Goal1 Realization of a society in which human beings can be free from limitations of body, brain, space, and time by 2050.

Creating A Society Whose Citizen's Health is Monitored by Remote Control of Intracellular Cybernetic Avatars

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Summary of the project

Intracellular *CA* technology will allow individuals to improve the state of their bodies by external remote control of intracellular avatars constructed of nanometer-scale artificial and natural biomolecules. Remote control of the avatars can keep people's bodies in good condition at a cellular level using micrometer-scale cell-cell interactions.

Milestone by year 2030

People who need to know the state of their body can receive appropriate support from doctors and specialists. This technology should allow doctors to monitor people's health and provide treatment more quickly and effectively than current methods. By enabling remote control of the intracellular *CA*s, we will modify the target cell removal system which can be controlled by the cells themselves into a system that doctors and other specialists can control to perform examinations.

Milestone by year 2025

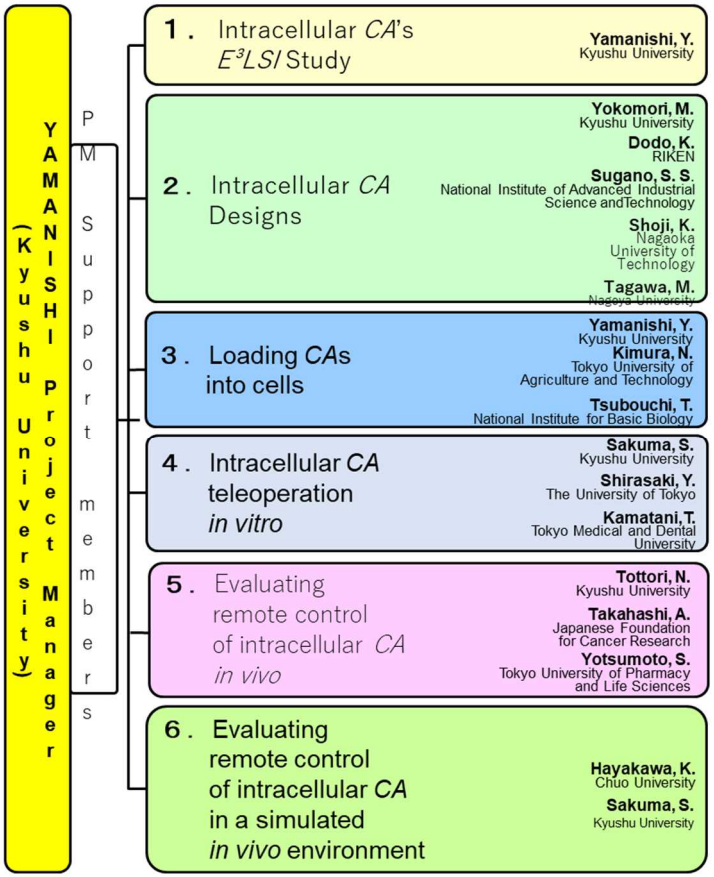
Using intracellular *CA* in a simulated *in vivo* environment, we will remotely control processes that identify the malignant cells or pathogens, and if necessary, remove them.

It will then be possible to keep the body in good condition anytime and anywhere. The Intracellular *CA*'s ability to enhance the innate immune system will be tested simulated *in vivo* conditions to identify possible adverse reactions.

Intra-cellular-CA

R&D theme structure of the project

After designing intracellular *CA*s and loading them into cells, we will evaluate the cell kinetics *in vitro*, *in vivo*, and *in vivo*-simulated environments to verify the safety of intracellular *CA*s and how well they can be manipulated through remote control.



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