

Nobuko Hagiwara, M.S., Ph.D.

Clinical Interests	Nobuko Hagiwara has expertise in the field of molecular genetics. She completed postdoctoral training at the University of Iowa in biological sciences and the University of California, Irvine, in anatomy and neurobiology. She also was a postdoctoral fellow at the Fox Chase Cancer Center Institute for Cancer Research in Philadelphia, PA, and the University of Arizona College of Medicine in Tucson. The Hagiwara lab studies development of the heart and skeletal muscle at the molecular and cellular levels. We are researching the Sox6 mutant heart to understand the progression of early stages of heart failure. A deficiency of the Sox6 transcription factor shows cardiac and skeletal muscle degeneration and arrhythmia. Another interesting phenotype is fiber type distortion in skeletal muscle. Since specialization of slow- and fast-twitch fiber type is crucial for physiological function of skeletal muscle, Sox6 should play an important role in normal fetal muscle development as well as in muscle degenerative diseases. To understand the role of Sox6 in skeletal muscle development, we are investigating downstream targets and cofactors of the Sox6 protein. To conduct our research, we utilize genetic, molecular and cellular biology techniques.
Title	Assistant Professor
Specialty	Cardiovascular Medicine , Internal Medicine
Department	Internal Medicine
Division	Cardiovascular Medicine
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Education	Ph.D., University of Tokyo, Tokyo, 1995 B.S., Ochanomizu Women's University, Tokyo, 1984 M.S., Ochanomizu Women's University, Tokyo, 1987
Professional Memberships	American Heart Association Society for Developmental Biology Society for Neuroscience
Honors and Awards	Japanese Ministry of Education Scholarship for graduate studies abroad., 1986
Select Recent Publications	Odeh H, Hunker KL, Belyantseva IA, Azaiez H, Avenarius MR, Zheng L, Peters LM, Gagnon LH,

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- Hagiwara, N., Yeh M, and Liu A. (2007) Sox6 is required for normal fiber type differentiation of fetal skeletal muscle in mice. *Dev. Dynamics* 236: 2062-2076
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- Hagiwara, N., Ma, B., and Ly, A. (2005) Slow and fast fiber isoform gene expression is systematically altered in skeletal muscle of the Sox6 mutant, p100H. *Dev. Dynamics* 234:301-311
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- Newton, J.M., Cohen-Barak, O., Hagiwara, N., Gardner J.M., Davisson, M.T., King, R.A., Brilliant M.H. Mutations in the human orthologue of the mouse underwhite (*uw*) gene underlie a new form of oculocutaneous albinism, OCA4. *Am. J. Hum. Genet.* 69:981-988, 2001.
- Hagiwara, N., Klewer, S.E., Samson, R.A., Erickson, D.T., Lyon, M.F., and Brilliant, M.H. Sox6 is a candidate gene for p100H myopathy, heart block and sudden neonatal death. *Proc. Natl. Acad. Sci. USA* 97: 4180-4185, 2000.

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