Information

February 12, 2025

Company: Chiome Bioscience Inc.
Representative: Shigeru Kobayashi, President & CEO
(Code: 4583, Tokyo Stock Exchange Growth)

Announcement of Paper Publication on Cancer Immunotherapy Using Tribody™ Technology

The research results on cancer immunotherapy, jointly conducted with Ceinge-Biotecnologie Avanzate (Ceinge), a public research institution in Italy, were published in the international academic journal *Cell Death Discovery*. The paper discusses findings from this study that utilized Tribody™, a multispecific antibody engineering technology owned by Chiome Bioscience. This is the fourth publication from the joint research in an academic journal.

This study is a follow-up on our development of the tri-specific Tribody™ ~~antibody~~, which incorporates the functions of immune checkpoint inhibitors (PD-L1, PD-1, and LAG3) into a T cell engager targeting the tumor associated antigen 5T4. Our preclinical data showed that administration of the tri-specific Tribody™ (53L10, 53D, and 53G) as a single agent was more effective at activating T cells, increasing cytokine production like interferon-γ, and enhancing T cell mediated cytotoxic activity against cancer cells, compared to the combination of a bispecific antibody targeting 5T4 and CD3 with the clinically validated immune checkpoint inhibitors, such as anti-PD-L1 antibody (atezolizumab), anti-PD-1 antibody (pembrolizumab), and anti-LAG3 antibody (relatlimab). Specifically, monotherapy of 53L10 (our project code: PTRY) showed extremely potent antitumour effects than combination therapy of 53P (5T4 x CD3) and atezolizumab in animal study using mice. We believe that the above results suggest the advantage of trispecificity by incorporating a tumor associated antigen (5T4), a T cell activation molecule (CD3), and an immune checkpoint inhibitor into a Tribody™ molecule.

- Publication

  Title : Tri-Specific Tribodies Targeting 5T4, CD3, and immune Checkpoint Drive Stronger Functional T Cell Responses than Combinations of Antibody Therapeutics

  Authors : Margherita Passariello, Lorenzo Manna, Rosa Rapuano Lembo, Asami Yoshioka, Toshikazu Inoue, Kentaro Kajiwara, Shu ichi Hashimoto, Koji Nakamura and Claudia De Lorenzo

  Journal : Cell Death Discovery
  https://doi.org/10.1038/s41420-025-02329-8

<Ceinge-Biotecnologie Avanzate>
Ceinge is a public research institution in Naples, established in 1983 with public funding. It operates in the fields of molecular biology and advanced biotechnology, focusing on human health. Ceinge has made significant contributions to the research and diagnostics of genetic diseases, both in Italy and internationally.

< Tribody™>
The Tribody™ technology enables the generation of multispecific antibodies with specificity for multiple antigens. It is a technology for an antibody to have different functions by having three different binding sites that bind to different antigens or epitopes in a single molecule. This technology is hoped to create antibodies against targets that could not be made into pharmaceuticals and to release patients from the need for combination therapy with multiple drugs.

<PTRY>

PTRY is a tribody-formatted anti-cancer drug candidate with three antigen-binding sites, targeting 5T4, which is expressed in solid tumors, CD3 found on T cells, a type of immune cell, and PD-L1, an immune checkpoint molecule.

[Inquiries]
Chiome Bioscience Inc. Investor Relations
E-mail: ir@chiome.co.jp