

# Resume

**Name:** Li, Ying

**Sex:** Female

**Citizenship:** Singapore

**E-mail:** [livinglynn@gmail.com](mailto:livinglynn@gmail.com)

**ORCID:** 0000-0002-6859-7208

## EDUCATION

**National University of Singapore**, Singapore

Ph.D., Biochemistry/Molecular Biology, 2005

**Ji Nan University**, Guangzhou China

Master, Biochemistry/Molecular Biology, July 2000

**Xiang Ya Medical University (Central South University)**, Hu Nan, China

B.S.M., Clinical Medicine, July 1995

## RESEARCH & Working Experience

**University of Utah**, Laboratory of Dr. Scott Andrew Summers

Research Instructor, Nutrition and Integrative Physiology, College of Health, Sept. 2016-Now

**Duke-NUS Graduate Medical School**, Laboratory of Dr. Scott Andrew Summers

Research Fellow, Division of Cardiovascular and Metabolic Disorders, July 2010-2014

**Duke-NUS Graduate Medical School**, Laboratory of Dr. Zhen Yan

Research Fellow, Division of Cardiovascular and Metabolic Disorders, November 2006- August 2008 (Resigned to take care of the new born baby)

**University of Hong Kong**, Laboratory of Dr. Marie C. Lin

Research Fellow, Institute of Molecular Biology, 2004-2005

**Central Hospital of Zhu Hai, China**

Surgeon, E.N.T. department (1995-1997)

## TEACHING EXPERIENCE

Lecture, Human Genetics (2007), **Southern Medical University, China**

Lecture, Biochemistry (2001), **Sun-Yat Medical University, China**

## TRAININGS

August 27 – 31, 2007, **Glucose Clamping the Conscious Mouse: A Laboratory Course**, OFFERED BY THE VANDERBILT-NIDDK MMPC, Nashville, Tennessee.

April 11-16, 2012, 68<sup>th</sup> International Workshop on HRR, OFFERED BY OROBOROS INSTRUMENTS, Schrocken, Vorarlberg, Austria.

## PERSONAL STATEMENT

The major interest of my research career has been to understand how lipid metabolism is involved in the etiology of diabetes and other related metabolic disorders. As a research instructor within the laboratory of Scott Summers, which studies sphingolipid metabolism, I have developed my own interest about how sphingolipids such as ceramides act as critical link between nutrients oversupply and intestinal stem cell regeneration and intestinal tumorigenesis. This leads to a manuscript which is under reviewing by Cell Stem Cell. Besides that, based on these interesting findings, we submitted a RO1 from NIH, focusing on a new sphingolipids centered mechanism of colorectal carcinogenesis. We got very good score and this project is highly possible to be funded.

Another focus of my current efforts is on establishing proper in vitro and in vivo models for mitochondrial investigation, which will allow us to study ceramide function in tissue- and cell type-specific ways. My skills in this area were honed in Singapore, where I created and managed a core mitochondrial phenotyping facility with two key instruments, Seahorse XF Analyzers and Oroboros Oxygraph-2k. The services I provided including experimental designing, instrument operation training, data analysis, and troubleshooting. The core helped investigators from diverse disciplines to gauge mitochondrial function in their system and led to lots of successful research findings and publications. Below listed some of paper from a close cooperation. There are numerous other papers used the data acquired through the core services.

- Sukarieh R, Joseph R, Leow SC, Li Y, Löffler M, Aris IM, Tan JH, Teh AL, Chen L, Holbrook JD, Ng KL, Lee YS, Chong YS, Summers SA, Gluckman PD, Stünkel W. (2014) Molecular pathways reflecting poor intrauterine growth are found in Wharton's jelly-derived mesenchymal stem cells. *Hum Reprod.* 29(10):2287-301. PMID: 25129543

- Teh JT, Zhu WL, Ilkayeva OR, Li Y, Gooding J, Casey PJ, Summers SA, Newgard CB, Wang M. (2015) Isoprenylcysteine carboxymethyltransferase regulates mitochondrial respiration and cancer cell metabolism. *Oncogene* 34(25):3296-304. PMID: 25151967

- Lee MH, Goralczyk AG, Kriszt R, Ang XM, Badowski C, **Li Y**, Summers SA, Toh SA, Yassin MS, Shabbir A, Sheppard A, Raghunath M. (2016) ECM microenvironment unlocks brown adipogenic potential of adult human bone marrow-derived MSCs. *Sci Rep.* 6, 21173. PMID: 26883894 PMCID: PMC4756694

## PUBLICATION

1. **Ying Li**, Bhagirath Chaurasia, Vincent Kaddai, Joseph L. Wilkerson, J. Alan Maschek, James Cox, Peng Wei, Claire Bensard, Peter J Meikle, Hans Clevers, James A Shayman, Yoshio Hirabayashi, William L. Holland, Jared Rutter, Scott A. Summers. Serine Palmitoyltransferase Controls Stemness of Intestinal Progenitors. Under review by *Cell Stem Cell*.
2. **Ying Li**, Scott A. Summers. Ceramide signaling in the gut. Under review by *Molecular and Cellular Endocrinology*.
3. **Ying Li**, Scott A. Summers, William L. Holland. Gutting out Myc to decrease ceramides. *Nature Metabolism*, 01 July 2021.
4. **Ying Li**, Chad Lamar Talbot and Bhagirath Chaurasia. Ceramides in Adipose Tissue. *Frontiers in Endocrinology*, 19 June 2020.
5. Chaurasia B, Tippetts TS, Monibas RM, Liu J, **Li Y**, Wang L, Wilkerson JL, Sweeney CR, Pereira RF, Sumida DH, Maschek JA, Cox JE, Kaddai V, Lancaster GI, Siddique MM6, Poss A, Pearson M, Satapati S, Zhou H, McLaren DG, Previs SF, Chen Y, Qian Y, Petrov A, Wu M, Shen X, Yao J, Nunes CN, Howard AD, Wang L, Erion MD, Rutter J, Holland WL, Kelley DE, Summers SA. Targeting a ceramide double bond improves insulin resistance and hepatic steatosis. *Science*, 04 Jul 2019: eaav3722, DOI: 10.1126/science.aav3722, [Epub ahead of print]
6. **Ying Li**, Tippetts Trevor Stanley, Chaurasia, Bhagirath. Ceramide Dependent Lipotoxicity in Metabolic Diseases. *Nutrition and Healthy Aging*. 2017;
7. Lee MH, Goralczyk AG, Kriszt R, Ang XM, Badowski C, **Li Y**, Summers SA, Toh SA, Yassin MS, Shabbir A, Sheppard A, Raghunath M. ECM microenvironment unlocks brown adipogenic potential of adult human bone marrow-derived MSCs. *Scientific Report*. 2016; 6: 21173.
8. Raichur S, Wang ST, Chan PW, **Li Y**, Ching J, Chaurasia B, Dogra S, Öhman MK, Takeda K, Sugii S, Pewzner-Jung Y, Futerman AH, Summers SA. CerS2 haploinsufficiency inhibits  $\beta$ -oxidation and confers susceptibility to diet-induced steatohepatitis and insulin resistance. *Cell Metabolism*, 20(4):687-95, 2014.
9. Sukarieh R, Joseph R, Leow SC, **Li Y**, Löffler M, Aris IM, Tan JH, Teh AL, Chen L, Holbrook JD, Ng KL, Lee YS, Chong YS, Summers SA, Gluckman PD, Stünkel W. Molecular pathways reflecting poor intrauterine growth are found in Wharton's jelly-derived mesenchymal stem cells. *Human Reproduction*. 29(10):2287- 30, Oct 10, 2014.
10. Teh JT, Zhu WL, Ilkayeva OR, Li Y, Gooding J, Casey PJ, Summers SA, Newgard CB, Wang M. Isoprenylcysteine carboxylmethyltransferase regulates mitochondrial respiration and cancer cell metabolism. *Oncogene*. 34(25):3296-304, Jun 2015.

11. Monowarul M Siddique, **Li Ying** (MMS and LY contributed equally), Liping Wang, Ching Jianhong, Mainak Mal, Olga Ilkayeva, Ya Jun Wu, Boon Huat Bay, Scott A Summers. Ablation of Dihydroceramide Desaturase-1, A Therapeutic Target for the Treatment of Metabolic Diseases, Simultaneously Anabolic And Catabolic signaling. *Molecular and Cellular Biology*. April, 2013.
12. Monowarul M Siddique, Benjamin T Bikman, Liping Wang, **Li Ying**, Erin Reinhardt, Guanghou Shui, Markus R Wenk, Scott A Summers. Ablation of Dihydroceramide Desaturase Confers Resistance to Etoposide-Induced Apoptosis In Vitro. *PLoS one*. Sept: 7(9), 2012.
13. Rohit Anthony Sinha, Benjamin L Farah, Brijesh K Singh, Monowarul Mobin Siddique, **Ying Li**, Yajun Wu, Olga R Ilkayeva, Jessica Gooding, Jianhong Ching, Jin Zhou, Laura Martinez, Sherwin Xie, Boon-Huat Bay, Scott A Summers, Christopher B Newgard, Paul M Yen. Caffeine stimulates hepatic lipid metabolism by the autophagy-lysosomal pathway in mice. *Hepatology*. Vol 59, No.4. 2014.
14. **Li Y**, Wang J, Lee CG, Wang CY, Gao SJ, Tang GP, Ma YX, Yu H, Mao HQ, Leong KW, Wang S. CNS gene transfer mediated by a novel controlled release system based on DNA complexes of degradable polycation PPE-EA: a comparison with polyethylenimine/DNA complexes. *Gene Therapy*. 11(1):109- 14, Jan, 2004.
15. **Li Y**, Wang X, Guo H, Wang S. Axonal transport of recombinant baculovirus vectors. *Molecular Therapy*. 10(6):1121-9, Dec 2004.
16. **Li Y**, Yang Y, Guo H, Wang S. Neuronal gene transfer by baculovirus-derived vectors accommodating a neurone-specific promoter. *Experimental Physiology*. 90(1):39-44, Nov 12, 2004.
17. L Shi, G P Tang, S J Gao, Y X Ma, B H Liu, **Y Li**, J M Zeng, Y K Ng, K W Leong and S Wang. Repeated intrathecal administration of plasmid DNA complexed with polyethylene glycol-grafted polyethylenimine led to prolonged transgene expression in the spinal cord. *Gene Therapy*, 1179–1188, 2003.
18. G. P. Tang, J. M. Zeng, S. J. Gao, Y. X. Ma, L. Shi, **Y. Li**, H. -P. Too and S. Wang. Polyethylene glycol modified polyethylenimine for improved CNS gene transfer: effects of PEGylation extent. *Biomaterials*. June 2003.
19. **Y Li**, JS Feng, WD Li, Screen for the new variant of defective receptor-binding apolipoprotein B-100, *National Medical Journal of China*, 81(23), 2001.
20. **Y Li**, JS Feng. The Cap Structure and Cap-Binding Protein of mRNA in Eukaryotes[J]. *Life Science Research*, 3(4):286-291, 1999.
21. **Y Li**, JS Feng. Development of the Research on the Receptor Binding Domain of Apolipoprotein B-100 and FDB. *Chinese Journal of Modern Medicine*, 9(9):39-40, 1999.

## PATENTS

Wang Shu , **Li Ying**, GENE DELIVERY TO NEURONAL CELLS, European Patent EP1747277, 08/10/2011;  
 Wang Shu, **Ying Li**, METHOD FOR GENE DELIVERY TO NEURONAL CELLS, WIPO Patent Application WO/2005/100577, 27/10/2005.

## **Grant**

1. USDA, 2019-67018-29250, Isaria Sinclairii & Cordyceps Extracts for the Treatment of Insulin Resistance. Term 07/01/2020-02/28/2021. Role on Project: Program Director (Research Instructor)
2. NIH-R01 DK115824-01. Role of Ceramides in Skeletal Muscle. Total Costs: 3,583,770. Term 9/1/2017-8/31/2022. Role on Project: Key Personnel (Research Instructor)
3. American Heart Association. Role of Portal Ceramides in Metabolic Homeostasis. Total Costs: \$154,000. Term 7/1/2017-6/30/2019. Role on Project: Key Personnel (Research Instructor)