

Invention of Immunocompetent Cells Expressing Immune Function Regulatory Factors (Patent No. 6561372)

Awarded "Future Creative Invention Encouragement Award" at the 2024 National Invention Award

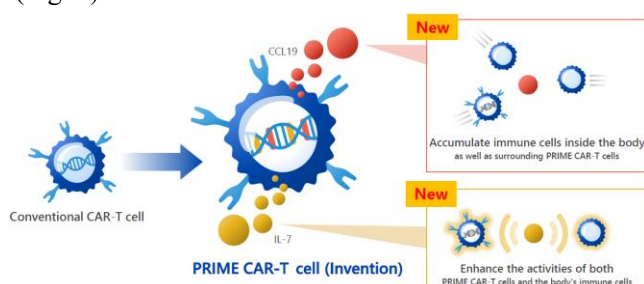
Noile-Immune Biotech, Inc. (2-12-10 Shiba-Daimon, Minato-ku, Tokyo, President & CEO: Koji Tamada, hereinafter "Noile-Immune") announces that an inventor group, led by Koji Tamada, M.D., Ph.D., Professor at Yamaguchi University and Yukimi Sakoda, M.D., Ph.D., Associate Professor at Yamaguchi University, also serving as Noile-Immune's President and Scientific Advisor respectively, has been awarded the "Future Creative Invention Encouragement Award" (hereafter "Award") for their groundbreaking work on the "Invention of Immunocompetent Cells Expressing Immune Function Regulatory Factors (Patent No. 6561372)" (hereafter "Invention") at National Invention Award 2024.

Patent No. 6561372 is a right owned by Yamaguchi University, a co-research partner with Noile-Immune, and was granted the exclusive license to Noile-Immune.

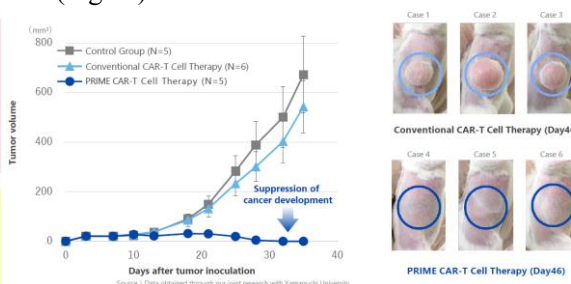
The Award is given to inventions, etc., to be recognized as especially excellent ones among those that have scientifically and technologically excellent inventive steps and are effective or expected to be significantly effective in the future in creating a future society targeting inventions, etc., associated with small and medium-sized ventures/companies, universities and research institutions such as public testing/research laboratory. The Invention awarded this time is related to PRIME CAR-T cells, immunocompetent cells that express immune function regulatory factors used in cancer treatment. Cancers are broadly divided into two types: solid tumors and hematological cancers. One form of the Invention, CAR-T cells (immune cells artificially expressing a part, serving as an antenna, to bind to the targets of cancers), have been demonstrated to be highly effective against hematological cancers. In contrast, the difficulty in demonstrating effectiveness against solid tumors has been a challenge.

The characteristic point of PRIME CAR-T cells is expressing IL-7 as cytokine¹ and CCL19 as chemokine² by introducing in conventional CAR-T cells and enhancing the accumulations and activities of both CAR-T cells and immune cells in the body (see Fig. 1). Also, immunodeficient mice inoculated with a human lung cancer cell line (solid tumor) were administrated with the Invention, which has been demonstrated the complete suppression of the growth of solid tumor cells (see Fig. 2). It has not been demonstrated such effects with conventional CAR-T cells or CAR non-expressing T cells.

(Fig. 1)



(Fig. 2)



Noile-Immune is driving clinical development on PRIME CAR-T cell therapy. For more details regarding PRIME technology, please visit https://www.noile-immune.com/en/Our_Science/prime_car-t.html.

*1 cytokine: Cytokine is physiologically active substance secreted by cells that mainly regulates the activity and function of proliferation, and survival of immune cells.

*2 chemokine: Chemokine is physiologically active substance secreted by cells that regulates the migration and accumulation of various cells into tissues.

National Invention Award

The Japan Institute of Invention and Innovation strives to elevate the willingness to invent and promote science and technology through various awards and exhibition activities. The National Invention Award is held to praise people who have achieved excellent inventions with rich originality and those who have contributed to the implementation, guidance, encouragement, and development of inventions, aiming to improve science and technology and contribute to industry development in our country.

For more details, please visit https://koueki.jiii.or.jp/hyosho/top/hyosho_top.html

Noile-Immune Biotech, Inc. established as a university start-up, aims to contribute to the arrival of an era when we can overcome cancer through next-generation cancer immunotherapies centering on PRIME technology.

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