

Curriculum Vitae

Hyunook Kang, Ph. D.
Postdoctoral Researcher
Cold Spring Harbor Laboratory

Research Experiences

Cold Spring Harbor Laboratory, New York
Postdoctoral Fellow (PI: Dr. Hiro Furukawa)

05/2022-present

Seoul National University, Seoul
Postdoctoral Fellow (PI: Dr. Hee-Jung Choi)

09/2021-04/2022

Educations

Institution	Degree	Field of Study	Dates Attended
Seoul National University	Ph. D.	Biological Science (Structure Biology)	09/2015-08/2021
Thesis title: Structural and functional studies of β -arrestin			
Seoul National University	B.S.	Biological Science	03/2012-08/2015

Grants/Fellowship

2023-2024 Postdoctoral Fellowship Program granted by National Research Foundation of Korea (NRF) (RS-2023-00239152)

Publications

1. **Kang H.**, Steigerwald R., Ullman E., Epstein M., Paladugu S., Liotta D., Traynelis S. F., and Furukawa H. (2025). Mechanism of conductance control and neurosteroid binding in NMDA receptors. *Nature* **Accepted**. (**First author**)
2. **Kang H.**, Epstein M., Banke T., Perszyk R., Simorowski N., Paladugu S., Liotta D. C., Traynelis S. F., and Furukawa H., (2025). Structural basis for channel gating and blockade in tri-heteromeric GluN1-2B-2D NMDA receptor. *Neuron*. **113**. 991-1005. (**First author**)
3. Choi C.*, Bae J.*, Kim S., Lee S., **Kang H.**, Kim J., Bang I., Kim K. H., Huh W.-K., Seok C., Park H., Im W., Choi H.-J., (2023). Understanding the molecular mechanisms of odorant binding and activation of the human OR52 family. *Nat. Comm.* **14**, 8105.
4. **Kang H.***, Park C.*, Choi Y. K., Bae J., Kwon S., Kim J., Seok C., Im W., Choi H.-J., (2023). Structural basis for Y2 receptor-mediated neuropeptide Y and peptide YY signaling, *Structure*. **31**, 44-57. (* **co-first author**)
5. Chou T.-H., **Kang H.**, Simorowski N., Traynelis S., Furukawa H., (2022). Structural insights into assembly and function of GluN1-2C, GluN1-2A-2C, and GluN1-2D NMDARs. *Mol. Cell.*, **82**, 4548-4563.
6. Kim S. Y.*, Ko S.*, **Kang H.**, Kim M. J., Moon J. S., Lim B. C., Kim K. J., Choi M., Choi H.-J., and Chae J.-H., (2022). Fatal systemic disorder caused by biallelic variants in FARSA. *Orphanet Journal of Rare Diseases*, 17:306.

7. Choi H. K. *, **Kang H.** *, Lee C. *, Kim H. G., Phillips B. P., Park S., Tumescheit C., Kim S. A., Hong H., Steinegger M., Im W., Miller E. A., Choi H.-J., and Yoon T.-Y. (2022). Evolutionary balance between foldability and functionality of a glucose transporter. *Nat. Chem. Biol.*, **18**, 713-723. (* co-first authors)
8. Park C. *, Kim J. *, Ko S.-B., Choi Y. K., Jeong H., Woo H., **Kang H.**, Bang I., Kim S. A., Yoon T.-Y., Seok C., Im W., and Choi H.-J., (2022). Structural basis of neuropeptide Y signaling through Y1 receptor. *Nat. Comm.* **13**, 853.
9. **Kang H.***, Yang H. S. *, Ki A. Y., Ko S. B., Kim K. W., Shim C. Y., Kim K., Choi H.-J., Chung K. Y. (2020). Conformational dynamics and functional implications of phosphorylated β -arrestins. *Structure*, **28**, 314-323. (* co-first authors)
10. Choi H. K. *, Min D. *, **Kang H.** *, Shon M. J., Rah S. H., Kim H. C., Jeong H., Choi H.-J., Bowie J. U., Yoon T.-Y. (2019). Watching helical membrane proteins fold reveals a common N-to-C-terminal folding pathway. *Science*, **366**, 1150-1156. (* co-first authors)
11. Ham S., Kim H., Hwang S., **Kang H.**, Yun S. P., Kim S., Kim D., Kwon H. S., Lee Y.-S., Cho M., Shin H. M., Choi H.-J., Chung K. Y., Ko H. S., Lee G. H., Lee Y. (2019). Cell-Based Screen Using Amyloid Mimic β 23 Expression Identifies Peucedanocoumarin III as a Novel Inhibitor of α -Synuclein and Huntingtin Aggregates. *Molecules and Cells*, **42**(6), 480-494.
12. Shao X., **Kang H.**, Loveless T., Lee G. R., Seok C., Weis W. I., Choi H.-J., Hardin J. (2017). Cell-cell adhesion in metazoans relies on evolutionarily conserved features of the α -catenin β -catenin-binding interface. *J. Biol. Chem.*, **292**, 16477-16490.
13. **Kang H.** *, Bang I. *, Jin K.S., Lee B., Lee J., Shao X., Heier J. A., Kwiatkowski A. V., Nelson W. J., Hardin J., Weis W. I., and Choi H.-J. (2017). Structural and Functional Characterization of *Caenorhabditis elegans* α -Catenin Reveals Constitutive Binding to β -Catenin and F-actin. *J. Biol. Chem.*, **292**, 7077-7086. (* co-first authors)
14. **Kang H.**, Bang I., Weis W. I., Choi. H.-J. (2016). Purification, crystallization and initial crystallographic analysis of the α -catenin homologue HMP-1 from *Caenorhabditis elegans*. *Acta. Crystallogr. F.* **72**, 234-239.
15. **Kang H.**, Weiss T. M., Bang I., Weis W. I., Choi. H.-J. (2016). Structure of the Intermediate Filament-Binding Region of Desmoplakin. *Plos One*, **11**, e0147641.