Stem Cell Regulation

1. Staffs and Students

Professor	Tetsuya TAGA
Associate Professor	Tetsushi KAGAWA
Associate Professor	Ikuo NOBUHISA
Project Assistant Professor	Taichi KASHIWAGI (April 2010-)
Project Assistant Professor	Ahmed RAMADAN (April-September 2010)
JSPS Research Fellow	Kouichi TABU
Administrative Assistant	Mako FUSHIMI
Technical Assistant	Rie TAGUCHI
Technical Assistant	Yuhei YAMAGUCHI (-March 2010)
Graduate Student	Norihisa BIZEN
Graduate Student	Maha ANANI (April 2010-)
Graduate Student	Yasuhiro KOKUBU (April 2010-)
Graduate Student	Rieko NOMURA (April 2010-)
Graduate Student	Suguru KINOSHITA (April 2010-)
Graduate Student	Yuuki TAKAZAWA (April 2010-)
Research Student	Yin WU (April 2010-)

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 elucidation of stem cell characteristics, analysis of transcriptional regulatory signaling pathways, and identification of niche signals.

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. Inoue T, Kagawa T, Inoue-Mochita M, Isono K, Ohtsu N, Nobuhisa I, Fukushima M, Tanihara H, and Taga T: Involvement of the HIPK family in regulation of eyeball size, lens formation and retinal morphogenesis. FEBS Lett. 584:3233-3238, 2010.
2. Yoshinaga Y, Kagawa T, Shimizu T, Inoue T, Takada S, Kuratsu J, and Taga T: Wnt3a promotes hippocampal neurogenesis by shortening cell cycle duration of neural progenitor cells. Cell. Mol. Neurobiol. 30:1049-1058, 2010.
3. Ramadan A, Nobuhisa I, Yamasaki S, Nakagata N, and Taga T: Cells with hematopoietic activity in the mouse placenta reside in side population. Genes Cells 15:983-994, 2010.
4. Tabu K, Kimura T, Sasai K, Wang L, Bizen N, Nishihara H, Taga T, and Tanaka S: Analysis of an alternative human CD133 promoter reveals the implication of Ras/ERK pathway in tumor stem-like hallmarks. Mol. Cancer 9:39, 2010.