

List of Publications FY2013

A. WPI papers

1.) Original articles

01. Takibuchi G, Imanishi H, Morimoto M, Ishikawa K, Nakada K, Toyama-Sorimachi N, Kikkawa Y, Takenaga K, Hayashi J. Polymorphic mutations in mouse mitochondrial DNA regulate a tumor phenotype. *Mitochondrion*. 2013; 13 (6): 881-7.
02. Katada S, Mito T, Ogasawara E, Hayashi J, Nakada K. Mitochondrial DNA with a large-scale deletion causes two distinct mitochondrial disease phenotypes in mice. *G3 (Bethesda)*. 2013; 3 (9): 1545-52.
03. Zhang JP, Xu Q, Yuan XS, Cherasse Y, Schiffmann SN, de Kerchove d'Exaerde A, Qu WM, Urade Y, Lazarus M, Huang ZL, Li RX. Projections of nucleus accumbens adenosine A2A receptor neurons in the mouse brain and their implications in mediating sleep-wake regulation. *Front Neuroanat*. 2013; 7: 43.
04. Zhang J, Zou F, Tang J, Zhang Q, Gong Y, Wang Q, Shen Y, Xiong L, Breyer RM, Lazarus M, Funk CD, Yu Y. COX-2-Derived PGE2 Promotes Injury-Induced Vascular Neointimal Hyperplasia Through the EP3 Receptor. *Circ Res*. 2013. Jul 5; 113 (2): 104-14.
05. Oda S, Funato H, Sato F, Adachi-Akahane S, Ito M, Takase K, Kuroda M. A subset of thalamocortical projections to the retrosplenial cortex possesses two vesicular glutamate transporter isoforms, VGluT1 and VGluT2, in axon terminals as well as somata. *J. Comp. Neurol*. 2013.
06. Takase K, Oda S, Kuroda M, Funato H. Monoaminergic and neuropeptidergic neurons have distinct expression profiles of histone deacetylases. *PLoS One*. 2013; 8 (3): e58473.
07. Suzuki A, Sinton CM, Greene RW, Yanagisawa M. Behavioral and biochemical dissociation of arousal and homeostatic sleep need influenced by prior wakeful experience in mice. *Proc Natl Acad Sci U S A*. 2013; 110 (25): 10288-93.
08. Fujimoto Y, Nakagawa Y, Satoh A, Okuda K, Shingyouchi A, Naka A, Matsuzaka T, Iwasaki H, Kobayashi K, Yahagi N, Shimada M, Yatoh S, Suzuki H, Yogosawa S, Izumi T, Sone H, Urayama O, Yamada N, Shimano H. TFE3 Controls Lipid Metabolism in Adipose Tissue of Male Mice by Suppressing Lipolysis and Thermogenesis. *Endocrinology*. 2013; 154 (10): 3577-88.
09. Horie T, Nishino T, Baba O, Kuwabara Y, Nakao T, Nishiga M, Usami S, Izuhara M, Sowa N, Yahagi N, Shimano H, Matsumura S, Inoue K, Marusawa H, Nakamura T, Hasegawa K, Kume N, Yokode M, Kita T, Kimura T, Ono K. MicroRNA-33 regulates sterol regulatory element-binding protein 1 expression in mice. *Nat Commun*. 2013; 4: 2883.
10. Wada T, Miyashita Y, Sasaki M, Aruga Y, Nakamura Y, Ishii Y, Sasahara M, Kanasaki K, Kitada M, Koya D, Shimano H, Tsuneki H, Sasaoka T. Eplerenone ameliorates the phenotypes of metabolic syndrome with NASH in liver-specific SREBP-1c Tg mice fed high-fat and high-fructose diet. *Am J Physiol Endocrinol Metab*. 2013; 305 (11): E1415-25.
11. Sunaga H, Matsui H, Ueno M, Maeno T, Iso T, Syamsunarno MR, Anjo S, Matsuzaka T, Shimano H, Yokoyama T, Kurabayashi M. Deranged fatty acid composition causes pulmonary fibrosis in Elovl6-deficient mice. *Nat Commun*. 2013; 4: 2563.
12. Tsujino N, Tsunematsu T, Uchigashima M, Konno K, Yamanaka A, Kobayashi K, Watanabe M, Koyama Y, Sakurai T. Chronic alterations in monoaminergic cells in the locus coeruleus in orexin neuron-ablated narcoleptic mice. *PLoS One*. 2013; 8 (7): e70012.

13. Furutani N, Hondo M, Kageyama H, Tsujino N, Mieda M, Yanagisawa M, Shioda S, Sakurai T. Neurotensin co-expressed in orexin-producing neurons in the lateral hypothalamus plays an important role in regulation of sleep/wakefulness States. *PLoS One*. 2013; 8 (4): e62391.
14. Soya S, Shoji H, Hasegawa E, Hondo M, Miyakawa T, Yanagisawa M, Mieda M, Sakurai T. Orexin receptor-1 in the locus coeruleus plays an important role in cue-dependent fear memory consolidation. *J Neurosci*. 2013; 33 (36): 14549-57.
15. Yamamizu K, Furuta S, Hamada Y, Yamashita A, Kuzumaki N, Narita M, Doi K, Katayama S, Nagase H, Yamashita JK, Narita M. κ Opioids inhibit tumor angiogenesis by suppressing VEGF signaling. *Scientific Reports*. 2013; 3: 3213.
16. Nemoto T, Ida Y, Iihara Y, Nakajima R, Hirayama S, Iwai T, Fujii H, Nagase H. The most effective influence of 17-(3-ethoxypropyl) substituent on the binding affinity and the agonistic activity in KNT-127 derivatives, δ opioid receptor agonists. *Bioorg Med Chem*. 2013; 21 (24): 7628-47.
17. Ikeda Y, Kumagai H, Skach A, Sato M, Yanagisawa M. Modulation of circadian glucocorticoid oscillation via adrenal opioid-CXCR7 signaling alters emotional behavior. *Cell*. 2013; 155 (6): 1323-36.

2.) Review articles

18. Lazarus M, Chen J, Urade Y, Huang Z. Role of the basal ganglia in the control of sleep and wakefulness. *Curr. Opin. Neurobiol.* 2013; 23 (5): 780-785.
19. Fujii H, Takahashi T, Nagase H. Non-peptidic δ opioid receptor agonists and antagonists (2000 - 2012). *Expert Opin Ther Pat*. 2013; 23 (9): 1181-208

3.) Proceedings

None.

4.) Other English articles

20. Greene RW. Role for neuronal nitric oxide synthase in sleep homeostasis and arousal. *Proc Natl Acad Sci U S A*. 2013; 110 (50): 19982-3.

5.) Articles written in other than English

None.

B. WPI-related papers

1.) Original articles

21. Ano S, Morishima Y, Ishii Y, Yoh K, Yageta Y, Ohtsuka S, Matsuyama M, Kawaguchi M, Takahashi S, Hizawa N. Transcription factors GATA-3 and ROR γ t are important for determining the phenotype of asthmatic airway inflammation in a murine model of asthma. *J Immunol*. 2013; 190: 1056-1065.
22. Oishi H, Tsubaki T, Miyazaki T, Ono M, Nose M, Takahashi S. A bacterial artificial chromosome transgene with polymorphic Cd72 inhibits the development of glomerulonephritis and vasculitis in MRL-Fas^{lpr} lupus mice. *J Immunol*. 2013; 190 (5): 2129-37.
23. Kudo T, Sato T, Hagiwara K, Kozuma Y, Yamaguchi T, Ikehara Y, Hamada M, Matsumoto K, Ema M, Murata S, Ohkohchi N, Narimatsu H, Takahashi S. C1galt1-deficient mice exhibit thrombocytopenia due to abnormal terminal differentiation of megakaryocytes. *Blood*. 2013; 122 (9): 1649-57.

24. Izumida Y, Yahagi N, Takeuchi Y, Nishi M, Shikama A, Takarada A, Masuda Y, Kubota M, Matsuzaka T, Nakagawa Y, Iizuka Y, Itaka K, Kataoka K, Shioda S, Nijima A, Yamada T, Katagiri H, Nagai R, Yamada N, Kadowaki T, Shimano H. Glycogen shortage during fasting triggers liver-brain-adipose neurocircuitry to facilitate fat utilization. *Nat Commun.* 2013; 4: 2316.
25. Inoue Y, Shimizu T, Hirata K, Uchimura N, Ishigooka J, Oka Y, Ikeda J, Tomida T, Hattori N; Rotigotine Trial Group. Efficacy and safety of rotigotine in Japanese patients with restless legs syndrome: a phase 3, multicenter, randomized, placebo-controlled, double-blind, parallel-group study. *Sleep Med.* 2013; 14 (11): 1085-91.
26. Echizenya M, Suda H, Takeshima M, Inomata Y, Shimizu T. Total sleep deprivation followed by sleep phase advance and bright light therapy in drug-resistant mood disorders. *J Affect Disord.* 2013; 144 (1-2): 28-33.
27. Kohlmeier KA, Tyler CJ, Kalogiannis M, Ishibashi M, Kristensen MP, Gumenchuk I, Chemelli RM, Kisanuki Y, Yanagisawa M and Leonard CS. Differential actions of orexin receptors in brainstem cholinergic and monoaminergic neurons revealed by receptor knockouts: implications for orexinergic signaling in arousal and narcolepsy. *Front. Neurosci.* 2013; 7: 246.
28. Yoo SH, Mohawk JA, Sieppka SM, Shan Y, Huh SK, Hong HK, Kornblum I, Kumar V, Koike N, Xu M, Nussbaum J, Liu X, Chen Z, Chen ZJ, Green CB, Takahashi JS. Competing E3 ubiquitin ligases govern circadian periodicity by degradation of CRY in nucleus and cytoplasm. *Cell.* 2013; 152 (5): 1091-105.
29. Gao P, Yoo SH, Lee KJ, Rosensweig C, Takahashi JS, Chen BP, Green CB. Phosphorylation of the Cryptochrome 1 C-terminal tail regulates circadian period length. *J Biol Chem.* 2013; 288 (49): 35277-86.
30. Yu X, Rollins D, Ruhn KA, Stubblefield JJ, Green CB, Kashiwada M, Rothman PB, Takahashi JS, Hooper LV. TH17 cell differentiation is regulated by the circadian clock. *Science.* 2013; 342 (6159): 727-30.
31. Evans JF, Islam S, Urade Y, Eguchi N, Ragolia L. The lipocalin-type prostaglandin D2 synthase knockout mouse model of insulin resistance and obesity demonstrates early hypothalamic-pituitary-adrenal axis hyperactivity. *J Endocrinol.* 2013; 216 (2), 169-80.
32. Kallweit U, Aritake K, Bassetti CL, Blumenthal S, Hayaishi O, Linnebank M, Baumann CR, Urade Y. Elevated CSF histamine levels in multiple sclerosis patients. *Fluids Barriers CNS.* 2013; 10 (1), 19.
33. Kan-o K, Matsunaga Y, Fukuyama S, Moriwaki A, Hirai-Kitajima H, Yokomizo T, Aritake K, Urade Y, Nakanishi Y, Inoue H, Matsumoto K. Mast cells contribute to double-stranded RNA-induced augmentation of airway eosinophilia in a murine model of asthma. *Respir Res.* 2013; 14: 28.
34. Murata T, Aritake K, Tsubosaka Y, Maruyama T, Nakagawa T, Hori M, Hirai H, Nakamura M, Narumiya S, Urade Y, Ozaki H. Anti-inflammatory role of PGD2 in acute lung inflammation and therapeutic application of its signal enhancement. *Proc Natl Acad Sci U S A.* 2013; 110 (13): 5205-10.
35. Nakagawa T, Takeuchi A, Kakiuchi R, Lee T, Yagi M, Awano H, Iijima K, Takeshima Y, Urade Y, Matsuo M. A prostaglandin D2 metabolite is elevated in the urine of Duchenne muscular dystrophy patients and increases further from 8 years old. *Clin Chim Acta.* 2013; 423: 10-4.
36. Ono M, Ogasawara M, Hirose A, Mogami S, Ootake N, Aritake K, Higuchi T, Okamoto N, Sakamoto S, Yamamoto M, Urade Y, Saibara T, Oben JA. Bofutsushosan, a Japanese herbal (Kampo) medicine, attenuates progression of nonalcoholic steatohepatitis in mice. *J Gastroenterol.* 2013.
37. Philibert P, Boizet-Bonhoure B, Bashamboo A, Paris F, Aritake K, Urade Y, Leger J, Sultan C, Poulat F. Unilateral cryptorchidism in mice mutant for Ptgds. *Hum Mutat.* 2013; 34 (2): 278-82.
38. Sunagawa G, Sei H, Shimba S, Urade Y, Ueda, H. R., FASTER: an unsupervised fully automated sleep

staging method for mice. *Genes Cells*. 2013; 18 (6): 502-18.

39. Taketomi Y, Ueno N, Kojima T, Sato H, Murase R, Yamamoto K, Tanaka S, Sakanaka M, Nakamura M, Nishito Y, Kawana M, Kambe N, Ikeda K, Taguchi R, Nakamizo S, Kabashima K, Gelb MH, Arita M, Yokomizo T, Watanabe K, Hirai H, Okayama Y, Ra C, Aritake K, Urade Y, Morimoto K, Sugimoto Y, Shimizu T, Narumiya S, Hara S, Murakami M. Mast cell maturation is driven via a group III phospholipase A2-prostaglandin D2-DP1 receptor paracrine axis. *Nat Immunol*. 2013; 14 (6): 554-63.

40. Wang Q, Yue XF, Qu WM, Tan R, Zheng P, Urade Y, Huang ZL. Morphine inhibits sleep-promoting neurons in the ventrolateral preoptic area via mu receptors and induces wakefulness in rats. *Neuropsychopharmacology*. 2013; 38 (5), 791-801.

41. Yamamoto K, Higashiura A, Suzuki M, Aritake K, Urade Y, Uodome N, Nakagawa A. Crystal structure of a *Bombyx mori* sigma-class glutathione transferase exhibiting prostaglandin E synthase activity. *Biochim Biophys Acta*. 2013; 1830 (6): 3711-8.

42. Yasuda K, Cline C, Vogel P, Onciu M, Fatima S, Sorrentino BP, Thirumaran R K, Ekins S, Urade Y, Fujimori K, Schuetz EG. Drug transporters on arachnoid barrier cells contribute to the blood-cerebrospinal fluid barrier. *Drug Metab Dispos*. 2013; 41 (4): 923-31.

43. Saito YC, Tsujino N, Hasegawa E, Akashi K, Abe M, Mieda M, Sakimura K, Sakurai T. GABAergic neurons in the preoptic area send direct inhibitory projections to orexin neurons. *Front Neural Circuits*. 2013; 7: 192.

44. Harada H, Warabi E, Matsuki T, Yanagawa T, Okada K, Uwayama J, Ikeda A, Nakaso K, Kirii K, Noguchi N, Bukawa H, Siow RC, Mann GE, Shoda J, Ishii T, Sakurai T. Deficiency of p62/Sequestosome 1 causes hyperphagia due to leptin resistance in the brain. *J Neurosci*. 2013; 33 (37): 14767-77.

45. Takahashi Y, Zhang W, Sameshima K, Kuroki C, Matsumoto A, Sunanaga J, Kono Y, Sakurai T, Kanmura Y, Kuwaki T. Orexin neurons are indispensable for prostaglandin E2-induced fever and defence against environmental cooling in mice. *J Physiol*. 2013; 591 (Pt 22): 5623-43.

46. Nisimaru N, Mittal C, Shirai Y, Sooksawate T, Anandaraj P, Hashikawa T, Nagao S, Arata A, Sakurai T, Yamamoto M, Ito M. Orexin-neuromodulated cerebellar circuit controls redistribution of arterial blood flows for defense behavior in rabbits. *Proc Natl Acad Sci U S A*. 2013; 110 (35): 14124-31.

47. Yang L, Zou B, Xiong X, Pascual C, Xie J, Malik A, Xie J, Sakurai T, Xie XS. Hypocretin/orexin neurons contribute to hippocampus-dependent social memory and synaptic plasticity in mice. *J Neurosci*. 2013; 33 (12): 5275-84.

48. Shimomura K, Kumar V, Koike N, Kim TK, Chong J, Buhr ED, Whiteley AR, Low SS, Omura C, Fenner D, Owens JR, Richards M, Yoo SH, Hong HK, Vitaterna MH, Bass J, Pletcher MT, Wiltshire T, Hogenesch J, Lowrey PL, Takahashi JS. *Uf1*, a suppressor of the circadian Clock mutant, reveals the nature of the DNA-binding of the CLOCK:BMAL1 complex in mice. *Elife*. 2013; 2: e00426.

49. Bookout AL, de Groot MH, Owen BM, Lee S, Gautron L, Lawrence HL, Ding X, Elmquist JK, Takahashi JS, Mangelsdorf DJ, Kliewer SA. FGF21 regulates metabolism and circadian behavior by acting on the nervous system. *Nat Med*. 2013; 19 (9): 1147-52.

50. Kumar V, Kim K, Joseph C, Kourrich S, Yoo SH, Huang HC, Vitaterna MH, de Villena FP, Churchill G, Bonci A, Takahashi JS. C57BL/6N mutation in cytoplasmic FMRP interacting protein 2 regulates cocaine response. *Science*. 2013; 342 (6165): 1508-12.

51. Nagase H, Fujii H. Essential structure of the κ opioid receptor agonist nalfurafine for binding to the κ receptor. *Curr Pharm Des*. 2013; 19 (42): 7400-14.

52. Saitoh A, Sugiyama A, Yamada M, Inagaki M, Oka J, Nagase H, Yamada M. The novel δ opioid receptor agonist KNT-127 produces distinct anxiolytic-like effects in rats without producing the adverse effects

associated with benzodiazepines. *Neuropharmacol.* 2013; 67: 485-93.

53. Tokunaga J, Sato S, Kanbayashi T, Imanishi A, Sagawa Y, Sato M, Sakai N, Nishino S, Shimizu T. Sympathetic and parasympathetic control of heart rate response to restraint stress during the vulnerable period in newborn rats. *Akita J. Med.* 2013; 40 (2): 89-103.

54. Mito T, Kikkawa Y, Shimizu A, Hashizume O, Katada S, Imanishi H, Ota A, Kato Y, Nakada K, Hayashi J. Mitochondrial DNA mutations in mutator mice confer respiration defects and B-cell lymphoma development. *PLoS One.* 2013; 8 (2): e55789.

2.) Review articles

55. Kumar V, Andersen B, Takahashi JS. Epidermal stem cells ride the circadian wave. *Genome Biol.* 2013; 14 (11): 140.

56. Godwin AR, Kojima S, Green CB, Wilusz J. Kiss your tail goodbye: the role of PARN, Nocturnin, and Angel deadenylases in mRNA biology. *Biochim Biophys Acta.* 2013; 1829 (6-7): 571-9.

3.) Proceedings

None.

4.) Other English articles

57. Kikuchi Y, Ataka K, Yagisawa K, Omori Y, Shimizu K, Kanbayashi T, Shimizu T. Clozapine-induced cardiomyopathy: A first case in Japan. *Schizophr Res.* 2013; 150 (2-3): 586-7.

5.) Articles written in other than English

Japanese:

58. Kobayashi N, Haoka T, Usami K, Yoshino S, Kikuchi A, Suzuki S, Doki S, Hirai Y, Kaneko H, Seki A, Sho N, Ohi Y, Tomotsune Y, Sasahara S, Matsuzaki I. Long-term Variability in the Sense of Coherence among Return-to-Work Program. *Journal of Physical Fitness, Nutrition and Immunology.* 2013; 23 (2): 56-63.

59. Seki A, Tomotsune Y, Ohi Y, Hirai Y, Suzuki S, Doki S, Kaneko H, Sho N, Usami K, Sasahara S, Matsuzaki I. A Relationship between Sense of Coherence and Psycho-social Work Characteristics - Validation of Causal Relationship Using Structural Equation Modeling. *Journal of Physical Fitness, Nutrition and Immunology.* 2013; 23 (2): 64-71.

60. Kaneko H, Ohi Y, Doki S, Hirai Y, Suzuki S, Kobayashi N, Seki A, Sho N, Usami K, Tomotsune Y, Sasahara S, Matsuzaki I. Conditions Surrounding Potential Suicide Victims in Japan: an Analysis of Calls to Ibaraki Inochi No Denwa. *Journal of Physical Fitness, Nutrition and Immunology.* 2013; 23 (2): 72-86.