

CURRICULUM VITAE
Shigetaka Asano, M. D. & Ph.D.
(Jan, 2015)

Titles & Affiliation

Guest Research Professor, Waseda University. Visiting Professor, Chairman, Department of Systemic Bio-Pathology, Faculty of Medicine, Kobe University. Technical Advisor, Foundation of Biomedical Research & Innovation. Director, (NPO) Strategic Network for Consolidated Research of Medical Sciences in Asia (SN-CRMSA)



Honorary Positions

Professor Emeritus: the University of Tokyo. Professor Emeritus, Waseda University. Honorary Professor, The Institute of Hematology, The Chinese Academy of Medical Science (China). Honorary Professor, Department of Medicine, The Peking University (China). Honorary Members, The Japanese Society of Hematology, The Japanese Society of Bone Marrow & Blood Hematopoietic Cell Transplantation, The Japanese Society of Cancer, The Japanese Society of Inflammation and Regeneration. Honorary Director, The Japanese OMICS Medical Society, etc.

Education

1962-68: The Faculty of Medicine, The University of Tokyo.

Main Scientific Achievements

- ① Discovery of neutropoietin(G-CSF)-producing human tumors ,
- ② Successful in vitro growth of human T-lymphocytes infiltrating human tumors,
- ③ R&D and successful clinical-grade manufacturing of bio-medical agent 'Lenograstim (recombinant natural human G-CSF),
- ④ Establishment of public human bone marrow and cord blood banking system
- ⑤ Scientific proofs of perinatal tissue-derived allo-immune suppressive activity

Rewards

1990: Erwin von Belz Prize,
1993: Nikkei BP Technology Prize,
1997: Award of International Biology of Hematopoiesis,
1999: The JOA Award for Gene Therapy,
2004: The Minister Prize of The Ministry of Education, Culture, Sports, Science & Technology Prize,
2013: The Okuma Memorial Award
2017: Order of the Sacred Treasure (瑞宝章, Zuihō-shō)

Record of Professor Shigetaka Asano's Achievement

Shigetaka Asano, M.D., Ph.D.

Shigetaka Asano was born in Yamaguchi prefecture in Japan on February 7, 1943. After graduating from University of Tokyo School of Medicine in September 1968 with medical license, he entered the 3rd Department of Internal Medicine of University of Tokyo School of Medicine where he concurrently served as Assistant Professor of Jichi Medical University and Researcher of Biochemistry Laboratory in Tokyo Medical and Dental University through Medical Associate in the First National Hospital of Tokyo. He earned Ph.D. degree from University of Tokyo School of Medicine in December 1978, then studied abroad as Visiting Researcher at the Walter and Eliza Hall Institute of Medical Research in Australia for a year and a half. After returning, he took up the position of Lecturer, Associate Professor and finally Professor of Institute of Medical Science, University of Tokyo in April 1991, partially serving as Professor of the 4th Department of Internal Medicine of University of Tokyo School of Medicine. He was appointed as Director of Research Hospital, the Institute of Medical Science, the University of Tokyo for 9 years from April 1994 to March 2003 and Director of newly established Advanced Clinical Research Center of the institute from March 2001 until he retired in March 2004 to be Professor Emeritus of University of Tokyo in June 2004.

He subsequently took responsibility at Waseda University for 9 years from April 2004 to March 2013 as Professor of Department of Life Science and Medical Bioscience, School of Advanced Science and Engineering, playing concurrent role as General Manager of bioethics domain of Consolidated Research Institute for Advanced Science and Medical Care newly installed in April 2004, Director of Project Research Institute of Embryonal Epigenic Regulation, Comprehensive Research Organization from April 2007 to March 2009, Director of Institute for Research on Reconstruction from the Great East Japan Earthquake/Advanced Institute for Environmental Science and Medical Engineering from April 2011 to September 2012 to be Invited Professor in April 2013 and Professor Emeritus of Waseda University in May 2013.

Along with the positions referred above, he was appointed as Professor Emeritus of Research Institute of Hematology in China in September 1992, Professor Emeritus of Peking University School of Medicine in June 2002, Visiting Principal Professor of Kobe University Graduate School of Medicine, non-full-time Lecturer of Kyushu University and Okayama University. Outside the universities, he took important roles as Member

of the Science Council of Japan for 5 years from June 2002 to November 2007, Chairman, Leader and Member of Government Committees and Independent Administrative Agencies, Chairman, Director, Trustee and Councilor of Public Interest Corporations and Academic Societies, Editor and Referee of domestic and international Academic Journals. He is still assigned as Honorary Member of Japanese Society of Hematology, Japanese Cancer Association, Japan Society for Hematopoietic Stem Cell Transplantation and Japanese Society of Inflammation and Regeneration, Member of Merit of Japanese Society of Internal Medicine, Adviser of Japan Society of Gene Therapy, Collaborative Member of Science Council of Japan, Member of Network Congress of National Institute of Radiological Sciences, Trustee of Donated Blood Distribution Foundation and Steering Member of the Tokyo Bank, Trustee of Tokyo Biochemical Research Foundation, Nakatani Foundation for Advancement of Measuring Technologies in Biomedical Engineering and Novartis Foundation (Japan) for the Promotion of Science, Chairman of Public Health Foundation and Director of Institute for Advanced Biomedical Science, Trustee of Japan Science Support Foundation, Bio-Venture Association Originated from Universities and Japan Healthy Baric Association, Secretary General of Asian Hematology Association, President of AsiaCORD, Strategic Network for Consolidated Research of Medical Sciences in Asia and RESULTS Japan, and Honorary Chairperson of Japan Association for Omics-based Medicine.

As is clear from the biography, Shigetaka Asano accomplished distinguished performance in research based on medical needs by full of enthusiasm with state-of-the-art new technology, such as 1. Verification of existence of rabbit neutrophil cell membrane Na,K⁺-ATPase, 2. Discovery of laterarity of mouse intestinal mucous membrane proteins, 3. Finding of human tumor cell mediated by granulocyte colony-stimulating factor (G-CSF; bioactive substance to stimulate differentiation, proliferation and functional activity of neutrophil), 4. Analysis of human G-CSF activity, 5. Succeeding in incubation of human tumor infiltrating T lymphocyte colony, 6. Discovery of allogenic immunosuppression of placenta decidual cells, 7. Differentiation induction of mesenchymal stem cell, 8. Cloning of G-CSFcDNA and development of recombinant human native G-CSF (lenograstim) as the 1st generation biomedicine, 9. Constitution of international clinical guideline for transplantation of bone-marrow and cord blood, and construction of public bank of bone-marrow and cord blood, 10. Non-clinical study of human granulocyte colony-stimulating factor (GM-CSF; bioactive substance to stimulate differentiation, proliferation and functional activity of

macrophage besides neutrophil) immunogene therapy and execution of the phase IIa clinical study, 11. Non-clinical study of utilizing Maxizyme for immunogene therapy of myeloid leukemia cell, 12. Acquisition and molecular analysis of leukemia stem cell like property by stochastic adhesion of in vitro human myelogenous leukemic cell line cell and stromal cell, 13. Pathological analysis of mesenchymal stem cell (parental cell of range of cell consist of stroma) differentiation and proliferation in Translin (substance found as molecule to bind fusion gene of lymphatic leukemia) knockout mouse.

Particularly noteworthy is a series of investigation from new discovery to successful development of lenograstim as the world's first generation biomedicine by leading research team consist of young researchers from different area in industry and academia, furthermore proceeding enthusiastically the clinical trial as the principal investigator as well as clinical investigator in western advanced nations and Asia to have the entity approved as medicine. The medicine is not only effective to prevent or treat bacterial and fungal infection caused by anticancer drug therapy or aplastic anemia, but also essential for safer transplantation of bone marrow and cord blood, affecting large contribution to improve treatment in wide variety of disease. The achievement is highly appreciated to be presented Baelz Prize in 1990, Nikkei Business and Publication Technology Award in 1993, International Hematopoietic Molecular Biology Award in 2000 and Minister Award of Education, Culture, Sports, Science and Technology in 2004.

Through the experience, he quickly noticed delay in propelling translational research, constructing public resources for research development as well as education, and active promotion of health care in Japan and Asian nations to contribute widely to awareness-raising in medical area to recover the delay by acting, making suggestion, advise, proposal and recommendation at the universities, government committees, foundations and academic societies that he once affiliated.

Especially while he was Director of Research Hospital of Institute of Medical Science, University of Tokyo, 1. He developed the hospital as the first national translational research promoting facility by tackling aggressively to reform acting system of the hospital, constructing the national 1st clean medical ward for cell transplantation treatment to meet international standard, institution for cell processing, facility to produce vector for gene therapy development, and new hospital to summarize whole activities as the representative of the director congress of national university adjunct hospital, 2. He leaded creation of public bank for bone marrow and cord blood, 3. He unified Japanese Society of Hematology and Japan Society of Clinical Hematology to

strengthen relationship between hematological basic and clinical research, 4. He established the world 1st Japan Society of Gene Therapy as integrated science association, 5. He upgraded research party for bone marrow and Japanese Society of Inflammation to Japan Society for Hematopoietic Cell Transplantation and Japanese Society of Inflammation and Regeneration, respectively. And also while he was at Waseda University, 6. He contributed to upregulation of young researcher's comprehensive and panoramic way of thinking and decision making by consolidating medical science, engineering technology and humane social science through education and supervision of cutting edge life science and technology based on ethics regarding life and research, 7. He drove strongly forward interaction among universities, industrial societies and variety of research fields, 8. He is conducting planning and execution of the special project for global ICT/P4 health care (prediction, prevention, individualization, citizen leading health and medical care) by considering deeply environmental factor for disease eruption and change of epigenome (working mechanism of controlling gene function without changing DNA base sequence) for the purpose of development of sustainable science and improvement of future health and medical care, being highly appreciated.

Waseda University highly evaluated Shigetaka Asano's achievement in research and education to award the Okuma Memorial Academic Medal that is the most honorable prize in the university.