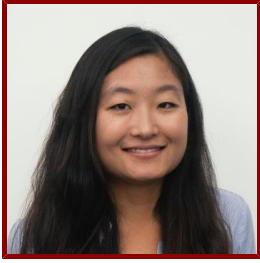


Stanford



Asuka Eguchi

Postdoctoral Scholar, Microbiology and Immunology - Baxter Labs

Bio

BIO

Asuka Eguchi, PhD is a postdoctoral fellow working with Helen Blau, PhD at Stanford University. Her interests lie in understanding how cells sense and respond to genotoxic stress. Currently, she is developing therapeutic strategies to combat heart failure in Duchenne muscular dystrophy. Dr. Eguchi received her BS in Biology at the University of Alabama in Huntsville. As a graduate student, she developed an Artificial Transcription Factor library to interrogate transcriptional networks that control cell fate decisions under the mentorship of Aseem Ansari, PhD. During her postdoctoral research, she discovered that a telomere binding protein can rescue disease phenotypes of Duchenne muscular dystrophy in cardiomyocytes differentiated from patient-derived induced pluripotent stem cells. Dr. Eguchi is also developing gene therapies that address heart failure in Duchenne and Becker patients. She is a recipient of the Translational Research and Applied Medicine Award, the American Heart Association Postdoctoral Fellowship, and Muscular Dystrophy Association Development Grant.

HONORS AND AWARDS

- Postdoctoral Fellowship, Stanford University Dean's Postdoctoral Fellowship (2018)
- Postdoctoral Fellowship, American Heart Association (2018-2020)
- Pilot Grant Award, Stanford Translational Research and Applied Medicine (2020-2022)
- LRP Award, National Institutes of Health (2021-2023)
- Development Grant, Muscular Dystrophy Association (2022-2024)

EDUCATION AND CERTIFICATIONS

- BS, University of Alabama in Huntsville , Biology (2009)
- MS, University of Alabama in Huntsville , Biology (2010)
- PhD, University of Wisconsin-Madison , Cellular and Molecular Biology (2016)

PATENTS

- Asuka Eguchi, Aseem Z. Ansari. "United States Patent 11,371,023 Artificial Transcription Factors and Uses Thereof", Wisconsin Alumni Research Foundation, Jun 28, 2022

Publications

PUBLICATIONS

- **TRF2 rescues telomere attrition and prolongs cell survival in Duchenne muscular dystrophy cardiomyocytes derived from human iPSCs** *bioRxiv*
Eguchi, A., Torres-Bigio, S. I., Kolekar, K., Gonzalez, A. G., Birnbaum, F., Blau, H. M.
2022

- **Tamoxifen treatment ameliorates contractile dysfunction of Duchenne muscular dystrophy stem cell-derived cardiomyocytes on bioengineered substrates** *NPJ Regenerative Medicine*
Birnbaum, F., Eguchi, A., Pardon, G., Chang, A. C., Blau, H. M.
2022
- **Increased tissue stiffness triggers contractile dysfunction and telomere shortening in dystrophic cardiomyocytes.** *Stem cell reports*
Chang, A. C., Pardon, G., Chang, A. C., Wu, H., Ong, S., Eguchi, A., Ancel, S., Holbrook, C., Ramunas, J., Ribeiro, A. J., LaGory, E. L., Wang, H., Koleckar, et al
2021
- **Single position substitution of hairpin pyrrole-imidazole polyamides imparts distinct DNA-binding profiles across the human genome.** *PloS one*
Finn, P. B., Bhimsaria, D. n., Ali, A. n., Eguchi, A. n., Ansari, A. Z., Dervan, P. B.
2020; 15 (12): e0243905
- **Reprogramming cell fate with artificial transcription factors.** *FEBS letters*
Heiderscheid, E. A., Eguchi, A., Spurgat, M. C., Ansari, A. Z.
2018; 592 (6): 888-900
- **Synthetic transcription elongation factors license transcription across repressive chromatin.** *Science (New York, N.Y.)*
Erwin, G. S., Grieshop, M. P., Ali, A., Qi, J., Lawlor, M., Kumar, D., Ahmad, I., McNally, A., Teider, N., Worringer, K., Sivasankaran, R., Syed, D. N., Eguchi, et al
2017; 358 (6370): 1617-1622
- **Reprogramming cell fate with a genome-scale library of artificial transcription factors.** *Proceedings of the National Academy of Sciences of the United States of America*
Eguchi, A., Wleklinski, M. J., Spurgat, M. C., Heiderscheid, E. A., Kropornicka, A. S., Vu, C. K., Bhimsaria, D., Swanson, S. A., Stewart, R., Ramanathan, P., Kamp, T. J., Slukvin, I., Thomson, et al
2016; 113 (51): E8257-E8266
- **Genome-wide Mapping of Drug-DNA Interactions in Cells with COSMIC (Crosslinking of Small Molecules to Isolate Chromatin).** *Journal of visualized experiments : JoVE*
Erwin, G. S., Grieshop, M. P., Bhimsaria, D., Eguchi, A., Rodríguez-Martínez, J. A., Ansari, A. Z.
2016: e53510
- **Mapping polyamide-DNA interactions in human cells reveals a new design strategy for effective targeting of genomic sites.** *Angewandte Chemie (International ed. in English)*
Erwin, G. S., Bhimsaria, D., Eguchi, A., Ansari, A. Z.
2014; 53 (38): 10124-8
- **Controlling gene networks and cell fate with precision-targeted DNA-binding proteins and small-molecule-based genome readers.** *The Biochemical journal*
Eguchi, A., Lee, G. O., Wan, F., Erwin, G. S., Ansari, A. Z.
2014; 462 (3): 397-413
- **Mitigation of peroxynitrite-mediated nitric oxide (NO) toxicity as a mechanism of induced adaptive NO resistance in the CNS** *JOURNAL OF NEUROCHEMISTRY*
Bishop, A., Gooch, R., Eguchi, A., Jeffrey, S., Smallwood, L., Anderson, J., Estevez, A. G.
2009; 109 (1): 74-84
- **Differential sensitivity of oligodendrocytes and motor neurons to reactive nitrogen species: implications for multiple sclerosis** *JOURNAL OF NEUROCHEMISTRY*
Bishop, A., Hobbs, K. G., Eguchi, A., Jeffrey, S., Smallwood, L., Pennie, C., Anderson, J., Estevez, A. G.
2009; 109 (1): 93-104