



Applying Fujifilm's Technologies to Drug Discovery

February 26, 2008

FORWARD-LOOKING STATEMENTS

Forward-looking statements such as those relating to earnings forecasts and other projections contained in this material are management's current assumptions and beliefs based on currently available information. Such forward-looking statements are subject to a number of risks, uncertainties and other factors. Accordingly, actual results may differ materially from those projected due to various factors.

Toyama Chemical's Technologies

Drug-discovery capabilities
and know-how



Fujifilm's Core Technologies

(1) Application of imaging and diagnostic technologies

- Detecting the movement of drugs in living organisms, predicting drug effectiveness and side effects
- Expanding into the development of personalized medical treatments (based on genetic diagnosis)

(2) Application of formulation, targeting, And delivery (FTD) technologies

- Reduce ingredients to finer particles, increase osmotic force
- Protect ingredients, prevent breaking up
- Work for optimal timing for dissolving and absorption

(3) Use of collagen/gelatin

- Advanced capabilities in use of principal ingredients of photographic films
- Highly safe manufacturing technologies based on genetic engineering

(4) Application of synthesis technologies

- Synthesis technologies nurtured in the development of photographic films
- Library of 200,000 compounds that differ from conventional drug products

(5) Application of analysis technologies and drug-discovery support systems

- Analysis technologies refined in the analytical evaluation of photographic films
- Application of support systems for drug discovery and research

Results Created in Partnerships

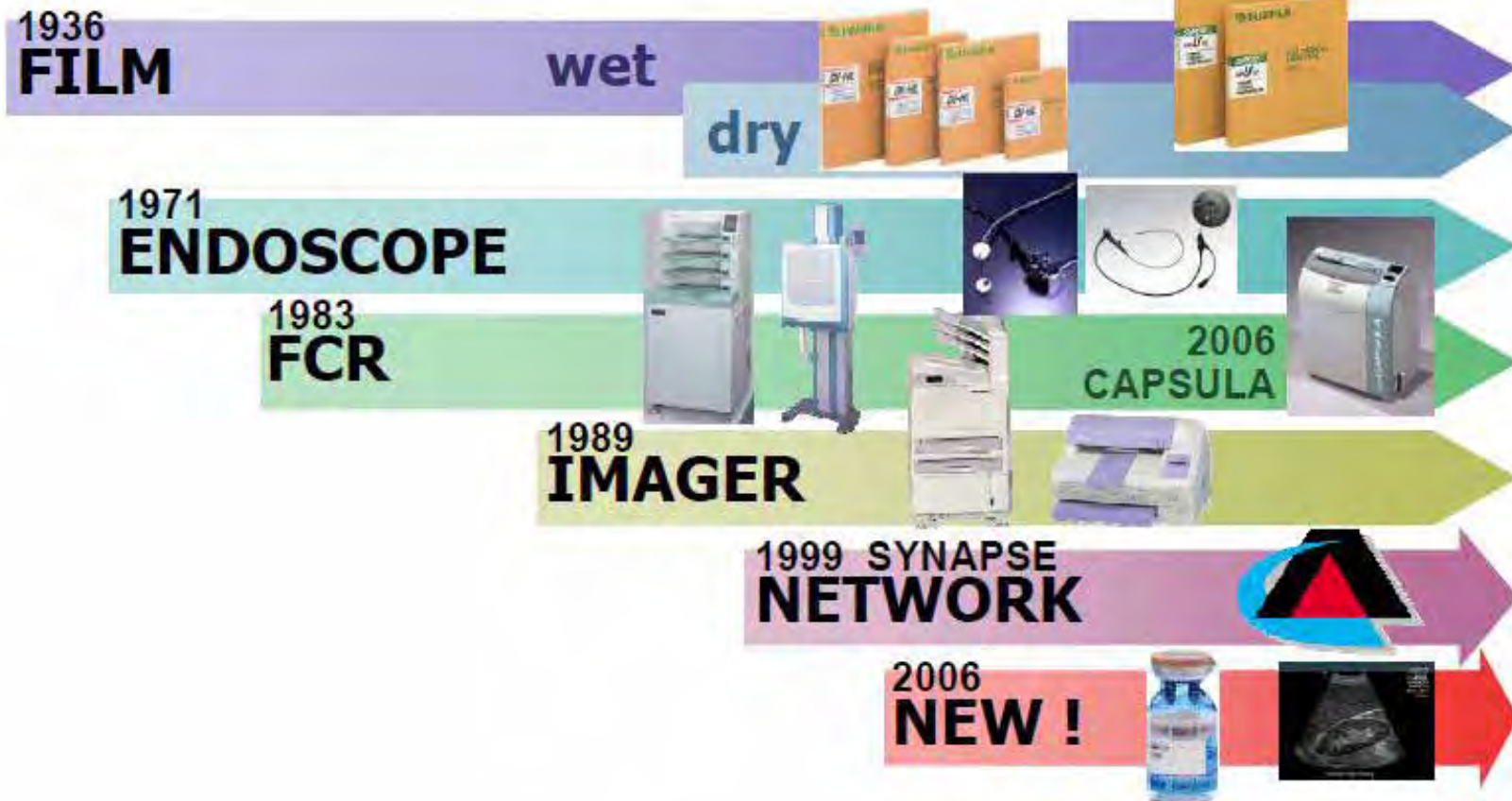
Unique pharmaceutical business born from original processes

- Fusion of diagnosis and treatment
- Pharmaceuticals applying drug-delivery systems (DDS)
- Contributing to regeneration medicine

(1) Application of Imaging and Diagnostic Technologies **FUJIFILM**

Progress of Fujifilm's Medical Systems Business

Founded
in 1934



■ Imaging Technologies

- Examples of imaging using single photon emission computed tomography (SPECT) radiation diagnosis
- Realizes advanced medical care through the confirmation of the effectiveness of treatment

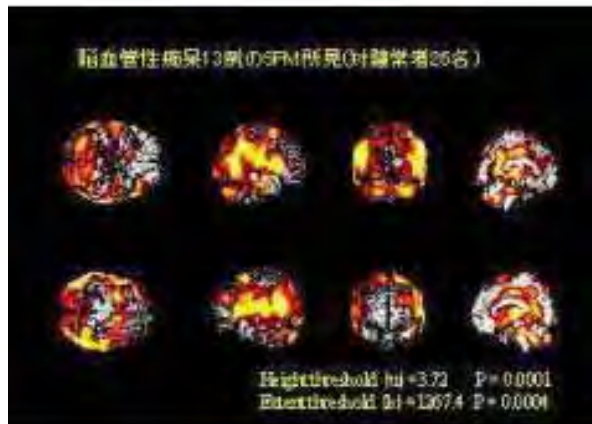


Image 1

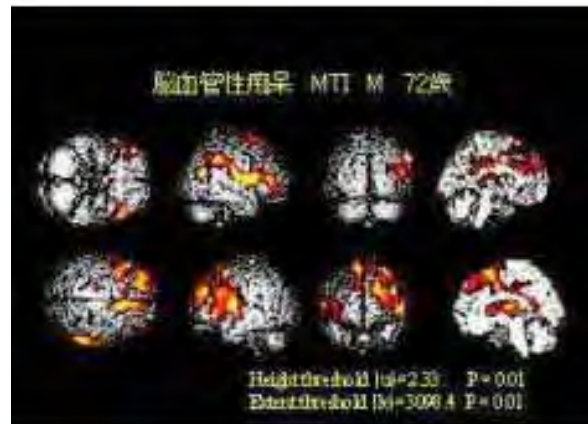


Image 2

Images 1 to 3: Examples of cerebrovascular dementia
(Comparison with a healthy person)
The Images show evidence of the deterioration of blood circulation in the brain as a whole.

Image 4: Examples of a mild case of dementia caused by Alzheimer's disease
(Comparison with a healthy person)
The Image shows deterioration in the circulation of the blood confined to certain areas.

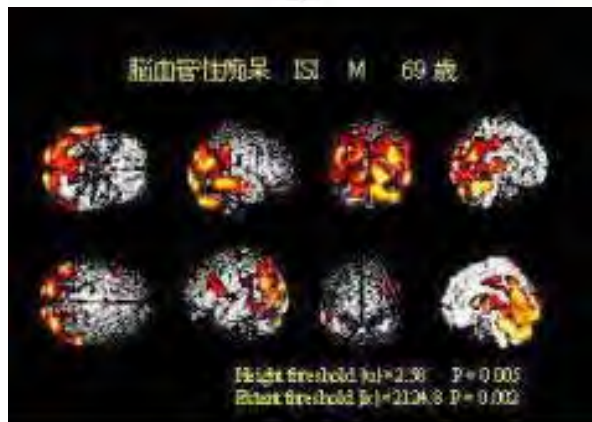


Image 3

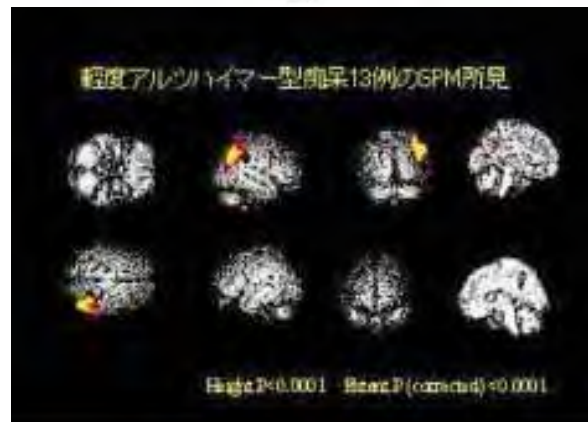


Image 4

Alzheimer's treatment agents work in this case
T-817, an Alzheimer's treatment agent, is under development by Toyama Chemical.

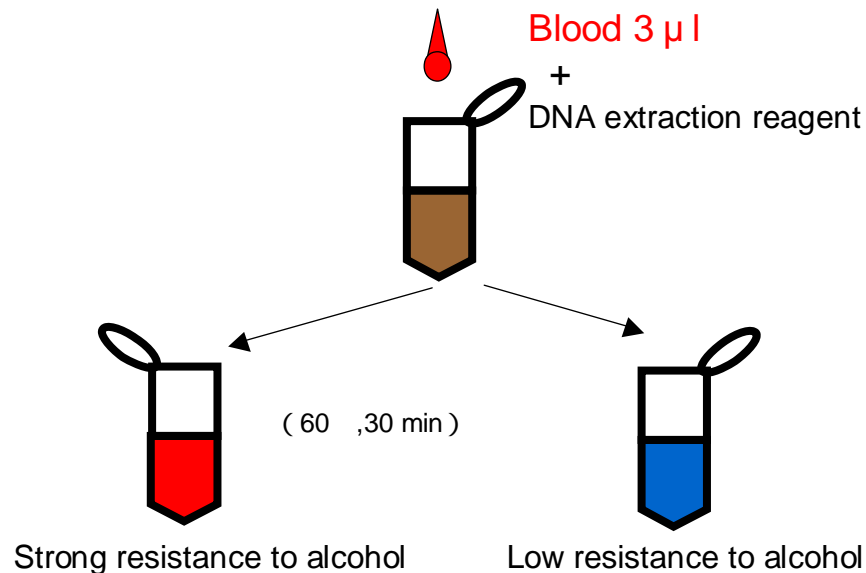
Above: SPECT images comparing the brain scans of cerebrovascular dementia patients and Alzheimer's patients.

(These images were prepared by Doctors Kawabata and Oohigashi of Narita Memorial Hospital.)

(1) Application of Imaging and Diagnostic Technologies **FUJIFILM**

■ Genetic Diagnostic Technologies

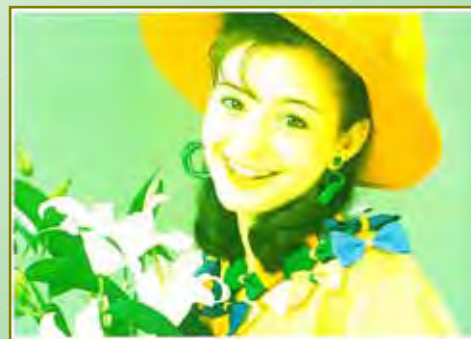
Based on the finding that “even minor differences in genetic structure cause differences in people’s constitutions,” genetic diagnostic technologies seek to provide personalized medical treatment.



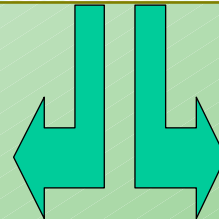
This smart amplification process (SMAP) system can determine even slight differences in DNA structure among individuals in 30 minutes.

(2) Application of FTD Technologies

The technologies for control of active oxygen, which is linked causally to aging and flecks (skin blemishes) in human beings, and the technologies for preserving the brightness of color photographs for many years are virtually the same.



Uncontrolled active oxygen leads to fading.

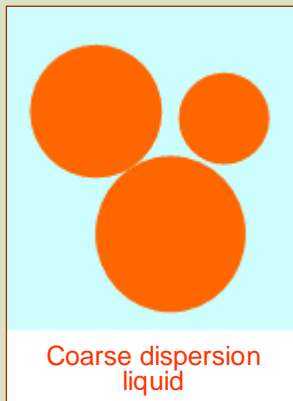


Over about 25 years



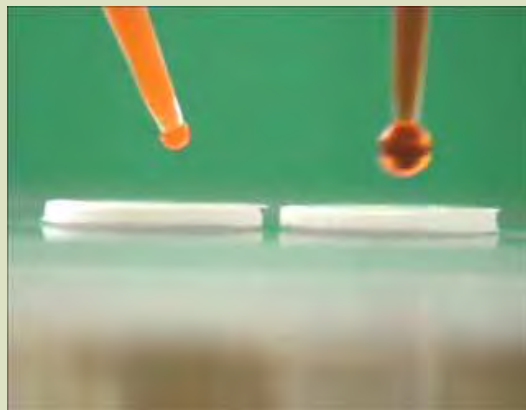
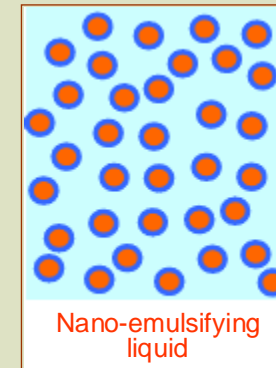
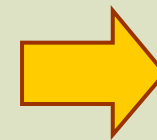
Control of active oxygen preserves the original colors.

Astaxanthin Nano-Emulsification



Emulsifier blending technologies

By blending emulsifiers with differing hydrophile/hydrophobic balances, it is possible to form membranes with stronger, more flexible interfaces.



Coarse dispersion liquid (left) and nano-emulsification liquid (right) show differing osmosis properties.

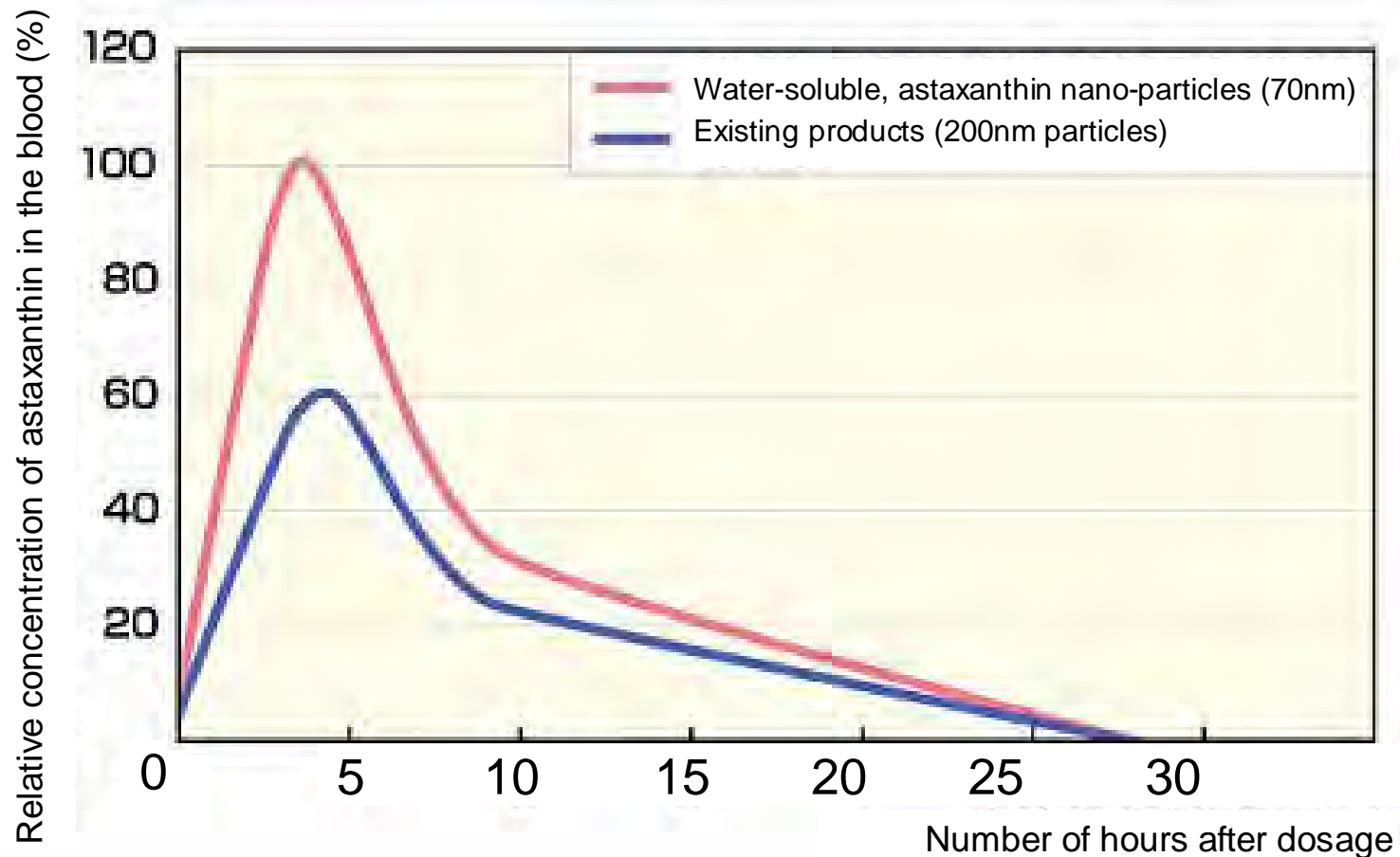


Coarse dispersion liquid (left) and nano-emulsification liquid (right) show differing degrees of permeability.

(2) Application of FTD Technologies

■ Use of Nano-materials Enhances Bioabsorbable Properties.

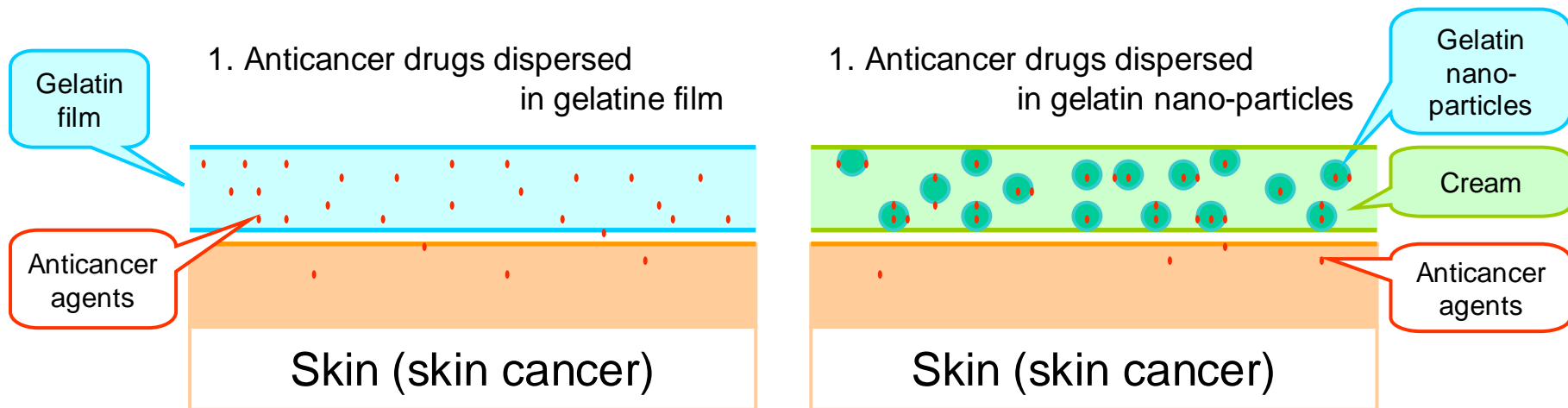
- Fujifilm has been successful in enhancing the bioabsorbable properties at the nano-level through the application of FTD technologies to astaxanthin and water-insoluble antioxidation ingredients.
- By applying these technologies in the pharmaceutical field, Fujifilm is proceeding with the development of pharmaceuticals that have higher absorbability and superior effectiveness as medicines.



(3) Use of Collagen/Gelatin (Human-derived, recombinant, gelatin technology) **FUJIFILM**

Specific Example of Anticancer Agents Using DDS

Anticancer drugs that are contained in gelatin film or nano-particles remain active for long periods with low concentrations and are able to continue to be medically effective for long periods.

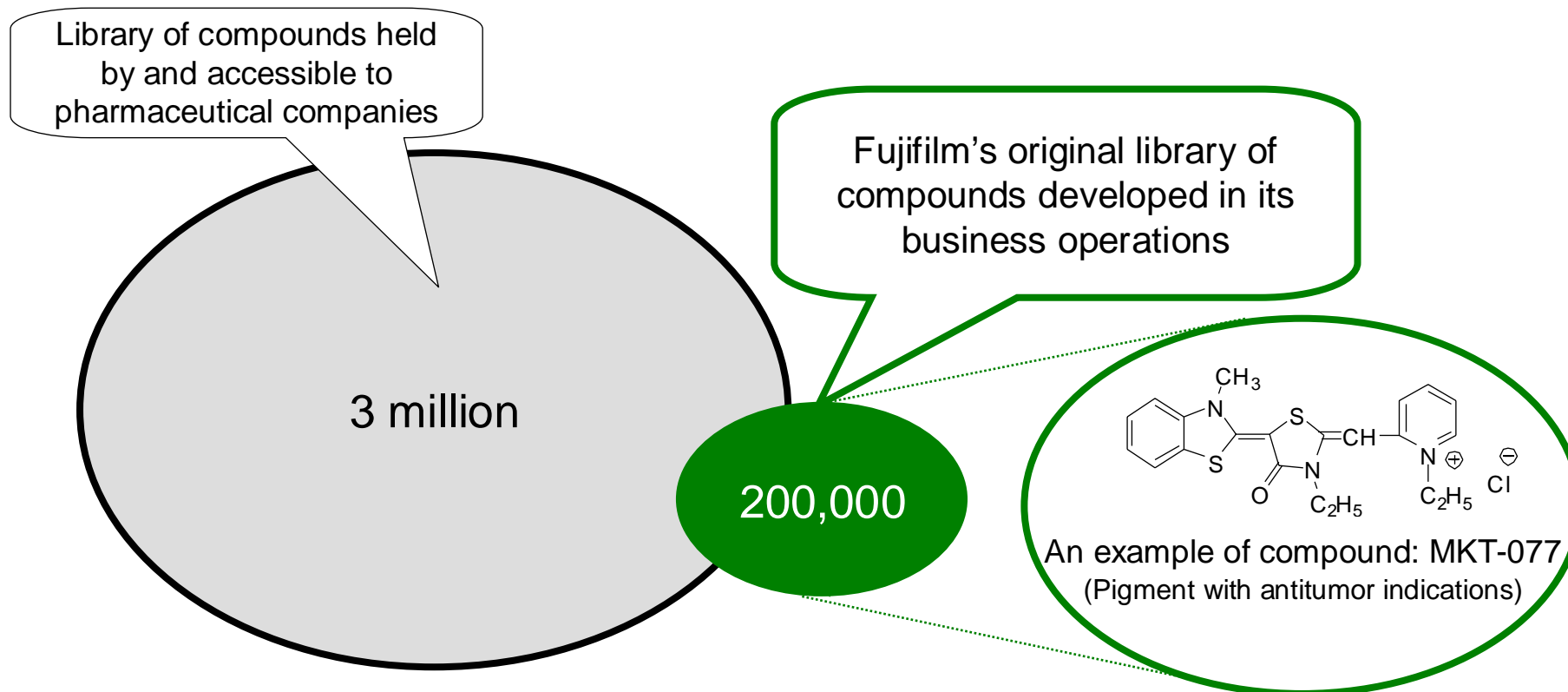


By making gelatin with genetically modified microorganisms, it is possible to produce safe gelatin that is free of communicable diseases, such as BSE.

(4) Application of Synthesis Technologies

- Library of Compounds With Special Features That are Based on Different Concepts From Existing Substances Developed by Pharmaceutical Companies

Organic synthesis capabilities and library of compounds developed in Fujifilm's competitive business of photographic films and others



At present, the pharmaceutical industry is short of new drugs.
Fujifilm's library is a competitive resource.

(5) Application of Analysis Technologies and Drug-Discovery Support Systems

■ Support Systems for Analytical Capabilities, Drug Discovery/Research

Analysis technologies refined in the analytical evaluation of photographic films provide powerful support for pharmaceutical development.

- Image analysis
- Surface analysis
- Infinitesimal analysis

I. Drug-discovery support equipment: Label-free drug screening system

- A-3000 (Introduced in June 2007)
- Makes possible fragment assay



A-3000

II. Research support equipment: Bio-imaging analyzer

- BAS-2500
- The BAS series has been in use for more than 20 years and has played a role in pharmacokinetic analysis and a major role in the human genome project.



BAS-2500

■ Fujifilm aims to create a drug-discovery company that can continue to provide new drugs meeting world standards by drawing on its technology, as described previously, and the technology of Toyama Chemical.

■ Toyama Chemical has strong technology development capabilities in its drug-discovery activities.

Toyama Chemical's abundant creativity and originality have enabled it to create a pipeline of competitive drugs using new kinds of action mechanisms:

Anti-infective area: T-3811 (antibacterial agent), T-705 (influenza treatment agent), and T-2307 (antifungal agent)

Anti-inflammatory area: T-5224 (Rheumatoid arthritis treatment agent)

CNS & cardio-vascular area: T-817 (Alzheimer's disease treatment agent)

■ Toyama Chemical also has a corporate culture that gives rise to synergies with Fujifilm.

- Management philosophy that emphasizes creativity among research personnel and R&D corps who are highly proactive in pursuing the mechanism of drug discovery.
- R&D process that is the equal of those of major pharmaceutical companies through the thoroughgoing analysis of the mechanism.



We will use leading-edge, proprietary technologies to provide top-quality products and services that contribute to the advancement of culture, science, technology and industry, as well as improved health and environmental protection in society. Our overarching aim is to help enhance the quality of life of people worldwide.

FUJIFILM Holdings Corporation