

Translation

“Along with Antibody Drugs” — A Movie Newly Posted on Chugai’s Website, Including Easy-to-understand Information on Antibody Engineering Technologies as Chugai’s Strength

July 2, 2014 (Tokyo) - Chugai Pharmaceutical Co., Ltd. [Main Office: Chuo-ku, Tokyo. Chairman & CEO: Osamu Nagayama (hereafter, “Chugai”)] announced today that it has posted a new movie titled “Along with Antibody Drugs” on the company information page of their website (See the URL below, Japanese only).

The movie “Along with Antibody Drugs” illustrates the mechanisms of action of antibody drugs using breast cancer and rheumatoid arthritis as examples, aiming to answer a simple question: “What are the antibody drugs Chugai is focusing their efforts on?” It also refers to the cutting-edge antibody engineering technologies with an intention to have the viewers better understand the potential of future antibody drugs.



“Along with Antibody Drugs”:

http://www.chugai-pharm.co.jp/html/info/movie/antibody_drug.html

-Contents-

1. “What are antibody drugs?”

Provides an overview of antibody drugs which utilize antibodies, i.e., protein involved in immune responses, as medicinal products, and introduces molecular target drugs as a type of antibody drugs that act on the specific targets.

2. “Mechanisms of action”

Introduces the mechanisms of “inhibition of the pathogenetic molecules” and “immune activation” as major actions of antibody drugs, taking as examples HER2, the target molecule in breast cancer, and IL-6 receptor, the target molecule in rheumatoid arthritis.

3. “Future antibody drugs”

Explains about “Recycling antibody,” “Sweeping antibody,” and “Bispecific antibody,” that are representative proprietary antibodies Chugai has developed, with a focus on their characteristics and the differences from conventional antibodies.

As an effort to communicate the state-of-the-art scientific knowledge in an easy-to-understand way through this movie, the commentary on technological aspects was prepared by a researcher who has been engaged in the development of proprietary antibody engineering technologies Chugai is proud of.

[Comment from the researcher who prepared the commentary]

We at Chugai are always working on the research activities under the business philosophy “innovation all for the patients.” Above all, young researchers are playing active roles in further strengthening the antibody creation and engineering technologies and facilitating future growth of Chugai. We are committed to continuing our efforts to contribute to treatment of patients fighting against diseases by utilizing these newly developed technologies for drug development. I hope the viewers of this movie will be interested in antibody drugs and feel familiar with Chugai’s advanced antibody-related technologies.

As the key member of Roche Group, the global leader in the field of antibody drugs, Chugai intends to contribute to the benefit of the medical community and human health around the world by utilizing proprietary technologies for development of novel antibody drugs that fulfill unmet medical needs as well as to make efforts to have more people better understand antibody drugs.

[Reference] Antibody engineering technologies referred to in the movie

- SMART-Ig (Sequential Monoclonal Antibody Recycling Technology– Immunoglobulin)
 - Technology to create “Recycling antibody” which extends the activity of antibody by enabling a single antibody to bind to the antigen multiple times
 - Offers wider choice to select antigens and maximizes product value
 - Development compound applying this technology: SA237 (expected indication: neuromyelitis optica (NMO))
- SMART-Fc (Sequential Monoclonal Antibody Recycling Technology– Fc domain)
 - Technology to create “Sweeping antibody” which enables elimination of pathogenetic antigen from plasma
 - Offers wider choice to select antigens and maximizes product value
- ART-Ig (Asymmetric Re-engineering Technology – Immunoglobulin)
 - Technology which enables facilitating commercial manufacturing of bispecific antibody
 - Enables creation of antibody with new mode of action and gives wider choice of select antigens
 - Development compound applying this technology: ACE 910 (Hemophilia A)

About Chugai’s proprietary antibody engineering technologies:

As a result of the accumulation of advanced technological developments, Chugai has the proprietary antibody engineering technologies to realize creation of antibodies that no other company can make. Representative technologies are SMART-Ig to create “Recycling antibody,” SMART-Fc to create “Sweeping antibody,” and ART-Ig which enables commercial manufacturing of bispecific antibody. For six antibody technologies consisting of these three technologies plus ART-Fc which is ADCC enhancing technology, TwoB-Ig which is inhibitory Fc γ RIIB selective binding technology, and ACT-Ig which is antibody half life extending technology, Chugai has entered a license agreement with Roche. We as a member of Roche Group intend to focus our strength on the development of drugs exerting new functions by utilizing these technologies.

- For more information on the license agreement, see “Chugai and Roche Enter a License Agreement for Chugai’s Proprietary Innovative Antibody Engineering Technologies”:
<http://www.chugai-pharm.co.jp/news/detail/20140523153000.html>