

Personal Information

Nicole Hajicek, Ph.D.
208 Myers Ave.
Raleigh, NC 27604
(480) 466-8794

Education

- 2004-2010 The University of Illinois at Chicago
Ph.D., Pharmacology
Thesis advisor: Tohru Kozasa, M.D., Ph.D.
Thesis: Regulation of RH-domain containing RhoGEFs by G α 13
- 2000-2004 The University of Arizona
B.S., summa cum laude, Molecular and Cellular Biology
Minor: Chemistry

Professional Experience

- 2016-present Research assistant professor, The University of North Carolina at Chapel Hill
Laboratory of John Sondek, Ph.D.
- 2011-2016 Postdoctoral research associate, The University of North Carolina at Chapel Hill
Mentor: John Sondek, Ph.D.
- 2010-2011 Postdoctoral fellow, The University of Tokyo, Tokyo, Japan
Mentor: Takao Hamakubo, Ph.D.

Honors and Awards

- 2010-2011 Postdoctoral fellowship, Japan Society for the Promotion of Science
- 2009 Woeltjen award 1st place, graduate student poster competition, Department of
Pharmacology annual retreat, The University of Illinois at Chicago
- 2009 Graduate student council travel award, The University of Illinois at Chicago
- 2007-2009 Predoctoral fellowship, American Heart Association Greater Midwest Affiliate
- 2007 Graduate student council travel award, The University of Illinois at Chicago
- 2006 Woeltjen award 2nd place, graduate student poster competition, Department of
Pharmacology annual retreat, The University of Illinois at Chicago
- 2005-2007 Trainee, Pharmacological Sciences Training Program, The National Institutes of Health
- 2000-2004 Dean's List, The University of Arizona
- 2000-2004 President's Award for Excellence, The University of Arizona
- 2000-2004 University Honors Program, The University of Arizona

Bibliography

Books and chapters

Hajicek, N., Kreutz, B., and Kozasa, T. (2010) Signaling through G α 12/13 and RGS-RhoGEFs. In: The Rho GTPases in Cancer, van Golen, K. L., editor. New York: Springer Science + Business Media, LLC. p. 59-76.

Refereed papers

Siraliev-Perez, E., Stariha, J. T. B., Hoffmann, R., M., Temple, B. R. S., Zhang, Q., **Hajicek, N.**, Jenkins, M. L., Burke, J. E., and Sondek, J. (2022) Dynamics of allosteric regulation of the phospholipase C- γ isozymes upon recruitment to membranes. *eLife* e77809, doi: 10.7554/eLife.77809.

Huang, W., Carr, A. J., **Hajicek, N.**, Sokolovski, M., Siraliev-Perez, E., Hardy, B. P., Pearce, K. H., Sondek, J., and Zhang, Q. (2020) A high-throughput assay to identify allosteric inhibitors of the PLC- γ isozymes operating at membranes. *Biochemistry* 59, 4029-4038.

Hajicek, N., Keith, N. C., Siraliev-Perez, E., Temple, B. R. S., Huang, W., Zhang, Q., Harden, T. K., and Sondek, J. (2019) Structural basis for the activation of PLC- γ isozymes by phosphorylation and cancer-associated mutations. *eLife* e51700, doi:10.7554/eLife.51700.

Huang, W., Wang, X., Endo-Streeter, S., Barrett, M., Waybright, J., Wohlfeld, C., **Hajicek, N.**, Harden, T. K., Sondek, J., and Zhang, Q. (2018) A membrane-associated, fluorogenic reporter for mammalian phospholipase C isozymes. *J. Biol. Chem.* 293, 1728-1735.

Hajicek, N., Charpentier, T. H., Rush, J. R., Harden, T. K., and Sondek J. (2013) Autoinhibition and phosphorylation-induced activation of phospholipase C- γ isozymes. *Biochemistry* 52, 4810-4819.

Huang, W., Barrett, M., **Hajicek, N.**, Hicks, S., Harden, T. K., Sondek, J., and Zhang, Q. (2013) Small molecule inhibitors of phospholipase C from a novel high-throughput screen. *J. Biol. Chem.* 288, 5840-5848.

Hajicek, N., Kukimoto-Niino, M., Tsumagari-Mishima, C., Chow, C. R., Shirouzu, M., Terada, T., Patel, M., Yokoyama, S., and Kozasa, T. (2011) Identification of critical residues in G α 13 for stimulation of p115RhoGEF activity and the structure of the G α 13-p115RhoGEF regulator of G protein signaling homology (RH) domain. *J. Biol. Chem.* 286, 20625-20636.

Jernigan, K. K., Cselenyi, C. S., Thorne, C., **Hajicek, N.**, Oldham, W. M., Lee, L. A., Hamm, H. E., Hepler, J. R., Kozasa, T., Linder, M. E., and Lee, E. (2010) G $\beta\gamma$ activates GSK3 to promote LRP6-mediated β -catenin transcriptional activity. *Sci. Signal.* 3, ra37.

Meyers, R. O., Lambert, J. D., **Hajicek, N.**, Pourpak, A., Kalaitzis, J. A., and Dorr, R. T. (2009) Synthesis, characterization, and anti-melanoma activity of tetra-O-substituted analogs of nordihydroguaiaretic acid. *Bioorg. Med. Chem. Lett.* 19, 4752-4755.

Suzuki, N., Tsumoto, K., **Hajicek, N.**, Daigo, K., Tokita, R., Minami, S., Kodama, T., Hamakubo, T., and Kozasa, T. (2009) Activation of leukemia-associated RhoGEF by G α 13 with significant rearrangements in the interface. *J. Biol. Chem.* 284, 5000-5009.

Kreutz, B., **Hajicek, N.**, Yau, D. M., Nakamura, S., and Kozasa, T. (2007) Distinct regions of G α 13 participate in its regulatory interactions with RGS homology domain-containing RhoGEFs. *Cell. Signal.* 19, 1681-1689.

Published abstracts

Hajicek, N., Kreutz, B., Yau, D., Nakamura, S., and Kozasa, T. (2006) Localization of the RhoGEF Effector Activating Surface of G α 13 to its Carboxy Terminus. *FASEB J.* 20:A257.

Invited talks

Structural basis for activation of the PLC- γ isozymes. (2020) Zoom Lipid Seminar Series organized by John Burke, Ph.D. and Michael Airola, Ph.D.

Regulation of PLC- γ isozymes. (2016) GE Healthcare AKTA users group meeting, UNC-Chapel Hill.

Invited reviews

Kozasa, T., **Hajicek, N.**, Chow, C. R., and Suzuki, N. (2011) Signalling mechanisms of RhoGTPase regulation by the heterotrimeric G proteins G12 and G13. *J. Biochem.* 150, 357-69.

Suzuki, N., **Hajicek, N.**, and Kozasa, T. (2009) Regulation and physiological functions of G12/13-mediated signaling pathways. *Neurosignals* 17, 55-70.

Teaching Record

Supervision

Graduate students:

Runfan Yang	2021-present
Edhriz Siraliev-Perez, Ph.D.	2015-2020
Maulik Patel, PharmD, Ph.D.	2009-2010
Christina Chow, Ph.D.	2007-2010

Research Technicians:

Trisha Wilson	2021-present
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Undergraduate students:

Celeste Hall	2019-2022
Qinyuan Chen	2018-2021
Nicholas Keith	2015-2018
Caroline Pope	2015-2017
Ben Hu	2014-2015
Laura Wang	2013-2014

Professional Service

2007 Teaching assistant for Receptor Pharmacology course, The University of Illinois at Chicago