M.J., Jedrychowski, P.M., Zhao, C., Yang, Z., Banks, A., Lowell, B.L., Mathis, D. & Spiegelman, B.S. $\gamma\delta$ T cells and adipocyte IL-

17RC control fat innervation and thermogenesis. *Nature*, 578, 610–614 (2020) *co-first authors. [PMID: 32076265](https://pubmed.ncbi.nlm.nih.gov/32076265/)

TECHNOLOGICAL INNOVATIONS

Inhibitors of Anaphase Promoting Complex Activity, International Patent Application No. PCT/US2010/026505, filed on March 8, 2010, Issued on Dec 8, 2015

Cell Permeable Inhibitors of Anaphase Promoting Complex, International Patent Application No. PCT/US11/50203, filed September 1, 2011

INVITED LECTURES

- 2011 Presentation, “Mechanism of a Small Molecule Inhibitor of the Anaphase-Promoting Complex”, Boston Area Mitosis and Meiosis Meeting, Whitehead Institute, Cambridge, MA.
- 2012 Presentation, “Mechanism of a Small Molecule Inhibitor of the Anaphase-Promoting Complex”, 2nd Annual Ubiquitin Research in Drug Discovery Conference, Las Vegas, NV. Annual UT Southwestern Biochemistry Symposium
- 2019 Presentation, “Molecular Basis of Sympathetic Innervation of Thermogenic Adipose Tissue”, The Third Annual Conference of Chinese Society for Metabolic Biology, Shanghai, China.

TEACHING & MENTORING EXPERIENCE

- 2008-2010 Teaching Assistant, Molecular and Cellular Basis of Medicine, Harvard Medical School
- 2012-2014 Tutorial leader, Molecular and Cellular Basis of Medicine, Harvard Medical School