CURRICULUM VITAE

Atsushi Takeda, Ph.D.

ACADEMIC POSITION: Professor
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EDUCATION:
Bachelor of Pharmaceutical Sciences (Radiobiochemistry); Division of Radiobiochemistry and Radiopharmacology, Shizuoka College of Pharmacy, Shizuoka 1978.
Doctor of Pharmaceutical Sciences (Ph.D. Radiobiochemistry); Shizuoka College of Pharmacy, Shizuoka 1990, Thesis: Studies on ^{99m}Tc-DL-homocysteine as an imaging agent for tumor detection.

PROFESSIONAL HISTORY:
Instructor, Division of Radiobiochemistry and Radiopharmacology, Shizuoka College of Pharmacy, April 1981
Instructor, Department of Radiobiochemistry, School of Pharmaceutical Sciences, University of Shizuoka, April 1987
Assistant Professor, Department of Radiobiochemistry, School of Pharmaceutical Sciences, University of Shizuoka, April 1991
Research scholar, Department of Pharmacology, University of Nebraska Medical Center, June 1992 to September 1992
Research scholar, Department of Neuroscience & Anatomy, M.S. Hershey Medical Center, Pennsylvania State University, April 1995 to May 1996
Associate Professor, Department of Medical Biochemistry, School of Pharmaceutical Sciences, University of Shizuoka, November 2000
Professor, Department of Neurophysiology, School of Pharmaceutical Sciences, University of Shizuoka, April 2012

HONOR (AWARD)
Japanese Society of Award for Trace Elements (1997)
The Pharmaceutical Society of Japan Award for Divisional Scientific Promotions (2004)

PUBUCATION
Original article (2012 ~ present)

1. Atsushi Takeda, Yuta koike, Misa Osaw, Haruna Tamano: Characteristic of extracellular Zn^{2+} influx in the middle-aged dentate gyrus and its involvement in attenuation of LTP. **Mol. Neurobiol.**, in press, DOI: 10.1007/s12035-017-0472-z.
2. Atsushi Takeda, Haruna Tamano, Marie Hisatsune, Taku Murakami, Hiroyuki Nakada, Hiroaki Fujii: Maintained LTP and memory are lost by Zn^{2+} influx into dentate granule

cells, but not Ca^{2+} influx. **Mol. Neurobiol.**, in press, DOI: 10.1007/s12035-017-0428-3.

3. Yuki Fujise, Mitsuyasu Kubota, Miki Suzuki, Haruna Tamano, Atsushi Takeda: Blockade of intracellular Zn^{2+} signaling in the basolateral amygdala affects object recognition memory via attenuation of dentate gyrus LTP. **Neurochem. Int.**, in press, DOI; 10.1016/j.neuint.2017.01.014.
4. Haruna Tamano, Ryusuke Nishio, Yukina Shakushi, Miku Sasaki, Yuta koike, Misa Osawa, and Atsushi Takeda: In vitro and in vivo physiology of low nanomolar concentrations of Zn^{2+} in artificial cerebrospinal fluid. **Sci. Rep.**, 7: 42897 DOI: 10.1038/srep42897 (2017).
5. Haruna Tamano, Kazuki Ide, Paul Anthony Adlard, Ashley Ian Bush, and Atsushi Takeda: Involvement of Hippocampal Excitability in Amyloid β-induced Behavioral and Psychological Symptoms of Dementia. **J. Toxicol. Sci.**, 41, 449-457 (2016).
6. Haruna Tamano, Enya Yusuke, Kazuki Ide, Atsushi Takeda: Influences of Yokukansankachimpihange on aggressive behavior of zinc-deficient mice and actions of the ingredients on excessive neural exocytosis in the hippocampus of zinc-deficient rats. **Exp. Anim.**, 65, 353-361 (2016).
7. Haruna Tamano, Yukina Shakushi, Mitsugu Watanabe, Kazumi Ohashi, Chihiro Uematsu, Tadamune Otsubo, Kiyoshi Ikeda, and Atsushi Takeda: Preventive effect of 3,5-dihydroxy-4-methoxybenzyl alcohol and zinc, Pacific oyster components, on glutamatergic neuron activity in the hippocampus. **Biol. Bul.**, 229, 282-288 (2015).
8. Hiroyuki Yamamoto, Tomohiro Yamane, Kazuaki Iguchi, Kiyotaka Tanaka, Arunasiri Iddamalgoda, Keiko Unno, Minoru Hoshino, Atsushi Takeda: Melanin production through novel processing of proopiomelanocortin in the extracellular compartment of the auricular skin of C57BL/6 mice after UV-irradiation. **Sci. Rep.**, 5, 14579 (2015).
9. Atsushi Takeda, Yukina Shakushi, and Haruna Tamano: Modification of hippocampal excitability in brain slices pretreated with low nanomolar concentration of Zn^{2+}. **J. Neurosci. Res.**, 93, 1641-1647 (2015).
10. Atsushi Takeda, Miki Suzuki, Munekazu Tempaku, Kazumi Ohashi, Haruna Tamano: Influx of extracellular Zn^{2+} into the hippocampal CA1 neurons is required for cognitive performance via long-term potentiation. **Neuroscience**, 304, 209-216 (2015).
11. Miki Suzuki, Yuki Fujise, Yuka Tsuchiya, Haruna Tamano, Atsushi Takeda: Excess influx of Zn^{2+} into dentate granule cells affects object recognition memory via attenuated LTP. **Neurochem. Int.**, 87, 60-65 (2015).
12. Haruna Tamano, Tatsuya Minamino, Hiroaki Fujii, Shunsuke Takada, Masatoshi Nakamura, Masaki Ando, and Atsushi Takeda: Blockade of intracellular Zn^{2+} signaling in the dentate gyrus erases recognition memory via impairment of maintained LTP. **Hippocampus**, 25, 952-962 (2015).
13. Atsushi Takeda, Masatoshi Nakamura, Hiroaki Fujii, Chihiro Uematsu, Tatsuya Minamino, Paul A. Adlard, Ashley I. Bush, Haruna Tamano: Amyloid β-mediated Zn^{2+} influx into dentate granule cells transiently induces a short-term cognitive deficit. **PLoS One**, 9, e115923 (2014).
14. Atsushi Takeda, Haruna Tamano, Taisuke Ogawa, Shunsuke Takada, Masatoshi

Nakamura, Hiroaki Fujii, Masaki Ando: Intracellular Zn^{2+} signaling in the dentate gyrus is required for object recognition memory. **Hippocampus** 24, 1404-1412 (2014).
15. Haruna Tamano, Kotaro Fukura, Miki Suzuki, Kazuhiro Sakamoto, Hidehiko Yokogoshi, Atsushi Takeda: Advantageous effect of theanine intake on cognition. **Nutri. Neurosci.**, 17, 279-283 (2014).
16. Hiroyuki Yamamoto, Hiromi Shimokawa, Tatsuomi Haga, Yuki Fukui, Kazuaki Iguchi, Keiko Unno, Minoru Hoshino, Atsushi Takeda: The Expression of Relaxin-3 in Adipose Tissue and its Effects on Adipogenesis. **Protein Pept Lett.**, 21, 517-522 (2014).
17. Akira Minami, Hiroshi, Matsushita, Yuuki Horii, Daisuke Ieno, Yukino Matsuda, Masakazu Saito, Hiroaki Kanazawa, Yuriko Ohyama, Akihiko Wakatsuki, Atsushi Takeda, Kazuya IPJ Hidari, Vilineswary Sabaratnam, Takashi Suzuki: Improvement of Depression-Like Behavior and Memory Impairment with the Ethanol Extract of Pleurotus eryngii in Ovariectomized Rats. **Biol. Pharm. Bull.**, 36: 1990-1995 (2013).
18. Keiko Unno, Naoki Tanida, Naoto Ishii, Hiroyuki Yamamoto, Kazuaki Iguchi, Minoru Hoshino, Atsushi Takeda, Hayato Ozawa, Tsutomu Ohkubo, Lekh R Juneja, Hiroshi Yamada: Anti-stress effect of theanine on students during pharmacy practice: Positive correlation among salivary α-amylase activity, trait anxiety and subjective stress. **Pharmacol. Biochem. Behav.,** 111, 128-135 (2013).
19. Atsushi Takeda, Masashi Iida, Masaki Ando, Masatoshi Nakamura, Haruna Tamano, Naoto Oku: Enhanced susceptibility to spontaneous seizures of Noda epileptic rats by loss of synaptic Zn^{2+}. **PLoS One**, 8, e71374 (2013).
20. Haruna Tamano, Kotaro Fukura, Miki Suzuki, Kazuhiro Sakamoto, Hidehiko Yokogoshi, Atsushi Takeda: Preventive effect of theanine intake on stress-induced impairments of hippocamapal long-term potentiation and recognition memory. **Brain Res. Bull.**, 95, 1-6 (2013).
21. Hiroyuki Yamamoto, Rina Okada, Kazuaki Iguchi, Satoshi Ohno, Takashi Yokogawa, Kazuya Nishikawa, Keiko Unno, Minoru Hoshino, Atsushi Takeda: Involvement of plasmin-mediated extracellular activation of progalanin in angiogenesis. **Biochem. Biophys. Res. Commun.**, 430, 999-1004 (2013).
22. Atsushi Takeda, Haruka Iwaki, Kazuki Ide, Haruna Tamano and Naoto Oku: Therapeutic effect of Yokukansan on social isolation-induced aggressive behavior of zinc-deficient and pair-fed mice. **Brain Res. Bull.**, 87, 551-555 (2012).
23. Atsushi Takeda, Miki Suzuki, Haruna Tamano, Shunsuke Takada, Kazuki Ide, Naoto Oku: Involvement of glucocorticoid-mediated Zn^{2+} signaling in attenuation of hippocampal CA1 LTP by acute stress. **Neurochem. Int.**, 60, 394-399 (2012).
24. Atsushi Takeda, Kosuke Itagaki, Masaki Ando, and Naoto Oku: Involvement of NMDA receptor subunits in zinc-mediated modification of CA1 LTP in the developing hippocampus. **J. Neurosci. Res.**, 90, 551-558 (2012).
25. Atsushi Takeda, Haruna Tamano, Miki Suzuki, Kazuhiro Sakamoto, Naoto Oku, Hidehiko Yokogoshi: Unique induction of CA1 LTP components after intake of theanine, an amino acid in tea leaves and its effect on stress response. **Cell. Mol. Neurobiol.**, 32, 41-48 (2012).

26. Atsushi Takeda, Haruna Tamano, Taisuke Ogawa, Shunsuke Takada, Masaki Ando, Naoto Oku, Mitsugu Watanabe: Significance of serum glucocorticoid and chelatable zinc in depression and cognition in zinc deficiency. **Behav. Brain Res.**, 226, 259-264 (2012).

Review (2012 ~ present)

1. Atsushi Takeda, Haruna Tamano, Ryusuke Nishio, and Taku Murakami: Behavioral abnormality induced by enhanced hypothalamo-pituitary-adrenocortical axis activity under dietary zinc deficiency and its usefulness as models. **Int. J. Mol. Sci.**, 17, 1149 (2016).
2. Atsushi Takeda and Hanuna Tamano: Insight into cognitive decline from Zn^{2+} dynamics through extracellular signaling of glutamate and glucocorticoids. **Arch. Biochem. Biophys.**, 611, 93-99 (2016).
3. Atsushi Takeda and Hanuna Tamano: Innervation from the entorhinal cortex to the dentate gyrus and the vulnerability to Zn^{2+}. **J. Trace Elem. Med. Biol.**, 38, 19-23 (2016).
4. Hanuna Tamano, Yuta Koike, Hiroyuki Nakada, Yukina Shakushi, and Atsushi Takeda: Significance of synaptic Zn^{2+} signaling in zincergic and non-zincergic synapses in the hippocampus in cognition. **J. Trace Elem. Med. Biol.**, 38, 93-98 (2016)
5. Atsushi Takeda and Haruna Tamano: Significance of low nanomolar concentration of Zn^{2+} in artificial cerebrospinal fluid. **Mol. Neurobiol.**, Mar 16, PMID: 26984599, DOI: 10.1007/s12035-016-9816-3 (2016).
6. Atsushi Takeda and Haruna Tamano: Significance of the degree of synaptic Zn^{2+} signaling in cognition. **BioMetals**, 29, 177-185 (2016).
7. Haruna Tamano and Atsushi Takeda: Is interaction of amyloid β-peptides with metals involved in cognitive activity? **Metallomics**, 7, 1205-1212 (2015).
8. Atsushi Takeda and Haruna Tamano: Regulation of extracellular Zn^{2+} homeostasis in the hippocampus as a therapeutic target for Alzheimer's disease. **Expert Opin. Ther. Tar.**, 19, 1-8 (2015).
9. Atsushi Takeda: Significance of Zn^{2+} signaling in cognition: insight from synaptic Zn^{2+} dysfomeostasis. **J. Trace Elem. Med. Biol.**, 28, 393-396 (2014).
10. Atsushi Takeda, Hiroaki Fujii, Tatsuya Minamino, Haruna Tamano: Intracellular Zn^{2+} signaling in cognition. **J. Neurosci. Res.**, 92, 819-824 (2014).
11. Atsushi Takeda and Haruna Tamano: Cognitive decline due to excess synaptic Zn^{2+} signaling in the hippocampus. **Front. Aging Neurosci.**, 6, 26 (2014).
12. Atsushi Takeda, Masatoshi Nakamura, Hiroaki Fujii, Haruna Tamano: Synaptic Zn^{2+} homeostasis and its significance. **Metallomics**, 5, 417-423 (2013).
13. Atsushi Takeda and Haruna Tamano: Proposed glucocorticoid-mediated zinc signaling in the hippocampus. **Metallomics**, 4, 614-618 (2012).
14. Atsushi Takeda: Zinc signaling in the hippocampus and its relation to pathogenesis of depression. **J. Trace Elem. Med. Biol.**, 26, 80-84 (2012).