

ACTGen has been engaged in research and development to create new seeds in the new fields of healthcare technology that have been attracting much attention in the 21st century such as protein medicines, antibody medicines, gene therapy and stem cell transplantation. The outcomes of corporate activities will be commercialized in fields such as the cancer treatment, regenerative medicine, and anti-aging fields.

Scope of businesses

1. Thorough analysis of cell surface or secretory protein genes of any eucaryotes
2. Development of recombinant cell surface proteins, recombinant secretory proteins, and cell lines stably expressing these proteins
3. Systematical development of monoclonal antibodies to cell surface or secretory proteins
4. Target exploration using the expression cloning technique
5. Evaluation of protein functions *in vitro* and *in vivo*
6. Alliance between drug creation seeds and diagnostic agent seeds

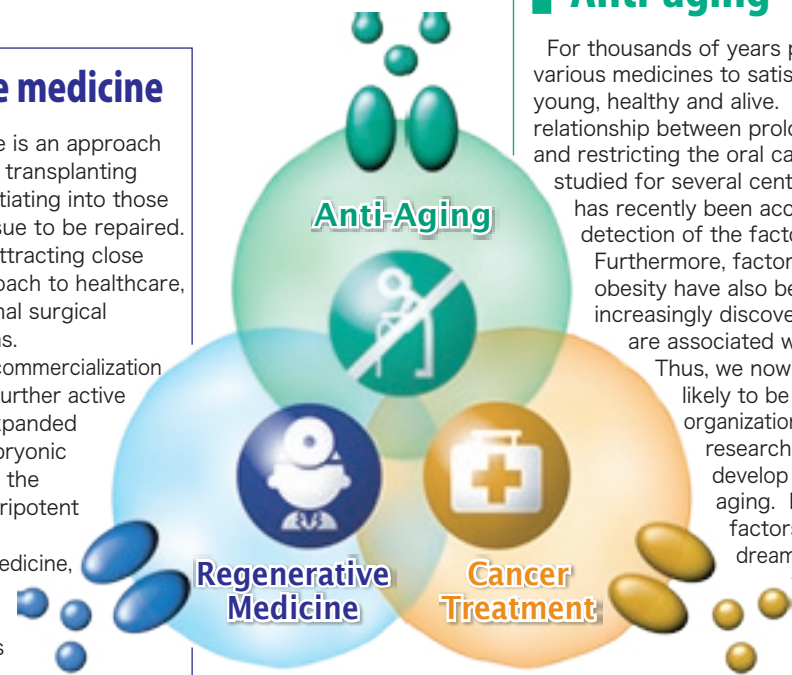
Fields involved

Regenerative medicine

Regenerative medicine is an approach to reconstruct tissue by transplanting cells capable of differentiating into those cells that match the tissue to be repaired. This method has been attracting close attention as a new approach to healthcare, replacing the conventional surgical transplantation of organs.

We expect attempts for commercialization in this field will become further active from now on through expanded utilization of human embryonic stem cells (ES cells) and the invention of induced pluripotent stem cells (iPS).

To realize generative medicine, it is indispensable to establish a technology for amplifying stem cells in test tubes before transplantation; technology for inducing differentiation of cells into cells matching the tissue to be repaired; and technology for detecting, separating and concentrating only those cells suitable for transplantation. Monoclonal antibodies reacting to a cell surface antigen are considered to be a tool indispensable for regenerative medicine because these cells to be analyzed while keeping them viable.



Anti-aging

For thousands of years people have been trying various medicines to satisfy their desire to remain young, healthy and alive. For example, the relationship between prolonging a healthy lifespan and restricting the oral calorie intake has been studied for several centuries. This kind of study has recently been accelerated with the detection of the factors involved.

Furthermore, factors playing a key role in obesity have also been found. We have increasingly discovered that these factors are associated with aging.

Thus, we now think aging is highly likely to be controllable, and many organizations are actively conducting research and development to develop new drugs to control aging. If we can control the factors involved in aging, our dream of creating an anti-aging treatment may be realized.

Cancer treatment

In Japan, more than 300,000 patients die of cancer each year, and cancer is the leading cause of death. Although the lives of more and more cancer patients can be saved thanks to advances in diagnostic technology and surgical treatment, the measures available to combat cancers such as metastatic cancer or recurrent cancer are not satisfactory, and many people still suffer from them.

Antibody medicine is a new category of treatment introduced in the 21st century and has been applied clinically, primarily in the field of cancer treatment. To date, however, the number of candidate antibodies for an antibody medicine to deal with cancer is still small, and there are strong desires to develop more antibody medicines for the treatment of cancer from now on.

ACTGen has been carrying out speedy research and development by using the latest research apparatus and devices and through effective coalition of three research groups.

Gene Analysis Group

Gene sorting with protein function serving as an indicator, and development of related information and recombinant proteins

- DNA Sequencer
- Thermal Cycler
- Colony Pickers



Antibody Development Group

Development of monoclonal antibodies using recombinant protein-expressing cell lines

- Flowcytometry
- IN Cell Analyzer



Function Analysis Group

Development of functions of recombinant proteins and monoclonal antibodies *in vivo*

- SPF Mouse Caging
- MRI *in vivo* Analyzer
- Cell Sorter System



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ACTGen aims the excellent company which can contribute to the health of people, with the colleagues of high spirits, assembling the latest facilities, at the Komagane area, a place rich in nature.