Curriculum Vitae

Yuan He, Ph.D
Assistant Professor
Department of Microbiology, Immunology and Biochemistry
Wayne State University School of Medicine
540 E Canfield Ave, Rm 7374 Scott Hall
Detroit, MI 48201
Tel: (313) 577-5075
Email: yhe@med.wayne.edu

Education

1998 B. S., Biology, *Nanchang University*, Jiangxi, China
2001 M.S., Zoology, *East China Normal University*, Shanghai, China
2007 M.S., Microbiology, *University of Illinois at Urbana-Champaign*, IL, USA
2011 Ph.D., Cell and Developmental Biology, *University of Illinois at Urbana-Champaign*, IL, USA

POSITIONS

- 04/2017-Current, Assistant Professor, Wayne State University School of Medicine, Detroit, MI, USA
- 07/2016-03/2017, Research Investigator, University of Michigan Medical School, Ann Arbor, MI, USA
- 06/2011-06/2016, Postdoctoral fellow, University of Michigan Medical School, Ann Arbor, MI, USA
- 01/2007-05/2011, Graduate student research assistant, University of Illinois at Urbana-Champaign, IL, USA.
- 08/2005-12/2006, Graduate student research assistant, University of Illinois at Urbana-Champaign, IL, USA.
- 08/2003-05/2005, Graduate student research assistant, University of Houston, TX, USA
- 07/2001-07/2003, Research Associate, Shanghai Institute of Planned Parenthood Research (a WHO collaborating Center in China), Shanghai, China
- 09/1998-06/2001, Graduate student research assistant, East China Normal University, Shanghai, China

TEACHING AND SUPERVISORY EXPERIENCE

University of Illinois at Urbana-Champaign

- Trained and supervised three undergraduate students as a senior graduate student 2007-2009
- Teaching assistant, Laboratory course of Experimental Techniques in Cell Biology (MCB253), 2005-2010
- Feedback from students included positive comments on my approachability, courtesy, knowledge of material and teaching strategies.
- Named to the campus-wide List of Teachers Ranked as Excellent by Their Students (4 times).

University of Houston

Teaching assistant, Genetics Laboratory (BIOL 3201), 2003-2004

PUBLICATIONS

1. **He Y.**, Hara H., and Núñez G. Mechanism and regulation of NLRP3 inflammasome activation. *Trends Biochem Sci*. 2016 41 (12): 1012-1021.

2. **He Y.**, Zeng M., Y., Yang D., Motro B., and Núñez G. Nek7 is an essential mediator of NLRP3 activation downstream of potassium efflux. ***Nature*.** 2016 Feb 18; 530(7590):354-7

3. Yang D., **He Y.**, Muñoz-Planillo R., Liu Q. and Núñez G. Caspase-11 Requires the Pannexin-1 Channel and the Purinergic P2X7 Pore to Mediate Pyroptosis and Endotoxic Shock. ***Immunity***. 2015 43(5) 923–932.

4. Suzuki S, Franchi L, **He Y**, Munoz-Planillo R, Mimuro H, et al.. ShigellaType III Secretion Protein MxiI Is Recognized by Naip2 to Induce Nlrc4 Inflammasome Activation Independently of Pkcd. ***PLoS Pathog*** 2014 10(2): e1003926. doi:10.1371/journal.ppat.1003926

5. Byrne M., Kimura Y., Kapoor A., **He Y.**, Mattam K., Hasan K., Olson L., Wang F., Kenis P., Rao C.V. Oscillatory Behavior of Neutrophils Under Opposing Chemoattractant Gradients Supports a Winner-Take-All Mechanism. ***PLoS One.***, 2014 Jan 21;9(1):e85726

6. **He Y,** Varadarajan S, Muñoz-Planillo R, Burberry A, Nakamura Y and Núñez G. 3,4-Methylenedioxy-β-nitrostyrene inhibits NLRP3 inflammasome activation by blocking assembly of the inflammasome. ***J Biol Chem.*** 2014 Jan 10;289(2):1142-50.

7. **He, Y.,** Li, D., Cook, S., Yoon, M., Kapoor, A., Rao, C. V., Kenis, P., Chen, J. and Wang, F. Mammalian Target of Rapamycin and Rictor control neutrophil chemotaxis by regulating Rac/Cdc42 activity and actin polymerization. ***Mol Biol Cell.*** 2013 Nov;24(21):3369-80.

8. **He, Y**., Franchi, L., Núñez, G. The Protein Kinase PKR is Critical for LPS-Induced iNOS Production, but Dispensable for Inflammasome Activation in Macrophages. ***Eur J Immunol***. 2013 May;43(5):1147-52.

9. **He, Y**., Franchi, L., Núñez, G. TLR Agonists Stimulate Nlrp3-Dependent IL-1β Production Independently of the Purinergic P2X7 Receptor in Dendritic Cells and In Vivo. ***J Immunol.*** 2013 Jan 1;190 (1):334-9.

10. **He, Y.,** Kapoor, A., Cook, S., Liu, S., Xiang, Y., Rao, C. V., Kenis, P., and Wang, F. The non-receptor tyrosine kinase Lyn controls neutrophil adhesion by recruiting the CrkL/C3G complex to and activating Rap1 at the leading edge. ***J Cell Science,*** 2011 124, 2153-2164.

11. Shin, M.E., **He, Y**., Li, D., Chowdhury, F., Collin, O., Na, S., Pei, S., de Lanerolle, P., Schwartz, M.A., Wang, N., and Wang, F. Spatiotemporal organization, regulation and functions of tractions during neutrophil chemotaxis. ***Blood***, 2010 116, 3297-310.

CONFERENCE POSTERS/ABSTRACTS

1. **He Y.,** Zeng M.Y., Yang D., Motro and Núñez G. Nek7 is an essential mediator of NLRP3 activation downstream of potassium efflux. ***The American Association of Immunologists (AAI) 2016 Annual Meetings,*** May 13-17, 2016, Seattle, WA. **(Oral and Poster Presentation)**

2. **He Y.**, Franchi L., Núñez G. TLR Agonists Stimulate Nlrp3-Dependent IL-1β Production Independently of the Purinergic P2X7 Receptor in Dendritic Cells and In Vivo. ***Gordon Research Seminar/Conference-Phagocytes***. June 8-14 2013, Waterville Valley, NH. **(Oral and Poster Presentation)**

3. **He Y.**, Kapoor A. Wang F. The Non-receptor Tyrosine Kinase Lyn Is Required for De-Adhesion during Neutrophil Chemotaxis. ***American Society for Cell Biology (ASCB)***

2009 Annual Meetings, December 5-9, San Diego, CA.

4. M. Shin, **Y. He**, D. Li, S. Na, F. Chowdhury, Y. Poh, O. Collin, P. de Lanerolle, M. A. Schwartz, N.Wang, F. Wang. Spatiotemporal Organization, Regulation and Functions of Tractions during Neutrophil Chemotaxis. ***American Society for Cell Biology (ASCB) 2009 Annual Meetings,*** December 5-9, San Diego, CA.

5. Kapoor A., Kimura Y., **He Y**., Wright C., Wang F., Kenis P. and Rao C.V.. Microfluidic Gradient Platforms: Tools to Understand Immune Cell Behavior. ***American Institute of Chemical Engineer (AIChE) 2011 Spring Meeting & 7th Global Congress on Process Safety*.** March 13-17, Chicago, IL

6. Kapoor A., Kimura Y., **He Y.**, Wang F., Kenis P. and Rao C.V. Analysis of Protein Localization in Neutrophil Chemotaxis Using Microfluidic Gradient Platforms. ***American Institute of Chemical Engineer (AIChE) 2010 Annual Meeting.*** November 7-12, Salt Lake City, UT

7. Kapoor A., Kimura Y., **He Y**., Cook S., Wang F., Kenis P. and Rao C.V. Analysis of Neutrophil Migration in Response to Complex Gradients Using Microfluidic Platforms. ***American Institute of Chemical Engineer (AIChE) 2009 Annual Meeting*.** November 8-13, Nashville, TN

HONORS AND AWARDS

2016 AAI Trainee Abstract Award
2015 Ruth L. Kirschstein National Research Service Award
2014 Ruth L. Kirschstein National Research Service Award
2009 Predoctoral Student Travel Award, American Society of Cell Biology (ASCB)
2007 John G. and Evelyn Hartman Heiligenstein Award for Outstanding Teaching Assistant in Molecular and Cellular Biology, University of Illinois at Urbana-Champaign, 2007

PROFESSIONAL MEMBERSHIP

2009-2011 Member, American Society of Cell Biology
2012-present Member, American Association of Immunologists