

## Rio Sugimura, M.D., Ph.D.

**Rio Sugimura, M.D., Ph.D.**  
**PI, Assistant Professor, The University of Hong Kong**  
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### Education:

2012 PhD Stem Cell Biology, Stowers Institute for Medical Research, Kansas City, MO  
Thesis title (published in *Cell*): Investigating the functional roles of Flamingo and Frizzled8 in hematopoietic stem cells.

2008 MD Osaka University Medical School

### Research Experience:

2020- PI, Assistant Professor, University of Hong Kong, HK

- cancer immunotherapy

2020 Visiting Professor, University of Pavia, Italy

- cancer immunotherapy

2018-2020 Research Scientist, Kyoto University, Japan

- analysis of signaling pathways in human developmental hematopoiesis

2014-2018 Postdoctoral Fellow, Boston Children's Hospital

- induction of hematopoietic stem cells from human pluripotent stem cells

2012-2014 Postgraduate Researcher, Stowers Institute for Medical Research

- analysis of morphogens in hematopoietic stem cell maintenance

### Ongoing Funding:

2020-2020 Uehara Foundation, \$18,000 (USD \$)

2019-2020 KAKENHI Early Career Grant, Japanese Government, \$42,000

2019-2020 Takeda Science Foundation, \$18,000

2019-2020 CiRA Challenge Grant, \$25,000

### Past Funding:

2020 Research Scholarship of the University of Pavia, \$10,000

2019-2020 iPS Academia Japan Fellowship, \$18,000

2018-2020 Initiative for Excellent Young Researchers, \$150,000

2018-2019 SMRF Fellowship, \$8,000

2019 Kanehara Memorial Foundation, \$2,000

2016-2018 American Society of Hematology Scholar Award, \$100,000

2015-2016 Uehara Memorial Foundation CiRA, \$10,000

### Awards:

2019 Kanehara Memorial Foundation

2013 Genius Prize, Young Hematologist Meeting in Japan

2013 Abstract Achievement Award, American Society of Hematology

2009 March of Dimes Scholarship

2007 Kishimoto Memorial Scholarship

### Patents:

## Rio Sugimura, M.D., Ph.D.

Practitioner's Docket Number 701039-087152-PCT. Publication number: 20190119643.  
HEMATOPOIETIC STEM AND PROGENITOR CELLS DERIVED FROM  
HEMOGENIC ENDOTHELIAL CELLS.

### Publications:

Citations = 1,188 (Google Scholar, Dec. 11, 2020)

1. **Sugimura, R\***, Ohta, R\*, Mori, C., Li, A., Mano, T., Sano, E., Kosugi, K., Nakahata, T., Niwa, A., Saito, M., Torisawa, Y. (2020) Biomimetic Aorta-Gonad-Mesonephros on-a-Chip to Study Human Developmental Hematopoiesis. **Biomedical Microfluidics** *in press*. **\*equal contribution**
2. Ohta, R\*, **Sugimura, R\***, Niwa, A., Saito, M. (2019) Hemogenic Endothelium Differentiation from Human Pluripotent Stem Cells in A Feeder- and Xeno-Free Defined Condition. **Journal of Visualized Experiments**. **\*equal contribution**
3. **Sugimura, R.**, Jha, D., Han, A., Soria-Valles, C., da Rocha, E., Lu, Y., Goettel, J., Serrao, E., Rowe, R., Malleshaiah, M., Wong, I., Sousa, P., Zhu, T., Ditadi, A., Keller, G., Engelman, A., Snapper, S., Doulatov, S., Daley, G. (2017) Hematopoietic Stem and Progenitor Cells from Human Pluripotent Stem Cells. **Nature**. 545, 432-438.
4. Venkatraman, A., He, X.C., Thorvaldsen, J., **Sugimura, R.**, Perry, P., Tao, F., Zhao, M., Christenson, M., Sanchez, R., Yu, J., Peng, L., Haug, J., Paulson, A., Li, H., Zhong, X., Clemens, T., Bartlomei, M., Li, L. (2013). Maternal-imprinting at H19-Igf2 locus maintains adult hematopoietic stem cell quiescence. **Nature**. 500, 345-349.
5. **Sugimura, R.**, He, X.C., Venkatraman, A., Arai, F., Box, A., Semerad, C., Haug, J., Peng, L., Zhong, X., Suda, T., Li, L. (2012). Noncanonical Wnt signaling maintains hematopoietic stem cells in the niche. **Cell**. 150, 351-365.
6. Perry, J.M., He, X.C., **Sugimura, R.**, Grindley, J.C., Haug, J.S., Ding, S., and Li, L. (2011). Cooperation between both Wnt/ $\beta$ -catenin and PTEN/PI3K/Akt signaling promotes primitive hematopoietic stem cell self-renewal and expansion. **Genes & development**. 25, 1928-1942.

### Preprints:

1. **Sugimura, R\*#.**, Ohta, R\*, Mori, C., Sano, E., Sugiyama, T., Nagasawa, T., Niwa, A., Torisawa, Y., Saito, M. (2019) Angiocrine factors from HUVECs amplify erythroid cells. **Biorxiv**. **\*equal contribution, #corresponding**

### Reviews:

1. **Sugimura, R.** (2019). Derivation of Hematopoietic Stem and Progenitor Cells from Human Pluripotent Stem Cells. **Methods in Mol. Biol.** doi: 10.1007/978-1-4939-9524-0\_3.
2. **Sugimura, R.** (2018). The significance and application of vascular niche in the development and maintenance of hematopoietic stem cells. **Int. Journal of Hematology**. doi: 10.1007/s12185-018-2450-2.
3. **Sugimura R.** (2015). Bioengineering Hematopoietic Stem Cell Niche toward Regenerative Medicine **Adv Drug Deliv Rev**. S0169-409X(15)00235-5.
4. He XC, Li Z, **Sugimura R**, Ross J, Zhao M, and Li L. (2014). Homing and migration assays of hematopoietic stem/progenitor cells. **Methods in Mol Biol**. 1185:279-84.
5. Perry, J., He, X., **Sugimura, R.**, and Li, L. (2013). Stem Cell Dormancy: Maintaining a Reserved Population. **Advances in Molecular Biology and Medicine** volume 1, 119-132

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6. **Sugimura, R.** and Li, L. (2011). Bone metastasis targets the endosteal hematopoietic stem cell niche. **IBMS BoneKEy**, 8, 381-384.
7. **Sugimura, R.**, and Li, L. (2010a). Noncanonical Wnt signaling in vertebrate development, stem cells, and diseases. **Birth Defects Res C Embryo Today** 90, 243-256.
8. **Sugimura, R.**, and Li, L. (2010b). Shifting in balance between osteogenesis and adipogenesis substantially influences hematopoiesis. **J Mol Cell Biol** 2, 61-62.

**Press Releases:**

Los Angeles Times, 2017. Scientists get closer to making personalized blood cells by using patients' own stem cells.

<https://www.latimes.com/science/sciencenow/la-sci-sn-blood-stem-cells-20170517-story.html>