

Haiyang Yu

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POSITIONS

Assistant Professor (Effie Marie Cain Scholar in Medical Research),
Center for Alzheimer's and Neurodegenerative Diseases, UT Southwestern Medical Center
(2021 ~ present)

Postdoctoral Fellow, the Laboratory of Cell Biology, Mentor: Dr. Don W. Cleveland
Ludwig Institute for Cancer Research at UC San Diego
(2015 ~ 2021)

EDUCATION

Washington University in St. Louis Ph.D., Molecular Cell Biology, (05/2015)

Nankai University (Tianjin, China) B.S., *summa cum laude*, Biological Sciences, (06/2008)

FELLOWSHIPS AND AWARDS

- **K99/R00 Pathway to Independence Award (NINDS)** (2020/01 ~ 2025/01)
- Future of Science Fund (Travel Award of Keystone Symposia), (2019)
- **Ruth L. Kirschstein National Research Service Award (F32, NIA)** (2018/04 ~ 2019/12)
- Lucille P. Markey Special Emphasis Pathway on Human Pathology
(intramural competitive grant), Washington University in St. Louis (2011 ~ 2013)
- Travel Support, ASN Annual Conference, Philadelphia, USA (2011)
- Transcontinental Young Travel Fund Award, FEBS Workshop, Oslo, Norway (2010)
- Outstanding Graduate Award (Equivalent to *summa cum laude*) (2008)
- Novozymes Biotechnology Scholarship, Nankai University, Tianjin, China (2007 ~ 2008)
- Outstanding Student of The City, Tianjin, China (2006)
- The First-Class Scholarship (evaluated annually), Nankai University, Tianjin, China (2005 ~ 2007)

PUBLICATIONS

- **Yu Haiyang**[#], Lu S., Gasior K., Singh D., Vazquez-Sanchez S., Tapia O., Toprani D., Yates III J.R., Da Cruz S., Newby J.M., Larfaga M., Gladfelter A.S., Villa E., and Cleveland D.W.[#], HSP70 chaperones RNA-free TDP-43 into anisotropic intranuclear liquid spherical shells. **Science** 2021; 371(6529). DOI: 10.1126/science.abb4309 (**# co-corresponding author**)
- Jiang L.L., Zhu B., Zhao Y., Li X., Liu T. Xu W. Rodriguez M. J., **Yu Haiyang**, Cleveland D.W., Ravits J., Da Cruz S., Long T., Huang T.Y., and Xu, H., Membralin deficiency dysregulates astrocytic glutamate homeostasis leading to motor neuron degeneration and ALS-like impairment. **J Clin Invest.** 2019 May 21;129(8):3103-3120.
- Yang J., Chen J.N., de Carmen Vitery M., Osei-Owusu J., Chu J., **Yu Haiyang**, Sun S., Qiu Z., Identification of PAC, an evolutionarily conserved membrane protein, as the proton-activated chloride channel. **Science** 2019; 364(6438): 395-399

- Gasset-Rosa F.,*, Lu S.,*, **Yu Haiyang**,*, Chen C.,*, Melamed Z., Guo L., Shorter J., Da Cruz S., and Cleveland D.W., Cytoplasmic TDP-43 de-mixing independent of stress granules drives inhibition of nuclear import, loss of nuclear TDP-43, and cell death. *Neuron* 2019; 102(2):339-357 (***co-first author**)
- **Yu Haiyang**, and Cleveland D.W., Tuning apoptosis and neuroinflammation: TBK1 restrains RIPK1. *Cell* 2018; 174(6): 1339-41 (**Preview**)
- Milam A.A.V., Bartleson J.M., Donermeyer D.L., Horvath S., Durai V., Raju S., **Yu Haiyang**, Redmann V., Zinselmeyer B., White J.M., Murphy K.M., and Allen P.M., Tuning T Cell Signaling Sensitivity Alters the Behavior of CD4+ T Cells during an Immune Response. *J Immunol* 2018; 200(10) 3429-3437.
- Brähler S.*, **Yu Haiyang***, Suleiman H, Gokul M. Krishnan G.M., Saunders B., Kopp J. B., Miner J. H., Zinselmeyer B. H. and Shaw A. S., Intravital and organ slice imaging of podocyte membrane dynamics. *J Am Soc Nephrol.* 2016; 27: 3285–3290. (***Co-first author**)
- **Yu Haiyang***, Artomov M.*, Brähler S.*, Stander M. C., Shamsan G., Sampson M. G., White M.J., Kretzler M., Miner M. J., Winkler C. A., Mitra R. D., Kopp J. B., Daly M. J., Shaw A. S., A role of genetic susceptibility in sporadic focal segmental glomerulosclerosis. *J Clin Invest.* 2016; 126(4):1067-78. (*** Co-first authorship**)
- **Yu Haiyang**, Suleiman H., Kim A.H.J., Miner J.H., Dani A., Shaw A.S. and Akelish S., Rac1 activation in podocyte induces rapid foot process effacement and proteinuria. *Mol Cell Biol.* 2013; 33(23): 4755-64.
- Hu J., Stites E.C., **Yu Haiyang**, Germino E.A., Shibatsu H.S., Stork P.J.S., Kornev A.P., Taylor S.S., and Shaw A.S., Allosteric activation of Functionally Asymmetric RAF kinases. *Cell* 2013; 154(5): 1036-46.
- Akilesh S.*, Suleiman H.*, **Yu Haiyang***, Stander M.C., Lavin P., Gbadegesin R., Antignac C., Pollak M.R., Kopp J.B., Winn M.P., Shaw A.S., Arhgap24 (FilGAP) inhibits Rac1 activity in mouse podocytes and is associated with familial focal segmental glomerulosclerosis. *J Clin Invest.* 2011; 121(10): 4127-37. (***Co-first author**)
- Hu J., **Yu Haiyang**, Kornev A.P., Zhao J., Filbert E.L., Taylor S.S. and Shaw A.S., A mutation that blocks ATP binding creates a pseudokinase that stabilizes the scaffolding function of KSR1, CRAF and BRAF. *Proc Natl Acad Sci U S A.* 108(15): 6067-72.
- Liu M., **Yu Haiyang**, Huo L., Liu J., Li M., and Zhou J., Validating the mitotic kinesin Eg5 as a therapeutic target in pancreatic cancer cells. *Biochem Pharmacol.* 2008 Jul 15; 76(2): 169-78.
- Sun L., Li D., Dong X, **Yu Haiyang**, Dong J.T., Zhang C., Lu X., and Zhou J., Small-molecule inhibition of Aurora kinases triggers apoptosis in cancer cells independently of the spindle checkpoint. *Biochem Pharmacol.* 2008 Mar 1; 75(5): 1027-34.

PATENT

- Shaw A.S., Hu J., and **Yu H.**, Methods and uses of KSR kinase, and mutations thereof. Patent No. 8900845; issue date 12-02-2014.

PODIUM PRESENTATIONS IN HIGH-IMPACT CONFERENCES

- **Yu Haiyang.**, Lu S., Vazquez-Sanchez S. and Cleveland D.W., *Multiple Phases of TDP-43*. 21st Annual Packard Center ALS Research Symposium, virtual, 2021 Mar 08 (at Johns Hopkins University).
- **Yu Haiyang.**, and Cleveland D.W., *Structure and regulation of TDP-43 liquid droplets in the nucleus*. Society of Neuroscience Annual Conference (**SfN**), Chicago, USA, 2019 Oct 20.
- **Yu Haiyang.**, Singh D., Lu S., Villa E., Cleveland D.W., *Molecular and Structural Mechanisms for Intranuclear Tertiary Phase Separation of TDP-43 Liquid Droplets*. **FASEB** Summer Research Conference on Protein Aggregation, Snowmass, CO, 2019 Jun 11.

- **Yu Haiyang.**, Singh D., Lu S., Villa E., Cleveland D.W., *Molecular and Structural Mechanisms for Intranuclear Tertiary Phase Separation of TDP-43 Liquid Droplets*. **Keystone Symposium** on Biomolecular Condensates: Phase-Separated Organizers of Cellular Biochemistry, Snowbird, USA, 2019 Apr 11.
- **Yu Haiyang.**, Lu S., Aladesuyi B., Da Cruz S., Ravits J., and Cleveland D.W., *TDP-43 phase transitions and co-demixing with processing bodies (P-bodies)*. Society of Neuroscience Annual Conference (**SfN**), San Diego, USA, 2018 Nov 6.
- **Yu Haiyang.**, Sampson M. G., Kretzler M., Miner M. J., Kopp J. B. Shaw A. S. *Identification and Validation of New Risk genes in European-American Population by Exome-sequencing and RNAi-Based Mouse Model for Focal Segmental Glomerulosclerosis*. American Society of Nephrology (**ASN**) Kidney Week 2014 Annual Meeting, Philadelphia, USA, 2014 Nov 11.
- **Yu Haiyang.**, and Shaw A.S., *Validation of Rare Genetic Variants Associated with Focal Segmental Glomerulosclerosis by Using an ES Cell-Based RNAi mouse Model*. American Society of Nephrology (**ASN**) Kidney Week 2013 Annual Meeting, Atlanta, USA, 2013 Nov 9.
- **Yu Haiyang.**, Suleiman H., Kim A.H.J., Miner J.H., Akilesh S., and Shaw A.S., *Rac1 Activation in Podocytes Induces Rapid Foot Process Effacement and Proteinuria*. American Society of Nephrology (**ASN**) Kidney Week 2013 Annual Conference, Atlanta, USA, 2013 Nov 9