

Molecular and Cognitive Neuroscience (Molecular Neuroscience)

1. Staffs and Students (April, 2010)

Professor	Kohichi Tanaka	
Assistant Professor	Okiru Komine(~November)	
Assistant Professor	Tomomi Aida	
Secretary	Akiko Kusunoki (October ~),	Emi Sunabori
Graduate Student	Tomoharu Nakamori,	Shuichi Maeda,
	Daiji Kanbe,	Yuri Hirota,
	Sayaka Kato	

2. Purpose of Education

The final goal of our research is to understand molecular, cellular, and neuronal ensemble mechanisms underlying higher order brain functions including learning and memory. For that purpose, we combine molecular genetics, physiological and behavioral methods. The laboratory also studies the mechanism that underlies neuronal cell death and regeneration

3. Research Subjects

- 1) Functions of glutamate transporters in the brain.
- 2) Role of MYCN in medulloblastoma
- 3) A neural circuit critical for imprinting behavior in chicks

4. Publications

Original Article

1. Harada, C., Namekata, K., Guo, X., Yoshida, H., Mitamura, Y., Matsumoto, Y., Tanaka, K., Ichijo, H., Harada, T. ASK1 deficiency attenuates neural cell death in a GLAST deficient mice, a model of normal tension glaucoma. *Cell Death Differ* 17. 1751-1759, 2010
2. Paukert, M., Huang, Y.H., Tanaka, K., Rothstein, J.D., Bergles, D.E. Zones of enhanced glutamate release from climbing fibers in the mammalian cerebellum. *J Neurosci* 30. 7290-7299, 2010.
3. Woltjer, RL., Duerson K., Fullmer, JM., Mookherjee, P., Ryan, AM., Montine, TJ., Kaye, JA., Quinn, JF., Silbert, L., Erten-Lyons, D., Leverenz, JB., Bird, TD., Pow, DV., Tanaka, K., Watson, S., Cook, DG. Aberrant detergent-insoluble EAAT2 accumulates in Alzheimer' s disease. *J Neuropath Exp Neur* 69. 667-676, 2010.
4. Swartling, F.J., Grimmer, M., Hackett, C.S., Northcott, P.A., Fan, Q-W., Goldenberg, D.D., Lau, J., Masic, S., Nguyen, K., Yakovenko, S., Zhe, X-N., Glimer, H.C.F., Collins, R., Nagaoka, M., Phillips, J.J., Jenkins, R.B., Tihan, T., Vandenberg, S.R., James, C.D., Tanaka, K., Taylor, M.D., Weiss, W.A., Chesler, L. Pleiotropic Role for MYCN in medulloblastoma. *Genes Dev* 24. 1059-1072, 2010.
5. Nakamori, T., Sato, K., Atoji, Y., Kanamatsu, T., Tanaka, K., Ohki-Hamazaki, H. Demonstration of a neural circuit critical for the imprinting behavior in chicks. *J Neurosci* 30. 4467-4480, 2010.