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Laboratory Chief

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<Job History>

Apr./2010~Mar./2013

Research Fellowship for Young Scientists, Department of Pharmacology, Kyoto University Graduate School of Medicine

Apr./2013~Jul./2013

Research Fellow, Department of Pharmacology, Kyoto University Graduate School of Medicine

Aug./2013~Mar./2018

Associate Professor, Innovation Center for Immunoregulation Technologies and Drugs (AK project), Kyoto University Graduate School of Medicine

Apr./2018~ current

<Research topic>

Clarification of the molecular mechanism underlying the pathogenesis of intracranial aneurysm

Development of a novel therapeutic drug to treat an intracranial aneurysm

Development of a novel diagnostic method to detect a dangerous aneurysm

<Specialty>

Vascular biology, molecular biology, pharmacology, neurosurgery

<Education>

1995-2001 Department of Medicine, Kyoto University M.D.

2005-2009 Graduate School of Medicine, Kyoto University Ph.D.

<Selected Article>

- 1) Aoki T., Saito M., Koseki H., Tsuji K., Tsuji A., Murata K., Kasuya H., Morita A., Narumiya S., Nozaki K.; for MR macrophage imaging study investigators. Macrophage imaging of cerebral aneurysms with ferumoxytol: an exploratory study in an animal model and in patients. *J Stroke Cerebrovasc Dis.* 26(10):2055-2064, 2017
- 2) Aoki T., Frosen J., Fukuda M., Bando K., Shioi G., Tsuji K., Ollikainen E., Nozaki K., Laakkonen J., Narumiya S. Prostaglandin E2-EP2-NF- κ B signaling in macrophages as a potential therapeutic target of intracranial aneurysm. *Science Signaling* 10, eaah6037, 2017
- 3) Aoki T., Yamamoto R., Narumiya S. Targeting macrophages to treat intracranial aneurysm. *Oncotarget* 28;8(62):104704-104705, 2017
- 4) Aoki T., Yamamoto K., Fukuda M., Shimogonya Y., Fukuda S., Narumiya S. Sustained expression of MCP-1 by low wall shear stress loading concomitant with turbulent flow on endothelial cells of intracranial aneurysm. *Acta Neuropathologica Communications* 4(1):48, 2016
- 5) Aoki T., Nozaki K. Preemptive medicine for cerebral aneurysm. *Neurologia Medico-Chirurgica* 56(9):552-568, 2016
- 6) Yoshimura Y, Murakami Y, Saitoh M, Yokoi T, Aoki T , Miura K, Ueshima H, Nozaki K; SSS Research Group Statin Use and Risk of Cerebral Aneurysm Rupture: A Hospital-Based Case-Control Study in Japan. *J Stroke Cerebrovasc Dis.* 23(2): 343-348, 2013
- 7) Aoki T., Narumiya S. Prostaglandins and chronic inflammation. *Trends in Pharmacological Sciences* 33(6): 304-311, 2012
- 8) Aoki T., Nishimura M. The underlying mechanisms of cerebral aneurysm formation revealed by animal models. *Journal of Biomedicine and biotechnology; Special Issue: Animal model of human pathology.* Volume 2011: Article ID 535921, 2011
- 9) Aoki T., Nishimura M., Matsuoka T., Yamamoto K., Furuyashiki T., et.al. PGE₂-EP2 signaling in endothelium is activated to hemodynamic stress and induces cerebral aneurysm through an amplifying loop via NF- κ B. *Br. J. Pharmacol.* 163(6): 1237-1249, 2011
- 10) Aoki T., Kataoka H., Ishibashi R., Nozaki K., Hashimoto N. Impact of monocyte chemoattractant protein-1 deficiency on cerebral aneurysm formation. *Stroke* 40(3): 942-951, 2009
- 11) Aoki T., Kataoka H., Ishibashi R., Nozaki K., Hashimoto N. Simvastatin suppresses the progression of experimentally induced cerebral aneurysms in rats. *Stroke* 39(4): 1276-1285, 2008
- 12) Aoki T., Kataoka H., Shimamura M., Nakagami H., Wakayama K., et.al. NF- κ B is a key mediator of cerebral aneurysm formation. *Circulation* 116(24): 2830-2840, 2007
- 13) Aoki T., Kataoka, H., Morimoto M., Nozaki K., Hashimoto N. Macrophage-derived matrix metalloproteinase-2 and -9 promote the progression of cerebral aneurysms in rats. *Stroke* 38(1): 162-169, 2007