



## Kenkichi SUGIMOTO, Dr. Sci.

Associate Professor

Program: Life and Food Sciences

Area: Life Sciences

Dept. of Life and Food Sciences

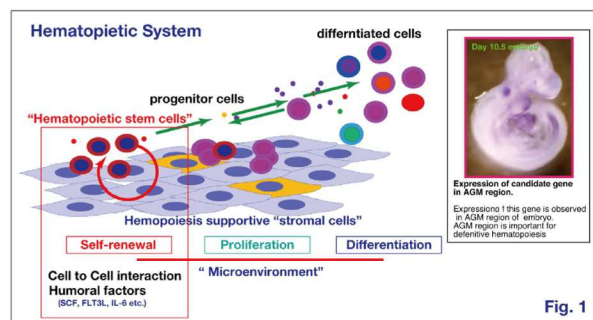
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### Professional Expertise

#### Running theme of Sugimoto laboratory

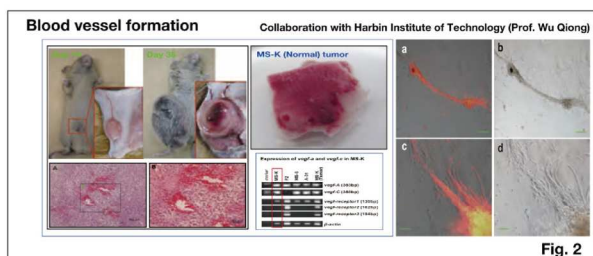
##### 1. Self-renewal of the stem cells.

Multi-potency and self-renewal are the most important characters of the stem cells. Even though the iPS cell was made, it is still difficult to maintain the multi-potency of the iPS cells. We are trying to elucidate the mechanism of self-renewal of hematopoietic stem cells, using the techniques of molecular cloning, cell culture technology and *in vivo* assay system (Fig. 1).



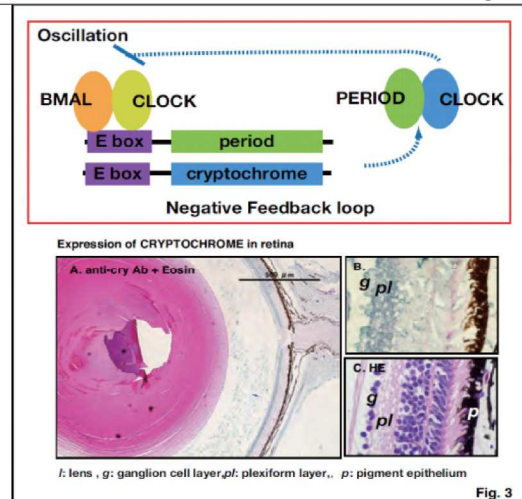
##### 2. Blood vessel formation.

Blood vessel formation is also not completely elucidated. We are trying to elucidate the regulation mechanism of blood vessel formation using some murine cell line and mouse (Fig. 2).



##### 3. Circadian rhythm.

Almost all the life on the earth has the biological clock. Its rhythm has about 24 hours cycle. Light is known as the major environmental cue, that affects the rhythm. The biological clock consists of three parts; Input system, oscillation system and the output system. The oscillation is generated at the SCN region in the brain. However, the oscillation mechanism in hibernator is not clarified yet. We are trying to elucidate the oscillation mechanism of amphibian, using the Japanese tree frog (*Hyla japonica*), as a hibernator.



### Research Fields of Interest

- Hematopoiesis
- Angiogenesis
- Circadian rhythm
- Molecular biology

## Education

1994: Doctor of Science, Faculty of Science and Technology, Niigata University

1990: Master of Science, Faculty of Science and Technology, Niigata University

1988: Bachelor of Science, Department of Biology, Niigata University

## Professional Societies and Activities

1. Member of the Japanese Society of Hematology
2. Member of the Japanese Society of Molecular Biology

## Awards

Poster award in the Japanese Society of Hematology (2005)

## Collaboration

Harbin Institute of Technology, Professor Wu Qiong (China)

## Major Publications

[1] "Expression of macro non-coding RNAs Meg8 and Irm in mouse embryonic development." Tiantian Gu, Hongjuan He, Zhengbin Han, Tiebo Zheng, Zhijun Huang, Qi Liu, Ning Gu, Yan Chen, Kenkichi Sugimoto, Huijie Jiang, Qiong Wu: *Acta Histochemia*, 2011 in press.

[2] "Expression of non-coding RNA AB063319 derived from *Rian* gene during mouse development." Tiantian Gu, Hongjuan He, Yanjiang Xing, Qi Liu, Ning Gu, Sugimoto Kenkichi, Huijie Jiang, Qiong Wu: *J Mol Hist*, 42, 105-112, 2011.

[3] "Effect of gene knock down on growth of the murine sarcoma cell line, MS-K." Xiu Ying Zhong, Asami Yoshioka, Yuka Mashio, Toru Ikeda, Huijie Jiang, Maki Touma, Qiong Wu, ChanLiu Wang and Kenkichi Sugimoto, *Genes to Cells*, 16, 625-638, 2011.

[4] "Cold stress and lights signals induce the expression of *cold-inducible RNA-binding protein (cirp)* in the brain and eye of the Japanese Treefrog (*Hyla Japonica*)". Kenkichi Sugimoto & Jiang HJ, *Comp. Biochem and Physiol. Part A*. 151, 628-636, 2008.

[5] "HB-1, an acute myeloid leukemic cell line with the capability of infiltrating into the brain in CBA/N mice". Jiang HJ, Sun HS, Wang XD, Wang CL, Liu ZL, Gonda H, Sugimoto K. : *Sheng Li Xue Bao*. Aug 25;58(4):377-383. 2006.

[6] "Murine serum obtained from bone marrow-transplanted mice promotes the proliferation of hematopoietic stem cells by co-culture with MS-5 murine stromal cells". Akemi Nakayama, Haruna Matsui, Teruaki, Fukushima, Hiroshi Ichikawa, Kensuke Yamada, Takuji Amao, Masamichi Hosono & Kenkichi Sugimoto : *Growth Factors*, 24, 55-65, 2006.

[7] "Cloning of hibernation related genes of bullfrog (*Rana catesbeiana*) by cDNA subtraction". *Comp. Biochem and Physiol. part B*, 133,85-94,2002. Qiong Wu, Kenkichi Sugimoto, Keiko Moriyama, Yasuhiro Adachi, Akemi Nakayama, Kazuhiro J. Mori

[8] "Identification of negative regulator of interleukin-3 (NIL-3) in bone marrow". Yasuhiro Adachi, Kenkichi Sugimoto, Asako, K. Sato and Kazuhiro J. Mori : *Cell struc. Func.* 27, 81-89, 2002.

[9] "Induction of the expression of SCF in mouse by lethal irradiation". Kenkichi Sugimoto, Yasuhiro Adachi, Keiko Moriyama, Wu Qiong, Akemi Nakayama, Masamichi Hosono and Kazuhiro J. Mori. : *Growth Factors*, 19, 219-231, 2001.

[10] "Cloning and characterization of amphibian cold inducible RNA-binding protein". Saitoh, T., Sugimoto, K., Adachi, Y., Wu, Q. and Mori, K.J. : *Comp. Biochem and Physiol. part B*, 125, 237-245, 2000.