Stanford

Masashi Miyauchi

Basic Life Research Scientist, Medicine - Med/Hematology

Bio

BIO

Masashi Miyauchi, MD, PhD, is a physician-scientist specializing in hematology, oncology, immunology, and stem cell biology, with over a decade of experience in clinical hematology and oncology. Dr. Miyauchi's academic career commenced at Kyoto University, where he obtained his MD in Medicine. He furthered his expertise with a PhD in Internal Medicine from The University of Tokyo, Graduate School of Medicine. Following his comprehensive clinical training and professional appointments at The University of Tokyo Hospital, Dr. Miyauchi embarked on a postdoctoral journey at Stanford University in the Nakauchi lab, starting in July 2019.

Dr. Miyauchi's clinical training is extensive, including a Senior Residency in Internal Medicine and a Clinical Fellowship in Hematology and Oncology at The University of Tokyo Hospital. This period was complemented by his participation in a Cancer Professional Training Plan. After completing his clinical fellowship, Dr. Miyauchi has served in various pivotal roles at The University of Tokyo Hospital and The University of Tokyo. His positions as a clinically-focused Project Assistant Professor and Assistant Professor in the Department of Hematology and Oncology have enabled him to contribute significantly to pioneering research and education for the next wave of medical professionals.

In his PhD research, Dr. Miyauchi specialized in the disease modeling of cancers and cancer stem cells, employing cancer patient-specific induced pluripotent stem cells (iPSCs). His work with iPSCs notably includes scalable ex vivo manufacturing of human neutrophils. In his postdoctoral research under the guidance of Dr. Hiromitsu Nakauchi in Genetics at Stanford, Dr. Miyauchi has been concentrating on developing a stable hematopoietic stem cell (HSC) expansion system in both mouse and human models. His research is focused on exploring the potential applications of this expansion system, underlining his commitment to advancing the fields of stem cell biology, regenerative medicine and oncology.

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Board Certified Hematologist, Japanese Society of Hematology (2017 - present)
- Board Certified Occupational Physician, , Japanese Medical Association (2018 - present)

PROFESSIONAL EDUCATION

- Clinical Fellow, The University of Tokyo Hospital , Hematology (2017)
- Clinical Traninig, The University of Tokyo , Clinical Oncology (2015)
- Doctor of Philosophy, The University of Tokyo , Medicine (2015)
- Doctor of Medicine, Kyoto University (2009)

Publications

PUBLICATIONS

- **Engineered Hematopoietic Stem Cells Give Rise to Therapeutic Antibody Secreting B Cells**
  Luna, S., Feist, W., Utz, A., Ghanim, H., Miyauchi, M., Selvaraj, S., Amaya, A., Ekman, F., Russkamp, N., Schmiderer, L., Porteus, M.
  CELL PRESS.2025

- **Highly efficient in vivo hematopoietic stem cell transduction using an optimized self-complementary adeno-associated virus** *MOLECULAR THERAPY METHODS & CLINICAL DEVELOPMENT*
  Charlesworth, C. T., Homma, S., Amaya, A. K., Dib, C., Vaidyanathan, S., Tan, T., Miyauchi, M., Nakauchi, Y., Suchy, F. P., Wang, S., Igarashi, K. J., Cromer, M., Dudek, et al
  2025; 33 (1)

- **Highly efficient in vivo hematopoietic stem cell transduction using an optimized self-complementary adeno-associated virus.** *Molecular therapy. Methods & clinical development*
  Charlesworth, C. T., Homma, S., Amaya, A. K., Dib, C., Vaidyanathan, S., Tan, T. K., Miyauchi, M., Nakauchi, Y., Suchy, F. P., Wang, S., Igarashi, K. J., Cromer, M. K., Dudek, et al
  2025; 33 (1): 101438

- **Identification of the Saga Complex As a Key Regulator of Hematopoiesis**
  Haney, M., Shankar, A., Olender, L., Hsu, I., Miyauchi, M., Meaker, G., Kaito, S., Rizq, O., Khoo, H., Bozhilov, Y., Palovics, R., Igarashi, K., Bhadury, et al
  ELSEVIER.2024: 5623

- **DNMT3AR882H Is Not Required for Disease Maintenance in Primary Human AML, but Is Associated With Increased Leukemia Stem Cell Frequency.** *bioRxiv : the preprint server for biology*
  Köhnke, T., Karigane, D., Hilgart, E., Fan, A. C., Kayamori, K., Miyauchi, M., Collins, C. T., Suchy, F. P., Rangavajhula, A., Feng, Y., Nakauchi, Y., Martinez-Montes, E., Fowler, et al
  2024

- **HYPDXIC/SCF-SUPPLEMENTED CULTURE IN POLYMER-BASED MEDIUM ENABLES STABLE EX VIVO HUMAN HEMATOPOIETIC STEM CELL EXPANSION**
  Miyauchi, M., Mack, P., Bhadury, J., Tan, A., Suchy, F., Zhang, J., Charlesworth, C., Homma, S., Karigane, D., Nakauchi, H.
  ELSEVIER SCIENCE INC.2024

- **AKT2 inhibition accelerates the acquisition of phagocytic ability in iPSCs-derived neutrophils.** *Experimental hematology*
  Hino, T., Nakahara, F., Miyauchi, M., Ito, Y., Masamoto, Y., Morita, K., Kagoya, Y., Kojima, H., Kurokawa, M.
  2023: 104137

- **LARGE-SCALE IN VIVO CRISPR SCREENS IDENTIFY SAGA COMPLEX MEMBERS AS KEY REGULATORS OF HAEMATOPOIESIS**
  Wilkinson, A., Haney, M., Shankar, A., Hsu, I., Miyauchi, M., Palovics, R., Olender, L., Khoo, H., Igarashi, K., Bhadury, J., Munson, C., Mack, P., Tan, et al
  ELSEVIER SCIENCE INC.2023: S43

- **Heterozygous Dnmt3a R878C Induces Expansion of Quiescent Hematopoietic Stem Cell Pool.** *Experimental hematology*
  Higo, T., Suzuki, Y., Sato, M., Koya, J., Mizuno, H., Miyauchi, M., Masamoto, Y., Kataoka, K., Sumitomo, Y., Tsuruta-Kishino, T., Sato, T., Kurokawa, M.
  2022

- **PRC1 activity of EED as an essential survival factor in acute myeloid leukemia with monosomy 7**
  Matsuda, K., Kagoya, Y., Mizuno, H., Yamazaki, S., Miyauchi, M., Kurokawa, M.
  WILEY.2021: 454

- **Efficient production of human neutrophils from iPSCs that prevent murine lethal infection with immune cell recruitment.** *Blood*
  Masashi, M., Ito, Y., Nakahara, F., Hino, T., Nakamura, F., Iwasaki, Y., Kawagoshi, T., Koya, J., Yoshimi, A., Arai, S., Kagoya, Y., Kurokawa, M.
  2021

- **Difference of preventing effects of G-CSF according to age in patients with malignant lymphoma: A nation-wide analysis in Japan.** *Journal of infection and chemotherapy : official journal of the Japan Society of Chemotherapy*
  Matsuda, K., Jo, T., Miyauchi, M., Toyama, K., Nakazaki, K., Matsui, H., Fushimi, K., Yasunaga, H., Kurokawa, M.

2021; 27 (8): 1151-1155

- **A retrospective analysis on arteritis after administration of granulocyte colony-stimulating factor.** *Annals of hematology*
  Sasaki, K., Matsuda, K., Miyauchi, M., Honda, A., Shimura, A., Masamoto, Y., Kurokawa, M.
  2021; 100 (5): 1341-1343
- **Loss-of-function mutations in BCOR contribute to chemotherapy resistance in acute myeloid leukemia.** *Experimental hematology*
  Honda, A., Koya, J., Yoshimi, A., Miyauchi, M., Taoka, K., Kataoka, K., Arai, S., Kurokawa, M.
  2021; 101-102: 42-48.e11
- **CAMK2G is identified as a novel therapeutic target for myelofibrosis.** *Blood advances*
  Miyauchi, M., Sasaki, K., Kagoya, Y., Taoka, K., Masamoto, Y., Yamazaki, S., Arai, S., Mizuno, H., Kurokawa, M.
  2021
- **EED or BRD4 inhibition as a novel therapeutic strategy in acute myeloid leukemia with monosomy 7**
  Matsuda, K., Kagoya, Y., Mizuno, H., Yamazaki, S., Miyauchi, M., Kurokawa, M.
  AMER ASSOC CANCER RESEARCH.2020
- **Primary prophylaxis with pegfilgrastim in patients with newly-diagnosed diffuse large B-cell lymphoma: propensity score and instrumental variable analyses.** *Leukemia & lymphoma*
  Matsuda, K. n., Taisuke, J. n., Miyauchi, M. n., Toyama, K. n., Nakazaki, K. n., Matsui, H. n., Fushimi, K. n., Yasunaga, H. n., Kurokawa, M. n.
  2020; 61 (10): 2435–41
- **Primary Prophylaxis with Pegfilgrastim in Patients with Newly Diagnosed Diffuse Large B-Cell Lymphoma: A Nation-Wide, Propensity Score Based Analysis**
  Matsuda, K., Jo, T., Miyauchi, M., Toyama, K., Nakazaki, K., Yasunaga, H., Kurokawa, M.
  AMER SOC HEMATOLOGY.2019
- **Genetically Engineered Hematopoietic Progenitors Derived from Human Induced Pluripotent Stem Cells Achieve the Feeder-Free and Robust Production of Neutrophils with the Functional Capacity In Vivo**
  Miyauchi, M., Ito, Y., Nakahara, F., Nakamura, F., Iwasaki, Y., Kawagoshi, T., Kagoya, Y., Arai, S., Kurokawa, M.
  AMER SOC HEMATOLOGY.2019
- **Synthetic Lethality-Based Approach Identified EED and BRD4 As Critical Survival Factorsin Acte Myeloid Leukemia with Monosomy 7**
  Matsuda, K., Kagoya, Y., Yamazaki, S., Miyauchi, M., Kurokawa, M.
  AMER SOC HEMATOLOGY.2019
- **Relative dose intensity of R-CHOP treatment and febrile neutropenia incidence: A nation-wide survey**
  Matsuda, K., Jo, T., Miyauchi, M., Toyama, K., Nakazaki, K., Yasunaga, H., Kurokawa, M.
  OXFORD UNIV PRESS.2019
- **Significance of biopsy with ERCP for diagnosis of bile duct invasion of DLBCL.** *International journal of hematology*
  Ito, Y. n., Miyauchi, M. n., Nakamura, T. n., Takahara, N. n., Nakai, Y. n., Taoka, K. n., Toyama, K. n., Shinozaki-Ushiku, A. n., Koike, K. n., Kurokawa, M. n.
  2019
- **Arteritis after administration of granulocyte colony-stimulating factor: a case series.** *International journal of hematology*
  Sasaki, K. n., Miyauchi, M. n., Ogura, M. n., Shimura-Nukina, A. n., Toyama, K. n., Nakazaki, K. n., Watadani, T. n., Abe, O. n., Kurokawa, M. n.
  2019
- **Calcium/calmodulin dependent protein kinase 2 is identified as a potential therapeutic target of myelofibrosis**
  Miyauchi, M., Taoka, K., Masamoto, Y., Yamazaki, S., Arai, S., Kurokawa, M.
  WILEY.2018: 660
- **Calcium/Calmodulin Dependent Protein Kinase 2 Gamma Is Identified As a Potential Therapeutic Target of Myelofibrosis Using Disease-Specific Induced Pluripotent Stem Cells**
  Miyauchi, M., Sasaki, K., Taoka, K., Masamoto, Y., Yamazaki, S., Arai, S., Kurokawa, M.
  AMER SOC HEMATOLOGY.2018
- **Using patient-derived iPSCs to develop humanized mouse models for chronic myelomonocytic leukemia and therapeutic drug identification, including liposomal clodronate.** *Scientific reports*

Taoka, K. n., Arai, S. n., Kataoka, K. n., Hosoi, M. n., Miyauchi, M. n., Yamazaki, S. n., Honda, A. n., Aixinjueluo, W. n., Kobayashi, T. n., Kumano, K. n., Yoshimi, A. n., Otsu, M. n., Niwa, et al

2018; 8 (1): 15855

- **ADAM8 Is an Antigen of Tyrosine Kinase Inhibitor-Resistant Chronic Myeloid Leukemia Cells Identified by Patient-Derived Induced Pluripotent Stem Cells.** *Stem cell reports*

  Miyauchi, M. n., Koya, J. n., Arai, S. n., Yamazaki, S. n., Honda, A. n., Kataoka, K. n., Yoshimi, A. n., Taoka, K. n., Kumano, K. n., Kurokawa, M. n.

  2018; 10 (3): 1115–30

- **Patient-Derived Induced Pluripotent Stem Cells Revealed ADAM8/CD156 As a Novel Marker of TKI-Resistant Chronic Myeloid Leukemia Cells**

  Miyauchi, M., Arai, S., Honda, A., Yamazaki, S., Kataoka, K., Yoshimi, A., Taoka, K., Kumano, K., Kurokawa, M.

  AMER SOC HEMATOLOGY.2016

- **Modeling of hematologic malignancies by iPS technology.** *Experimental hematology*

  Arai, S. n., Miyauchi, M. n., Kurokawa, M. n.

  2015; 43 (8): 654–60

- **Targeted gene correction of RUNX1 in induced pluripotent stem cells derived from familial platelet disorder with propensity to myeloid malignancy restores normal megakaryopoiesis.** *Experimental hematology*

  Iizuka, H. n., Kagoya, Y. n., Kataoka, K. n., Yoshimi, A. n., Miyauchi, M. n., Taoka, K. n., Kumano, K. n., Yamamoto, T. n., Hotta, A. n., Arai, S. n., Kurokawa, M. n.

  2015; 43 (10): 849–57

- **[Induced pluripotent stem cells from leukemia patients as a platform for dissecting pathogenesis].** *[Rinsho ketsueki] The Japanese journal of clinical hematology*

  Kurokawa, M., Miyauchi, M.

  2014; 55 (10): 2202-7

- **Efficacy of pleural biopsy for diagnosis of pleural effusion due to chronic GVHD after hematopoietic stem cell transplantation.** *International journal of hematology*

  Miyauchi, M. n., Yoshimi, A. n., Nannya, Y. n., Takazawa, Y. n., Ichikawa, M. n., Fukayama, M. n., Kurokawa, M. n.

  2012; 96 (1): 146–48

- **Pituitary lymphoma developing within pituitary adenoma.** *International journal of hematology*

  Morita, K. n., Nakamura, F. n., Kamikubo, Y. n., Mizuno, N. n., Miyauchi, M. n., Yamamoto, G. n., Nannya, Y. n., Ichikawa, M. n., Kurokawa, M. n.

  2012; 95 (6): 721–24