Lipid signaling and inflammation: metabolomics for better diagnosis and treatment strategy

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Curriculum Vitae

Wei Yang was born on May 17th, 1991 in Hefei, Anhui Province, China. After graduating from No.8 High School of Hefei in 2009, she was admitted to the major of Pharmaceutical Science at China Pharmaceutical University in Nanjing. She was awarded first-grade and second-grade scholarships between 2009-2013.

In 2013, she obtained her bachelor's degree and was admitted as a recommended postgraduate majoring in pharmacokinetics in the same university. During her master's study, she worked on multiple pre-clinical and clinical pharmacokinetic studies focusing on development and validation of LC-MS/MS methods for drug analysis based on CFDA guidelines. She also studied the roles of drug transporters and enzymes to evaluate drug ADME (absorption, distribution, metabolism and excretion). In 2014, she participated in the 'Challenge Cup' National College Student Academic Science and Technology Competition as a representative of her university. She received National-level Gold Award which is the highest award. In June 2016, she obtained her MSc degree. She was awarded the China National Scholarship which is the top award by the Chinese government for outstanding students in each university.

In October 2016, she started her PhD research under the supervision of Prof. Dr. Thomas Hankemeier and Dr. Amy Harms at Leiden Academic Centre for Drug Research (LACDR). Between 2016 and 2022, she has developed and validated a comprehensive and sensitive LC-MS/MS method for simultaneous profiling of more than 200 signaling lipid molecules. She has dedicated herself to exploring the roles of signaling lipid molecules in various pathophysiological conditions. Throughout the course of her PhD, she presented her work at both national and international conferences. Oral presentations were given at international conference Metabolomics (The Netherlands, 2019), Dutch conference COAST (The Netherlands, 2019) and LACDR Spring Symposium (2019). Poster presentations were given at international conference Keystone Lipidomics (USA, 2019) and Dutch conference CHAINS (The Netherlands, 2017-2018). In 2020, she was awarded the 1st poster prize at the LACDR Spring Symposium.

Currently, she is working at Leiden University as a postdoctoral researcher, leading several projects involving neuroinflammation in Alzheimers, mechanisms of COVID-19 infections, and for further improvements to developed platform.

List of Publications

Publications related to this thesis:

1. **Yang W**, Schoeman J, Lamont L et al. A comprehensive UHPLC-MS/MS method for metabolomics profiling of signaling lipids: markers of oxidative stress, immunity and inflammation. (In preparation)
2. Jurado-Fasoli L*, **Yang W***, Kohler I, et al. Effect of Different Exercise Training Modalities on Fasting Levels of Oxylipins and Endocannabinoids in Middle-Aged Sedentary Adults: A Randomized Controlled Trial[J]. International Journal of Sport Nutrition and Exercise Metabolism, 2022, 1(aop): 1-10. *The authors contributed equally.
3. Di Zazzo A*, **Yang W***, Coassin M, et al. Signaling lipids as diagnostic biomarkers for ocular surface cicatrizing conjunctivitis[J]. Journal of Molecular Medicine (Berlin, Germany), 2020, 98(5): 751. *The authors contributed equally.
4. Teitsma X M*, **Yang W***, Jacobs J W G, et al. Baseline metabolic profiles of early rheumatoid arthritis patients achieving sustained drug-free remission after initiating treat-to-target tocilizumab, methotrexate, or the combination: insights from systems biology[J]. Arthritis research & therapy, 2018, 20(1): 230. *The authors contributed equally.

Other publications:

5. Jurado-Fasoli L, Osuna-Prieto F J, **Yang W**, et al. High omega-6/omega-3 fatty acid and oxylipin ratio in plasma is linked to an adverse cardiometabolic profile in middle-aged adults[J]. The Journal of Nutritional Biochemistry, 2023, 117: 109331.
6. Jurado-Fasoli L, Di X, Sanchez-Delgado G, **Yang W**, Osuna-Prieto F.J., Ortiz-Alvarez L, ... & Martinez-Tellez B. (2022). Acute and long-term exercise differently modulate plasma levels of oxylipins, endocannabinoids, and their analogues in young sedentary adults: A sub-study and secondary analyses from the ACTIBATE randomized controlled-trial. EBioMedicine, 85, 104313.
7. Jurado-Fasoli L, Di X, Kohler I, Osuna-Prieto F.J., Hankemeier T, Krekels E, Harms A, **Yang W**, ... & Martinez-Tellez B. (2022). Omega-6 and omega-3 oxylipins as

potential markers of cardiometabolic risk in young adults. Obesity, 30(1), 50-61.

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9. Junaid A, van Duinen V, Stam W, Dólleman S, **Yang W**, de Rijke Y, ... & van Zonneveld A.J. (2021). A Microfluidics-Based Screening Tool to Assess the Impact of Blood Plasma Factors on Microvascular Integrity. Advanced Biology, 5(11), 2100954.
10. He Y, **Yang W**, Huang L, Mever M, Ramautar R, Harms A, Rijksen Y, Brandt, SanderBarnhoorn R, Smit K, Jaarsma D, Lindenburg PW, Hoeijmakers JH, Vermeij WP,Hankemeier T. Metabolomic analysis of dietary-restriction-induced attenuation ofsarcopenia in prematurely aging DNA repair-deficient mice. Journal of Cachexia,Sarcopenia and Muscle. (Submitted)
11. He Y, van Mever M, **Yang W**, et al. A Sample Preparation Method for the Simultaneous Profiling of Signaling Lipids and Polar Metabolites in Small Quantities of Muscle Tissues from a Mouse Model for Sarcopenia[J]. Metabolites, 2022, 12(8): 742.
12. **Yang W**, Zhang Q, Yang Y, et al. Epigallocatechin-3-gallate decreases the transport and metabolism of simvastatin in rats[J]. Xenobiotica, 2017, 47(1): 86-92.
13. Zhang Q, **Yang W**, Yang Y, et al. Comparative pharmacokinetic studies of racemic oxiracetam and its pure enantiomers after oral administration in rats by a stereoselective HPLC method[J]. Journal of pharmaceutical and biomedical analysis, 2015, 111: 153-158.
14. Zhang Q, **Yang W,** Zhang Q, et al. Enantioselective HPLC determination of oxiracetam enantiomers and application to a pharmacokinetic study in beagle dogs[J]. Journal of Chromatography B, 2015, 993: 9-13.
15. Zhang Q, **Yang W**, Song H, et al. Tissue distribution and ontogeny of multidrug resistance protein 2, a phosphatidylcholine translocator, in rats[J]. European journal of drug metabolism and pharmacokinetics, 2016, 41(1): 87-91.

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