

**The road to total disease control – Regenerative medicine as an ultimate of precision  
medicine, the principles, present status and scope.**

Translational Research Center for Medical Innovation (TRI) is Japan's first academic data and statistical analysis center for clinical studies and was established by the Ministry of Education, Culture, Sports, Science and Technology and the City of Kobe in 2003. We have provided support for a number of research projects and have published the research outcomes in the publication of research papers. Today, we deliver our research outcomes to patients related to the field of regenerative medicine and tissue engineering technology. This has helped to improve the prognoses of patients for whom no treatment or only palliative care was available, they are now able to make a full recovery and return to their normal lives. In other words, TRI may be able to cure some diseases in the near future. This has given us great hope, but at the same time, it presents us with a challenge as well. People will live to be 100 years old and beyond and will lead an active life.

Our next step is to help people live to be 100 years old without being bedridden and to become the first country in the world to create a happy, lively, and healthy society. That's our commitment for the next 10 years. TRI will continue to develop global academic

networks to ensure the prompt delivery of our research outcomes to the rest of the world.

We have successfully built a network with Taiwan, China, Korea, Singapore, US, and

EU and will step up innovation efforts and improve prognoses to create a healthier

society over the world. We are determined to work relentlessly to achieve this goal. The

Japanese government promotes and focuses on longer and healthier lives for its people.

We are also committed to helping people live longer and healthier lives through

delivering research outcomes.

At present, we, human beings are living in an unprecedented scientific and technological

revolution age. The ability to sense the change and image for the future is essential to

open new era of humanity.

This lecture will give an overview of the current scientific and technological revolutions,

and then focus on stem cell medical therapeutics. The fact of strikingly simple principle

of regenerative medicine development has been revealed. The first round of regenerative

medicine development ie, stem cell therapy and tissue engineering has already been

finished in Japan. The regenerative therapy using cultured autologous bone marrow

CD105 positive mesenchymal stem cells, for nerves system, in particular, the spinal cord

injury treatment which has been approved in December 28, 2019 by the MHLW (Ministry

of Health, Labour, and Welfare) and became practical clinical use in May 2019, will be introduced as a successful example. Since the therapeutic efficacy of such regenerative medicine is definitive without any side effect, thus it is an ultimate precision medicine. In other words, it's the therapy using natural healing ability dwelling in your own body. Now it became clear that we need to re-examine the basis of development of drugs, discuss the new strategy, and adjust the methodology of drug discovery and development to meet the new needs of time. Let's open new era of mankind!