

The Japanese Society for Histocompatibility and Immunogenetics (JSHI) was established in 1991 with the Japanese Histocompatibility Research Society as its parent organization. Professor Miki Aizawa (Hokkaido University) assumed the post of the first president. That year, the 11th International Histocompatibility Workshop and Conference was held in Yokohama, Japan, chaired by Professor Kimiyoshi Tsuji (Tokai University), Professor Miki Aizawa, and Professor Takehiko Sasazuki (Kyushu University). The establishment of the JSHI strengthened the bonds between histocompatibility researchers in Japan, ensuring further development of the field. The workshop brought about some tremendous results, such as DNA typing on a large scale performed for the first time ever using a PCR sequence-specific oligonucleotide probe DNA typing kit and an HLA polymorphism survey of worldwide populations.

Subsequently, Professor Takato Yoshida (Hamamatsu University School of Medicine) became the second president of the Society, followed by Professor Makoto Katagiri (Asahikawa Medical University) as the third president, and to date, 27 conferences have been held. Professor Hidetoshi Inoko (Tokai University), the fourth president of the Society, hosted the 7th Asia-Oceania Histocompatibility Workshop and Conference in Karuizawa in 2003, and also launched the accreditation system of HLA typing technicians and mentors. This accreditation system became established as a stable system during the time of the fifth president, Prof. Akinori Kimura (Tokyo Medical and Dental University), laying the foundations for quality control in HLA typing and other histocompatibility testing. During the period when Prof. Yasuharu Nishimura (Kumamoto University) was the sixth president, clinical research into the relationship of histocompatibility with transplantation and blood transfusion was further promoted. Also during this time, major histocompatibility complex research with the three pillars of basic medicine, laboratory medicine, and transplants and regenerative medicine developed greatly through the JSHI. At present, Professor Katsushi Tokunaga, as the seventh president, emphasizes the integration of advanced basic research, laboratory medicine, and clinical medicine for transplantation, regenerative medicine, cancer immunology, and precision medicine. Development of international relationships is also an important issue of the JSHI. As of April 2019, there are 509 members including 64 Councilors and 14 Directors.

The objectives of the activities of the Japanese Society for Histocompatibility and Immunogenetics (JSHI)

1) Promotion of basic medicine: The Society promotes genome analysis of genes related to histocompatibility as well as structural and functional analysis of proteins, various different immunotherapies, reconstruction and regenerative medicine using organ transplantation or ES/iPS cells, and the resolution of issues related to histocompatibility in cancer therapy. It also promotes identification of diverse susceptibility genes for diseases in which human leukocyte antigen (HLA) is a genetic factor and clarification of the pathogenic mechanisms, research into natural killer cell receptors and nonclassical major histocompatibility complex molecules, molecular evolution of histocompatibility genes and application to phylogenetics, and extensive basic and applied research in immunogenetics.

2) Promotion of laboratory medicine: The Society develops and compares diverse methods of typing HLA antigen polymorphisms and detecting antibodies to HLA antigens and shares these results in the development of blood transfusion and transplantation therapy. In particular, we intend to focus on research into HLA typing using high-performance DNA sequencers, which are being developed rapidly, and research into methods for detecting anti-HLA antibodies, which have attracted attention in recent years as causes and indices of rejection in transplantation. Also, the Society holds quality control workshops to exchange information with related academic societies for the purpose of quality control and standardization of tests and develops human resources by implementing a system of certification for HLA technologists, directors for histocompatibility, and histocompatibility laboratories.

3) Promotion of research into transplantation therapy, reconstruction and regenerative medicine, and cancer: The Society promotes clinical research into issues of histocompatibility in transplant therapy mainly involving hematopoietic stem cells, kidney, liver, pancreas, heart and other organs, as well as in reconstruction and regenerative medicine, cancer immunity, and genomic medicine, which are areas that are expected to develop in the future. In this regard, we work closely with the basic medicine and laboratory medicine mentioned above to research better transplantation therapy, reconstruction and regenerative medicine, and cancer therapy from the perspective of histocompatibility.

4) The Society aims to carry out academic activities at the highest international level and to return

the results to society in general. To this end, we make whatever information we can available at academic meetings and lectures and on our website, and we aim to run the Society in a way that is accessible not just to members but also to the general public.

The activities of the Japanese Histocompatibility Research Society and its development into the Japanese Society for Histocompatibility and Immunogenetics (JSHI)

The predecessor of the Japanese Society for Histocompatibility and Immunogenetics was the Japanese Histocompatibility Research Society, which was launched in 1972 in order to clarify HLA polymorphisms in Japanese people. At that time, HLA polymorphisms were identified using allo-serum containing allo-HLA antibodies. However, it was found that some HLA types that are rare in European populations are common among Japanese people, and there are many types of HLA in Japanese people that cannot be typed using Caucasian anti-HLA allo-serum. For this reason, the Japanese Histocompatibility Research Society carried out quality control for HLA typing using good quality antiserum by gathering sera with different characteristics from HLA laboratories around Japan and held workshops at which these sera were shared and the characteristics of sera for HLA typing were clarified. In addition, the methods of mixed lymphocyte reaction, two-dimensional electrophoresis, and monoclonal antibodies were developed and applied to HLA research, although they did not become widely used as methods for HLA typing. Typing of different HLA genes eventually became possible as a result of the rapid growth of molecular genetics, and in particular, development of the polymerase chain reaction (PCR) method for amplification of specific DNA, development of various kinds of probes to identify HLA polymorphisms, as well as recent advances in high through-put sequencers.