



Curriculum Vita 2023

Instructor: Hyun-Joo Nam, Ph. D.

Academic Department: Biological and Environmental Sciences

University Address: Department of Biological and Environmental Sciences
STC 215
Texas A&M University-Commerce
Commerce, TX 75429-3011

University Email Address: hyun-joo.nam@tamuc.edu

EDUCATION

- Ph.D.** Cellular and Developmental Biology, Harvard University, Cambridge, MA,
Mar. 1996.
- M. Ed.** Biology Education, Seoul National University, Seoul, Korea
Feb. 1990.
- B. S.** Biological Sciences, Seoul National University, Seoul, Korea
Feb. 1988

TEACHING EXPERIENCE

- 2023~ **Assistant Professor**, Texas A&M, Commerce, TX
- 2022~2023 **Lecturer**, University of North Texas
- 2019-2021 **Ad-interim Assistant Professor**, Texas A&M, Commerce, TX
- 2009-2018 **Assistant Professor**, Department of Bioengineering, The University of Texas at Dallas, Richardson, TX
Structure-function studies of protein and protein-DNA complexes and macromolecular engineering for biotechnology applications.
- 2003-2009 **Assistant Scientist**, Department of Biochemistry and Molecular Biology, University of Florida, Gainesville, FL
Structure-function studies of the parvoviruses for gene therapy applications
- 2001-2002 **Research Associate**, Biological Chemistry and Molecular Pharmacology, Harvard University, Boston MA
Structure-function studies of CD45 D1D2 phosphatase proteins in complex with substrates and inhibitors.

- 1997-1999 **Research Associate**, Biological Chemistry and Molecular Pharmacology, Harvard University, Boston MA
Structure-function studies of the LAR D1D2 tandem phosphatase domains.
- 1992-1996 **Research Assistant**, Biological Chemistry and Molecular Pharmacology, Harvard University, Boston MA
Structure-function studies of SH2 and SH2-SH3 domains of ABL and SH2 of SHC oncoprotein.

PUBLICATIONS

Peer Reviewed Journal Publication selected from 40

1. Zheng, B., Seltzsaam, S., Wang, C., Schierbaum, L., Schneider, S., Wu, C. W., Dai, R., Connaughton, D. M., Nakayama, M., Mann, N., Stajic, N., Mane, S., Bauer, S. B., Tasic, V., Nam, H. J., Shril, S., and Hildebrandt, F. (2022) Whole exome sequencing identifies FOXL2, FOXA2, and FOXA3 as candidate genes for monogenic congenital anomalies of the kidneys and urinary tract. *Nephrol Dial Transplant*, **37**,18233-1843
2. Li, S., Pradhan, L., Ashur, S., Joshi, A., and Nam, H. J. (2019) Crystal Structure of FOXC2 in Complex with DNA Target. *ACS Omega* **4**, 10906-10914
3. Castaneda, M., Chen, L., Pradhan, L., Li, S., Zein, R., Lee, Y., Lim, H. S., Nam, H. J., and Lee, J. (2018) A Forkhead Box Protein C2 Inhibitor: Targeting Epithelial-Mesenchymal Transition and Cancer Metastasis. *Chembiochem* **19**, 1359-1364
4. Pradhan, L., Gopal, S., Li, S., Ashur, S., Suryanarayanan, S., Kasahara, H., and Nam, H. J. (2016) Intermolecular Interactions of Cardiac Transcription Factors NKX2.5 and TBX5. *Biochemistry* **55**, 1702-1710
5. Pradhan, L., and Nam, H. J. (2015) NuProPlot: nucleic acid and protein interaction analysis and plotting program. *Acta Crystallogr D Biol Crystallogr* **71**, 667-674
6. Mikals, K., Nam, H. J., Van Vliet, K., Vandenberghe, L. H., Mays, L. E., McKenna, R., Wilson, J. M., and Agbandje-McKenna, M. (2014) The structure of AAVrh32.33, a novel gene delivery vector. *J Struct Biol* **186**, 308-317
7. Pradhan, L., Genis, C., Scone, P., Weinberg, E. O., Kasahara, H., and Nam, H. J. (2012) Crystal structure of the human NKX2.5 homeodomain in complex with DNA target. *Biochemistry* **51**, 6312-6319
8. DiMattia, M. A., Nam, H. J., Van Vliet, K., Mitchell, M., Bennett, A., Gurda, B. L., McKenna, R., Olson, N. H., Sinkovits, R. S., Potter, M., Byrne, B. J., Aslanidi, G., Zolotukhin, S., Muzyczka, N., Baker, T. S., and Agbandje-McKenna, M. (2012) Structural insight into the unique properties of adeno-associated virus serotype 9. *J Virol* **86**, 6947-6958
9. Nam, H. J., Gurda, B. L., McKenna, R., Potter, M., Byrne, B., Salganik, M., Muzyczka, N., and Agbandje-McKenna, M. (2011) Structural studies of adeno-associated virus serotype 8 capsid transitions associated with endosomal trafficking. *J Virol* **85**, 11791-11799
10. Nam, H. J., Lane, M. D., Padron, E., Gurda, B., McKenna, R., Kohlbrenner, E., Aslanidi, G., Byrne, B., Muzyczka, N., Zolotukhin, S., and Agbandje-McKenna, M. (2007) Structure of adeno-associated virus serotype 8, a gene therapy vector. *J Virol* **81**, 12260-12271

11. Nam, H. J., Gurda-Whitaker, B., Gan, W. Y., Ilaria, S., McKenna, R., Mehta, P., Alvarez, R. A., and Agbandje-McKenna, M. (2006) Identification of the sialic acid structures recognized by minute virus of mice and the role of binding affinity in virulence adaptation. *J Biol Chem* **281**, 25670-25677
12. Nam, H. J., Poy, F., Saito, H., and Frederick, C. A. (2005) Structural basis for the function and regulation of the receptor protein tyrosine phosphatase CD45. *J Exp Med* **201**, 441-452
13. Nam, H. J., Poy, F., Krueger, N. X., Saito, H., and Frederick, C. A. (1999) Crystal structure of the tandem phosphatase domains of RPTP LAR. *Cell* **97**, 449-457
14. Nam, H. J., Haser, W. G., Roberts, T. M., and Frederick, C. A. (1996) Intramolecular interactions of the regulatory domains of the Bcr-Abl kinase reveal a novel control mechanism. *Structure* **4**, 1105-1114

RESEARCH GRANTS AND AWARDS

Completed

0535161B/NAM (P. I.)	07/01/05-06/30/09	\$240,000
----------------------	-------------------	-----------

AHA/Florida-Puerto Rico, Scientist Development Grant
Structural Studies of the NKX2.5 Homeodomain Protein

Major Goals: The goal of this proposed research is to understand the mechanisms, regulations, and homo-multimeric interactions of the NKX2.5 protein

13BGIA13960001/NAM (P. I.)	01/01/13-12/31/15
----------------------------	-------------------

AHA/Southwest, Beginning-Grant-In-Aid	\$140,000
---------------------------------------	-----------

Studies of interactions between NKX2.5 and TBX5

Major Goal: This proposed research aims to elucidate the structural basis for combinatorial transcription factor regulation for heart morphogenesis

Samsung GRO grant/Co-PI	12/01/13-03/31/16
-------------------------	-------------------

Affordable Breath Analyses for Monitoring of Diabetes	\$402,362
---	-----------

Major Goal: This research aims to identify biomarkers detectable by Terahertz spectroscopy from human breath which correlate to blood glucose levels.

Seoul National University/Co-PI	11/11/16 – 12/31/2017
---------------------------------	-----------------------

Open source controller-based IoL signal light and VL detector	\$7, 042
---	----------

In preparation

NIH-STTR/Co-PI

Development of novel low-cost recombinant insulin