

# Novel pathways in cholesterol metabolism to combat cardiometabolic diseases

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#### Citation

Zhou, E. (2021, April 28). *Novel pathways in cholesterol metabolism to combat cardiometabolic diseases*. Retrieved from https://hdl.handle.net/1887/3161375

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Author: Zhou, E.

Title: Novel pathways in cholesterol metabolism to combat cardiometabolic diseases

**Issue date**: 2021-04-28

#### List of publications

- **Zhou** E, Nakashima H, Li R, van der Zande HJP, Liu C, Li Z, Müller C, Bracher F, Mohammed Y, de Boer JF, Kuipers F, Guigas B, Rensen PCN, Giera M, Wang Y. Inhibition of DHCR24 ameliorates hepatic steatosis and inflammation through LXRα without inducing hyperlipidemia. *Submitted*.
- Paalvast Y, **Zhou** E, Mulder NL, Koehorst M, Wolters JC, van Dijk KW, Rensen PCN, Kuivenhoven JA, Kremoser C, Wang Y, Kuipers F, van Riel NAW, Groen AK, de Boer JK. FXR activation resolves dyslipidemia and decreases adiposity in APOE\*3-Leiden.CETP transgenic mice fed a Western-type diet. *Submitted*.
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- Li Z, **Zhou E**, Razack F, Kooijman S, Willems van Dijk K, Rensen PCN, Wang Y. Dietary butyrate promotes intestinal GLP-1 release, reduces appetite and induces fat oxidation via central GLP-1 receptor signaling. *Submitted*.
- **Zhou E**, Li Z, Nakashima H, Choukoud A, Kooijman S, Berbée JFP, Rensen PCN, Wang Y. Beneficial effects of brown fat activation on top of PCSK9 inhibition with alirocumab on dyslipidemia and atherosclerosis development in APOE\*3-Leiden.CETP mice. **Pharmacol Res 2021**; *In press*.
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- **Zhou E\***, Hoeke G\*, Li Z, Eibergen AC, Schonk AW, Koehorst M, Boverhof R, Havinga R, Kuipers F, Coskun T, Boon MR, Groen AK, Rensen PCN, Berbée JFP, Wang Y. Colesevelam enhances the beneficial effects of brown fat activation on hyperlipidaemia and atherosclerosis development. **Cardiovasc Res 2020**; 116(10): 1710-1720. [\*Authors contributed equally]
- Körner A, **Zhou E**, Müller C, Mohammed Y, Herceg S, Bracher F, Rensen PCN, Wang Y, Mirakaj V, Giera M. Inhibition of  $\Delta 24$ -dehydrocholesterol reductase activates pro-resolving lipid mediator biosynthesis and inflammation resolution. **Proc Natl Acad Sci USA 2019**; 116(41): 20623-20634.
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#### **Curriculum vitae**

Enchen Zhou was born on 28 January 1991 in Gongzhuling, Jilin province, China. In September 2009, he started his bachelor program 'Marine Biological Resources and Environment' and received his BSc degree in June 2013, at the Ocean University of China, Qingdao, Shandong province, China. Later on, in September 2013, he was admitted as a postgraduate candidate exempt from the Admission Exam and majored in 'Pathophysiology' at the Key Laboratory of Molecular Cardiovascular Sciences of the Ministry of Education, Health Science Center, Peking University, Beijing, China. During this 3-year master program, he completed the thesis entitled 'Metabolic regulation of endothelial cells by high density lipoprotein', under the supervision of Prof. dr. Lemin Zheng, and obtained his MSc degree in June 2016.

Subsequently, he was awarded financial support from the China Scholarship Council and started his PhD program in October 2016 under the supervision of Prof. dr. Patrick C.N. Rensen and Prof. dr. Yanan Wang, at the Division of Endocrinology of the Department of Internal Medicine, Leiden University Medical Center, Leiden, The Netherlands. His research mainly focused on the discovery of novel targets in cholesterol metabolism for the treatment of cardiometabolic diseases, including atherosclerosis and nonalcoholic steatohepatitis. The results of his PhD studies are presented in this thesis. In January 2021, he continued his research on the role of myeloid cells in cardiometabolic diseases as a postdoc scholar under the supervision of Prof. dr. Christopher K. Glass, at the Department of Cellular and Molecular Medicine in The University of California, San Diego, School of Medicine.

#### Acknowledgements

Firstly, I would like to express my sincere gratitude to my promotor **Prof. dr. Patrick Rensen**. Many thanks for your patience, encouragement, and insightful instructions during more than 4 years of research. You never forced me to do anything, but you always led by example and inspired me to be the best. I dream to be a researcher like you. **Prof. dr. Yanan Wang**, my co-promotor. Many thanks for your patient guidance and all your support over the years. The valuable skills and experience I have learnt from you have given me fundamental support for my career.

I would like to pay my special gratitude to **Dr. Jimmy Berbée**, who unfortunately passed way in April 2020. Thanks for your guidance and support during my study and excellent suggestions for improving my writing.

My sincere thanks to all of ENDO colleagues. They let me fall in love with the Netherlands and like academic research. Sander, many thanks for your criticism and suggestions on my studies and behavior. Geerte, Zhuang, Hiroyuki, Cong, Zhixiong, Robin, Wietse, Milena, Jinlan, Andrea, Eline, Maaike<sup>1</sup>, Maaike<sup>2</sup>, and Xiaoke, I was really happy working together with you, and thanks for your great contributions to my PhD studies. Many thanks to Mariëtte, Borja, Lisanne, Laura, Jan, Aashley, Lisa, Rob, Anne-Sophie, Eva, and Joost for their suggestions and discussions during the MHRM. And thanks to Prof. dr. Ko Willems van Dijk and Prof. dr. Onno Meijer for their critical suggestions on my PhD studies.

I would like to thank Prof. dr. Albert Groen, Prof. dr. Folkert Kuipers, Prof. dr. Franz Bracher, Dr. Martin Giera, and Dr. Bruno Guigas for their experimental support and excellent suggestions.

I would like to thank Andreas and Christoph for their invaluable collaboration in the DHCR24 studies. Many thanks to Rumei, Jan Freark, and Patrick<sup>2</sup> for their full support in establishing Chapter 6. I would like to thank Chris, Trea, Hetty, Reshma, Amanda, Isabel, Rick and Elsbeth for their perfect technical support.

I would like to thank all my Chinese friends in Europe and China. You made my 4-years PhD life colorful. Particularly, Qi and Xiaoyu, also as volunteer blood donors in Chapter 2 and 3, thanks for sharing your knowledge and positive opinions.

Finally, I would like to thank my parents, my older sisters, and brothers-in-law. Thanks for your understanding, unconditional love and support. Without them, this day would not have been possible.

Enchen Zhou

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