

Launch of the IMMUSE® brand of plasma lactic acid bacteria in Europe

IMMUSE® now strengthens Europeans' bodily defenses from the inside

- Patented immune system ingredient supply follows Japan, Vietnam, and the United States
- Can be readily added to foods, drinks, and supplements made by third parties as an added health value proposition
- Effectiveness confirmed by 11 clinical studies

TOKYO, Tuesday June 1, 2021 – Kirin Holdings Company, Limited (Kirin Holdings) announces the expansion of supply of *Lactococcus lactis strain Plasma*, the immune system functional ingredient, in Europe through the Kyowa Hakko Europe GmbH (Kyowa Hakko Europe), a distributor of Kyowa Hakko Bio Co., Ltd. (Kyowa Hakko Bio). Kyowa Hakko Europe started sales promotion of *Lactococcus lactis strain Plasma* under the IMMUSE®*1 brand in the European market on 20 April 2021. *Lactococcus lactis strain Plasma* is now available as an added-value health ingredient that can easily be added to foods, drinks or supplements made from European companies.

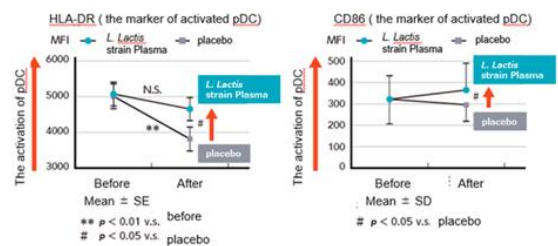
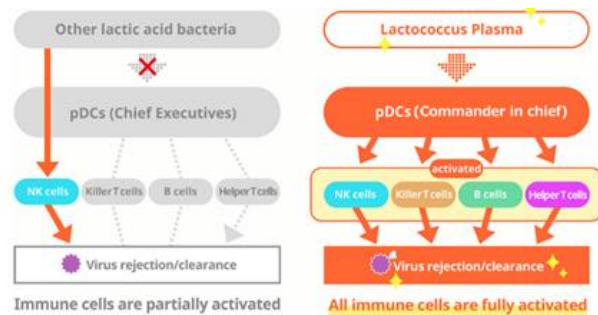
*1:IMMUSE® is a registered trademark of Kirin Holdings Company, Limited in EU and Japan. Kirin Holdings Company, Limited owns the global patent (EP2659898 (IT, ES, FR, DE, NL, GB)) on IMMUSE. *Lactococcus lactis strain Plasma* itself is marketed as raw materials under the IMMUSE brand name in the U.S. and EU. Products used *Lactococcus lactis strain Plasma* are sold under the *iMUSE* brand name in Japan.

Kirin Holdings found *Lactococcus lactis strain Plasma* bacterium in the course of many years of research on "Fermentation and Biotechnology". *Lactococcus lactis strain Plasma* is a world first*2 Lactic acid bacteria that work on plasmacytoid dendritic cells (pDC), and demonstrated its unique ability to stimulate pDC - the "commander-in-chief" of the immune system. The instructions and commands of the activated pDCs activate the entire immune cell and the defense system against external enemies.

*2: *Lactobacillus acidophilus* was the first lactobacillus reported to work on pDC in humans (based on information published in PubMed and the WEB of the Central Medical Journal).

Plasmacytoid dendritic cells (pDC) can be activated by ingesting *Lactococcus lactis strain Plasma* for two weeks or more.

*3: Typical two results are shown as sample in articles included in the systematic review.



[Outline]
 ● Participants: Healthy adults (n = 38)
 ● Test foods: Yogurts containing or not containing (placebo) 100 billion of *L. lactis strain Plasma*
 ● Intake period: 4 weeks
 Clinical immunology (2013) 149, 509-518

[Outline]
 ● Participants: University students belonging to a sports club (n = 51)
 ● Test foods: Capsules containing or not containing (placebo) 100 billion of *L. lactis strain Plasma*
 ● Intake period: 2 weeks
 Journal of the International Society of Sports Nutrition (2018) 15:39

“We are very excited to bring IMMUSE® to the European market. It is a truly unique strain of *Lactococcus lactis*, through the primary activation of pDC cells. This mechanism of action differentiates IMMUSE® from more conventional lactic acid bacteria or other immune ingredients”, says Oksana Ritchie, Head of Marketing at Kyowa Hakko Europe. In addition, IMMUSE® is a paraprobiotic, a heat-treated probiotic that is more stable and heat resistant which means no refrigeration is required”.

Research deemed IMMUSE® stable for use in a wide variety of applications. The ingredient is already available in Japan, Vietnam and the U.S., where it is sold in gummies, tablets, yogurt, and functional beverages. That is great news for everyone looking to support their immune health including athletes looking to get their immune system ready for training and boosting upper respiratory health. There is also evidence that IMMUSE® may help with work productivity.

*3 For more information about IMMUSE®, visit <https://immusehealth.com/>.

Kirin Holdings helps solve social issues related to the health of many more people by offering *Lactococcus lactis strain* Plasma, which was developed based on the Kirin Group's 35 years of immunological research, both in Japan and overseas. In the United States as well - through the inclusion of *Lactococcus lactis strain* Plasma in a new dietary supplement Kirin Holdings expands its contribution to the health maintenance for people in the U.S.

■ **Kyowa Hakko Europe and the development of "Plasma Lactobacillus" overseas**

Kyowa Hakko Europe and Kyowa Hakko Bio Italia are the Central-North and South European sales office for Kyowa Hakko Bio Co. Ltd., Leveraging its cutting-edge fermentation technology accumulated over many years, Kyowa Hakko Bio aims to be a “global specialty fermentation manufacturer” with multiple cost-competitive product pipelines.

The Kirin Group launched the beverage *KIRIN iMUSE* in Vietnam in 2019 from the Interfood Company Limited, a subsidiary of Kirin Holdings. Kyowa Hakko Bio has been selling *Lactococcus lactis strain* Plasma under the name IMMUSE™ since 2020 in North America, utilizing the sales network of Kyowa Hakko USA, and in cooperation with local partners.

About Kirin Holdings

Kirin Holdings Company, Limited is an international company that operates in the Food & Beverages domain (Food & Beverages businesses), Pharmaceuticals domain (Pharmaceuticals businesses), and Health Science domain (Health Science business), both in Japan and across the globe.

Kirin Holdings can trace its roots to **Japan Brewery** which was established in 1885. Japan Brewery became **Kirin Brewery** in 1907. Since then, the company expanded its business with fermentation and biotechnology as its core technologies, and entered the pharmaceutical business in the 1980s, all of which continue to be global growth centers. In 2007, Kirin Holdings was established as a pure holding company and is currently focusing on boosting its Health Science domain.

Under the [Kirin Group Vision 2027](#) (KV 2027), a long-term management plan launched in 2019, the Kirin Group aims to become “A global leader in CSV*, creating value across our world of Food & Beverages to Pharmaceuticals.” Going forward, the Kirin Group will continue to leverage its strengths to create both social and economic value through its businesses, with the aim of achieving sustainable growth in corporate value.

* Creating Shared Value: combined added value for consumers as well as for society at large.

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