

Sang Ho Park, Ph.D.

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University of Michigan
1150 W. Medical Center Dr., Ann Arbor, MI, US

TELEPHONE

EMAIL

(1) Education

- Ph.D. Seoul National University, Seoul, Korea 2010 – 2016 Pharmacy
- B.S. Sejong University, Seoul, Korea 2003 – 2010 Biotechnology

(2) Experience

- **2017. 2. 1 – Present:** Post-doctoral fellow, Dept. of Biological Chemistry, University of Michigan, Ann Arbor, US
- **2016. 3. 1 – 2017. 1. 31.:** Post-doctoral fellow, Dept. of Pharmacy, Seoul National University, Seoul, Korea
- **2009. 9. – 2010. 2.:** Research student (with B.S. candidate), Dept. of Pharmacy, Seoul National University, Seoul, Korea
- **2009. 3. – 2009. 8.:** Research student (with B.S. candidate), Dept. of Biotechnology, Sejong University, Seoul, Korea

(3) Research Topics

- Structural determination of nucleosome and nucleosome regulatory complex via Cryo-EM to elucidate the regulatory mechanisms
- Recruitment of centromere-specific histone H3 variant at centromeres
- Structural study of aminoacyl-tRNA synthetase
- Structure function relationship of biomedically important proteins

(4) Skills and Techniques

- **Biochemistry** (Protein purification)
- **Molecular Biology** (Gene manipulation and cloning; site-directed mutagenesis; protein expression in *E. coli* system)
- **Computational Biology** (Homology modeling; docking simulation)
- **Structural Biology** (X-ray diffraction; protein crystallography; Cryo-EM; negative staining; structure analysis)
- **Protein Characterization** (FPLC, HPLC, MALS, DLS, DSC, CD)

(5) Beamline and Cryo-EM experience

- **Pohang Accelerator Laboratory**, Pohang, Korea: PAL-5C, 7A
- **Photon Factory**, Tsukuba, Japan: BL-1A, 5C, 17A, AR-NE3A, NW12A
- **Spring-8**, Hyogo, Japan: BL-26B1, 26B2
- **Advanced Photon Source**, Argonne, USA: 19-ID-D, 21-ID-D/G/F
- **University of Michigan**, Ann Arbor, USA: Titan Krios, Talos Arctica, Tecnai T12, Morgagni, Vitrobot

(6) Publications

1) First author

- [Park, S.H.](#), Ayoub, A., Lee, Y.T., Kim, H., Zheng, W., Zhang, B., An, S., Zhang Y., Cianfrocco, M.A., Su, M., Dou, Y., Cho, U.S. (2019) “**Cryo-EM Structure of the human MLL1 Core Complex Bound to the Nucleosome**” *Nat. Comm.*
- Hahn, H.,* [Park, S.H.](#),* Kim, H.J., Kim, S., and Han, B.W. (2019) “**Structure of DRS-AIMP2GST_EPRSGST Reveals a Pivotal Arrangement of Multi-tRNA Synthetase Complex**” *IUCrJ* (* equally contributed)
- Kim, M.,* [Park, S.H.](#),* Park, J.S.,* Kim, H.J., and Han, B.W. (2019) “**Crystal Structure of EOLA1 Implies Its Possibility of RNA Binding**” *molecules* (* equally contributed)
- [Park, S.H.](#), Kim, H.S., Park, M.S., Moon, S., Song, M.K., Park, H.S., Hahn, H., Kim, S.J., Bae, E., Kim, H.J., and Han, B.W. (2015) “**Structure and Stability of the Dimeric Triosephosphate Isomerase from the Thermophilic Archaeon *Thermoplasma acidophilum***” *PLOS ONE*.

- Kim, K.R.,* [Park, S.H.](#),* Kim, H.S., Rhee, K.H., Kim, B.G., Kim, D.G., Park, M.S., Kim, H.J., Kim, S.H., and Han, B.W. (2013) **“Crystal Structure of Human Cytosolic Aspartyl-tRNA Synthetase, a Component of Multi-tRNA Synthetase Complex”** *PROTEINS* (* equally contributed)
- [Park, S.H.](#),* Chung, H.K.,* Kim, D.J., Han, M.R., Park, M.S., Oh, U., Kim, H.-J.,† Han, B.W.† (2011) **“Overexpression, Crystallization, and Preliminary X-ray Crystallographic Analysis on the C-terminal Cytosolic Domain of Mouse Anoctamin1”** *Acta Crystallograph. Sect. F Struct. Biol. Cryst. Commun.* (* equally contributed, † co-corresponding authors)

2) Co-author

- Park, J.S., Kim, H.S., [Park, S.H.](#), Park, M.S., Kang, S.M., Kim, H.S., Han, B.W. (2019) **“Structural Analyses of *Helicobacter Pylori* FolC Conducting Glutamation in Folate Metabolism”** *Crystals*
- Kim, H., An, S., Park, Y.R., Jang, H., [Park, S.H.](#), Lee, S.J., Cho, U.S. (2019) **“MMOD-induced Structural Changes of Hydroxylase in Soluble Methane Monooxygenase”** *Sci. Adv.*
- Tung, T.T., Oanh, D.T., Dung, P.T., Hue, V.T., [Park, S.H.](#), Han, B.W., Kim, Y., Hong, J.T., Han, S.B., Nam, N.H. (2013) **“New Benzothiazole/thiazole-Containing Hydroxamic Acids as Potent Histone Deacetylase Inhibitors and Antitumor Agents.”** *Bioorg. Med. Chem. Lett.*
- Nam, N.H., Huong, T.L., Dung, D.T.M., Dung, P.T.P., Oanh, D.T.K., [Park, S.H.](#), Kim, K.R., Han, B.W., Yun, J.E., Kang, J.S., Kim Y.S., Han, S.B. (2013) **“Synthesis, bioevaluation and docking study of 5-substitutedphenyl-1,3,4-thiadiazole-based hydroxamic acids as histone deacetylase inhibitors and antitumor agents”** *J Enz Inh Med Chem*
- Nam, N.H., Huong, T.L., Dung, D.T.M., Dung, P.T.P., Oanh, D.T.K., Quyen D., Thao, L.T., [Park, S.H.](#), Kim, K.R., Han, B.W., Yun, J.E., Kang, J.S., Kim, Y.S., Han, S.B. (2013) **“Novel isatin-based hydroxamic acids as histone deacetylase inhibitors and antitumor agents”** *European Journal of Medicinal Chemistry*
- Ahn, B.J., Le, H., Shin, M.W., Bae, S.J., Lee, E.J., Wee, H.J., Cha, J.H., Park, J.H., Lee, H.S., Lee, H.J., Jung, H., Park, Z.Y., [Park, S.H.](#), Han, B.W., Seo, J.H., Lo, E.H., Kim, K.W. (2012) **“The N-terminal ectodomain of Ninjurin1 liberated by MMP9 has chemotactic activity”** *Biochem. Biophys. Res. Commun.*
- Oanh, D.T.K., Hai, H.V., [Park, S.H.](#), Kim, H.-J., Han, B.W., Kim, H.-S., Hong, J.-T., Han, S.-B., Hue, V.T.M.,† Nam, N.-H.† (2011) **“Benzothiazole-containing**

hydroxamic acids as histone deacetylase inhibitors and antitumor agents” *Bioorg. Med. Chem. Lett.* († co-corresponding authors)

(7) Patents

- Kim, S.H., Kim, D.G., Han, B.W., [Park, S.H.](#) “AIMP2-DX2-34S protein and method for manufacturing the same” (2014) *Korean Patent Application* #10-2014-0058634

(8) Awards / Poster Presentation at Conferences

- “Structural Study of Human Aminoacyl-tRNA Synthetase Complex-Interacting Multifunctional Protein 2 in Complex with Aspartyl-tRNA Synthetase” (2016) Poster presentation at 26th tRNA Conference, Jeju, Korea, 2016.09.08. (**Outstanding Poster Presentation Award**)
- “Structure and Stability of Triosephosphate Isomerase from Thermophilic Archaeon” (2016) Poster presentation at KSBMB International Conference, COEX, Seoul, Korea, 2016.05.10. (**Best Research Award**)
- “**Excellent Paper Award**” (2016) Research & Education Program for Creative Global Pharmaceutical Scientists, Seoul, Korea, 2016.02.04.
- “Crystal Structure of Human Cytosolic Aspartyl-tRNA Synthetase, a Component of Multi-tRNA Synthetase Complex” (2014) Poster presentation at International Union of Crystallography (IUCr 2014), Montreal, Canada, 2014.08.08.
- “The Crystal Structure of Triosephosphate Isomerase from *Thermoplasma acidophilum* (TaTPI)” (2012) Poster presentation at AsCA 12/CRYSTAL 28 and Bragg Centennial Symposium, Adelaide, Australia, 2012.12.03. (**Travel Award Recipient**)
- “Computational Docking Studies of Histone Deacetylase 8 (HDAC8) and Its Inhibitors by AutoDock Vina Program” (2011) Poster presentation at a Special Symposium Celebrating the 40th Anniversary of the Protein Data Bank, Cold Spring Harbor laboratory, 2011.10.28. (**Travel Award Recipient**)
- “Predicted Interaction between Histone Deacetylase 8 (HDAC8) and Its Inhibitors by AutoDock Vina Program” (2011) Poster presentation at 15th Korean Peptide and Protein Symposium, Oh Chang, Korea, 2011. 12. 01.
- “Structural Study of Mouse Anoctamin1 (mANO1) Domains TM2↔TM3 (D_{TM2↔TM3}) and TM5↔TM6(D_{TM5↔TM6})” (2010) Poster presentation at The 10th Conference of the Asian Crystallographic Association (AsCA2010), Busan, Korea, 2010. 11. 01