Stem Cell Regulation

1. Staffs and Students

Professor	Tetsuya TAGA
Associate Professor	Tetsushi KAGAWA (April 2009-)
Associate Professor	Ikuo Nobuhisa (April 2009-)
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Technical Assistant	Rie TAGUCHI (August 2009-)
Technical Assistant	Yasuhiro KOKUBU (April 2009-)
PhD Student	Norihisa BIZEN (April 2009-)
Special Research Student	Ahmed RAMADAN (April 2009-)
Special Research Student	Yuhei YAMAGUCHI (April 2009-)
Research Student	Maha ANANI (October 2009-)

2. Purpose of Education

Our education has been conducted through the research on elucidation of mechanisms by which multicellular organs, in particular the central nervous and hematopoietic systems, are developed. We have specially focused on molecular regulation of neural stem cells, hematopoietic stem cells, and cancer stem cells in view of cell-external cues such as cytokines as well as cell-intrinsic programs including chromatin modification. These projects have been performed, for instance by analyzing cross-interactions of transcriptional regulatory signaling pathways, which lead to spatio-temporally coordinated gene expression.

3. Research Subjects

1) Molecular basis for the maintenance of neural stem cells
2) Regulation of the neural stem cell fate
3) Characterization of hematopoietic stem cells in fetal hematopoietic organs
4) Characterization of cancer stem cells
5) Epigenetic regulation of neural development

4. Publications

Original Article

1. Fukushima M, Setoguchi T, Komiya S, Tanihara H, Taga T. Retinal astrocyte differentiation mediated by leukemia inhibitory factor in cooperation with bone morphogenetic protein 2. Int J Dev Neurosci. 27:685-690, 2009
2. Namihira M, Kohyama J, Semi K, Sanosaka T, Deneen B, Taga T, Nakashima K. Committed neuronal precursors confer astrocytic potential on residual neural precursor cells. Dev Cell 16:245-255, 2009.