



KYOWA HAKKO BIO CO., LTD.

Corporate name	KYOWA HAKKO BIO CO., LTD.
Established	October 1, 2008
Capitalization	10,000 million Japanese yen
Number of employees	1,941 (consolidated)
President	Yuki Kanzaki, President and Chief Executive Officer
Address of head office	4-10-2, Nakano, Nakano-ku, Tokyo 164-0001 (Nakano Central Park South) TEL: 03-6625-0480 URL: http://www.kyowahakko-bio.co.jp/
Description of business	Manufacture and sale of pharmaceutical raw materials, amino acids, and healthcare ingredients
Parent company	Kirin Holdings Company, Limited

Become a Japan-based global specialty
fermentation company

KYOWA HAKKO BIO CORPORATE GUIDE

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KYOWA HAKKO BIO
CORPORATE GUIDE



KYOWA HAKKO BIO

Become a Japan-based global specialty fermentation company

To move from the present age of treatment to a future age of prevention, we will contribute to the health and well-being of people around the world through our naturally-derived fermentation technologies, developed through years of research.



KYOWA HAKKO BIO

BY THE NUMBERS



About

1
3

Net sales

Approx.

¥53.0 billion



Number of employees

Number of overseas employees

819



Number of domestic employees:

1,122



Composition of domestic and overseas sales

Overseas:
Approx.

50%

Domestic:
Approx.

50%

Utilization rate of paid leave

Approx. 71%



Become a Japan-based global specialty fermentation company

at the center of Kirin Group

Management Philosophy

We strive to contribute to the health and well-being of people around the world by creating new value through the pursuit of advances of life sciences and technologies.

VISION

Leverage our advanced biochemical technologies to resolve global social issues.
Contribute to the achievement of health and a sustainable society.

Inspire.
Innovate.
Transform.

Improving lives with health science



MESSAGE

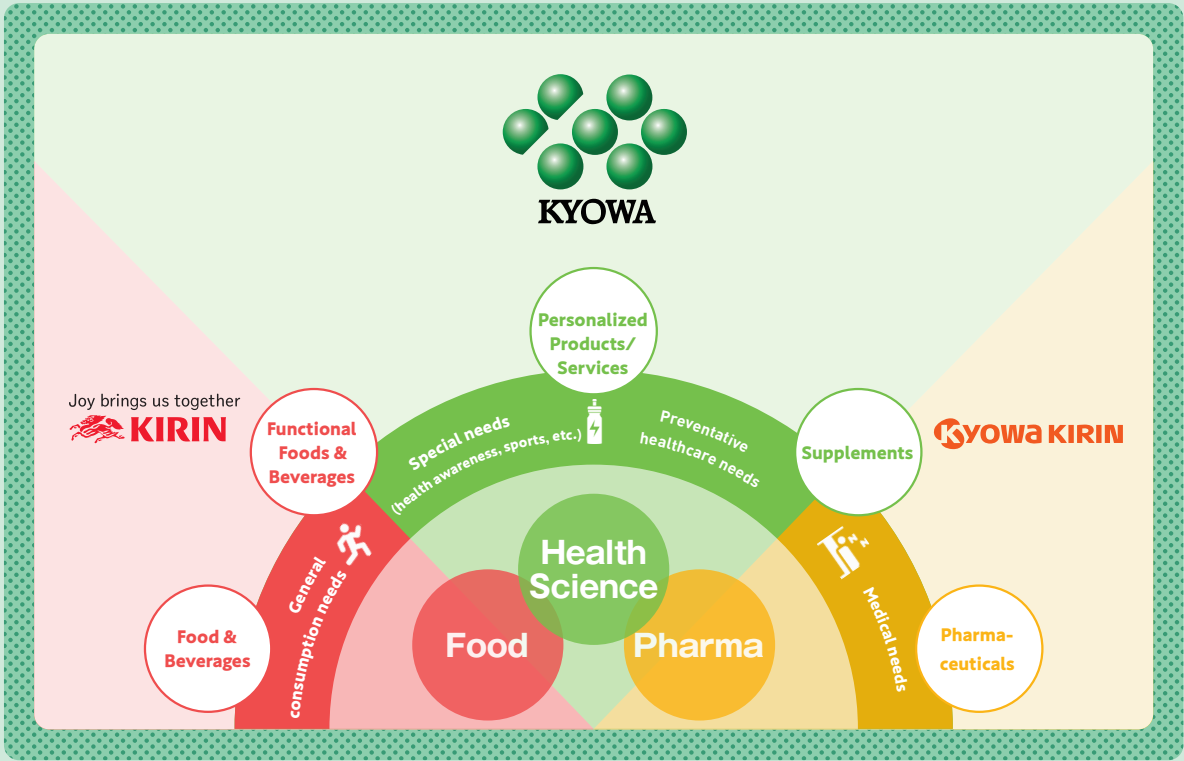
Acting under our Management Philosophy and VISION, we aim for further development and growth as a Japan-based global specialty fermentation company that makes full use of unique fermentation technologies refined over many years to contribute to the health of people worldwide. We will continue to enhance our corporate value as we head into an exciting future.

Yuki Kanzaki, President and Chief Executive Officer, Kyowa Hakko Bio Co., Ltd.

Under the vision of becoming “A global leader in CSV*, creating value across our world of Food & Beverages to Pharmaceuticals,” Kirin Group is strengthening its health sciences strategy. At the center of this health science strategy is Kyowa Hakko Bio, which aims to become a Japan-based global specialty fermentation company.

* CSV (Creating Shared Value): The creation of value that can be shared with society

Kyowa Hakko Bio's business domains at the center of our health science strategy



「What is the health science domain?」

Through long years of research into naturally derived raw materials and into cells and microorganisms, Kirin Group has discovered numerous materials that contribute to health. Health science is the domain that makes use of these discovered unique materials to solve social issues related to health.



Become a Japan-based global specialty fermentation company

through products that bear closely on the needs of society



We manufacture and provide customers with pharmaceutical raw materials and healthcare ingredients, including functional amino acids and nucleic acids. The wide-ranging uses for these products span health foods, active pharmaceuticals ingredients, intermediates, cell culture media, cosmetics, and more. By developing functional ingredients that meet market needs and by supplying them to every sector, we aim to contribute to the health and well-being of people around the world.

[Examples of applications]



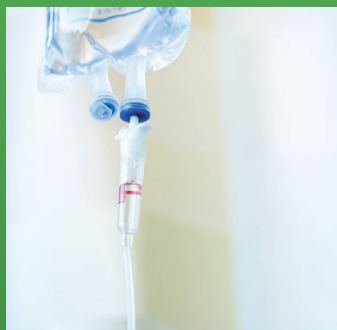
Health foods



Sports drinks



Powdered milk



Infusions



Pharmaceuticals



Cell culture media

We provide customers with solutions based on high-quality raw materials and science in the pharmaceutical and healthcare domains.



Product Outline

■ Active Pharmaceuticals Ingredients

- Amino Acids (L-Arginine, BCAA, etc.)
- Nucleic Acids (Citicoline, etc.)
- Alanyl-Glutamine

■ Healthcare Ingredients

- Amino Acids (L-Ornithine, L-Arginine, L-Citrulline, L-Glutamine, BCAA, etc.)
- Health Ingredients (Vitamin K2, etc.)

■ Branded Ingredients for Overseas Market

- Cognizin™ (Citicoline)
- Setria™ (L-Glutathione)

■ Global Specialty Ingredients

- Human Milk Oligosaccharides (HMOs)
Scheduled for market launch in 2023
- *Lactococcus lactis* strain Plasma

Next-generation strategic products

As a Japan-based global specialty fermentation company, we are developing next-generation products that will contribute to society.

Citicoline

Citicoline is a substance in the body required for the maintenance of cell membranes in the brain and nerve cells. Although it is not approved for use in foods and beverages in Japan, it is expected to see use as a treatment for memory impairments caused by strokes and traumatic head injuries.

Cognizin™

Citicoline is marketed in the US as a functional food, beverage, and nutraceutical for the purpose of improving brain function. In the US and other global markets, we brand our citicoline as Cognizin™, aiming for a variety of concepts including products for elderly persons concerned about brain function, persons in the working generation who require the capacity for multitasking and concentration, and, recently, e-sports enthusiasts.



Treatment for strokes and memory impairments

People suffering strokes: 13.7 million*
Strokes occur in 1 out of 4 people** aged 25 and older



Develop as a pharmaceutical

Improvement in memory and concentration

Population in Europe and North America aged 65 and older: 18%*** (about 1 in 5 to 6 people)



Develop as a health food

* World Stroke Organization "Learn about stroke"
** N Engl J Med. 379(25):2429-2437 (2018)
*** World Population Prospects 2019 Highlights

Human Milk Oligosaccharides (HMOs)

Human Milk Oligosaccharides [HMOs] are the general term for complex sugar molecules (Oligosaccharides) that are contained in human breast milk and represent the third most abundant solid component after lactose and lipids. HMOs are known to be important nutrient for infants as they are particularly abundant in human colostrum while being nearly absent from bovine milk. Research reports on the physiological functions of HMOs have increased in recent years, with the ingredient attracting attention not only for use in infant milk but also as a health food for adults.

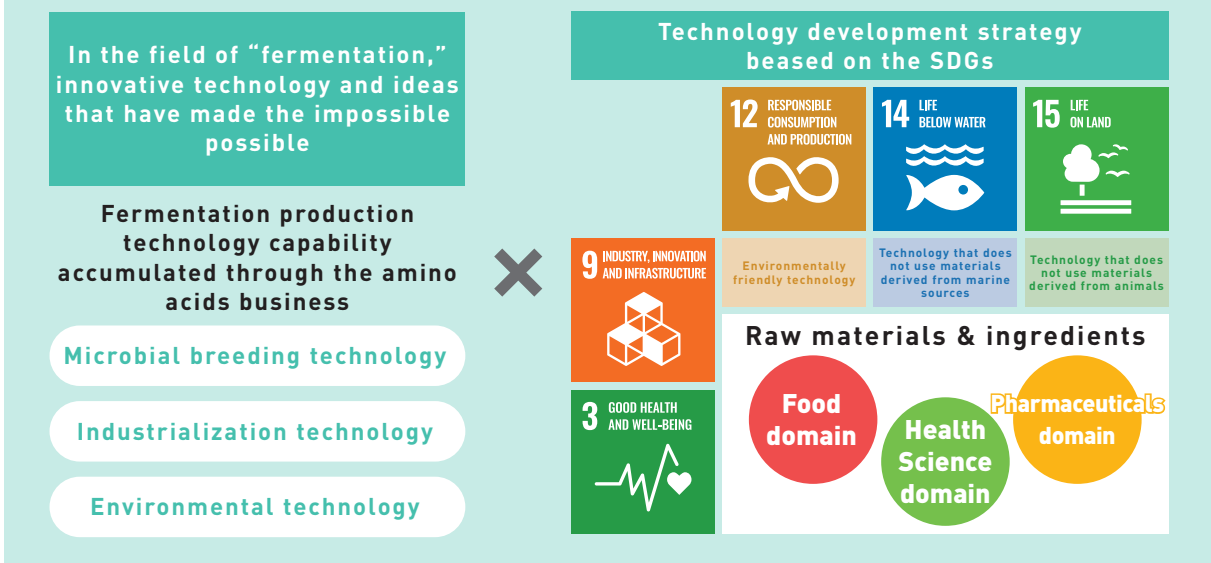


Reported examples of the functionality of HMOs

- Anti-infectious effect
- Prevention of necrotizing enterocolitis
- Support for brain function development
- Intestinal barrier function
- Immunoregulatory function
- Regulation of gut microbiota

Initiatives that contribute to a recycling-oriented society

As part of realizing CSV management at the Kirin Group, while grasping the consumer needs and evolving the related technologies, refine the company's technological capability in the field of "fermentation" and continue working to create value that will benefit society.



[Water Source Forest Conservation Activities and equipment to reduce sludge volume]

We make use of water, a valuable resource, to produce amino acids through fermentation. With gratitude toward this blessing of nature, we conduct our Water Source Forest Conservation Activities every year. We have also introduced a sludge volume reduction process at our wastewater treatment facility, halving the volume of excess sludge generated and contributing to the reduction of waste. Furthermore, we have built a facility to recover phosphoric acid from fermentation effluent, and are contributing to the recycling of phosphorus resources by making effective use of recovered materials with high phosphorus content as fertilizer.

* Reduction of volume: A term used in the context of reducing volumes of sludge generated at sewage treatment plants, etc.

* Phosphoric acid: Along with nitrogen and potassium, one of the three major nutrients of plants.

Wastewater treatment equipment (settling tank)



Become a Japan-based global specialty fermentation company

through the diversity of human resources

Under the philosophy of “Contributing to health and well-being for people around the world by creating new value through the pursuit of advances of life sciences and technologies,” human resources with diverse skills interact with each other and engage in daily work at Kyowa Hakko Bio.



Domestic Manufacturing Division

Kyowa Hakko Bio produces a variety of amino acids through metabolic regulatory fermentation. We combine various ion exchange resins to remove impurities, and extract absolute pure amino acids in the form of crystals. We then use driers to remove remaining moisture, completing the raw material powder. What is foremost in my mind is sharing information with colleagues. The culture and purification groups are also connected by the idea of everyone creating good things. I think that we can routinely deliver products that impress people with the quality of Kyowa Hakko Bio.



Sales Division

I gained experience through about three years in domestic sales, and was stationed overseas as well. Currently, I support the sales activities of our US sales office, as a part of the Americas Regional Supervisory Group. That includes sales management, and supports daily inquiries from customers. In fact, the support covers a wide range, from regulatory compliance in the Americas to future sales strategies. In my work every day, I always remind myself if I am drawing up the best possible scenarios for our customers.

Overseas Manufacturing Division

I gained experience as a research and analysis staff in the Quality Assurance Department, and am currently in charge of process testing, final product analysis, and culture management in the Technical Department. The Technology Division is responsible for creating and implementing process improvement proposals for plants overall. Improvement proposals must be formulated with consideration of not only production volume and quality improvements, but also impacts on production costs and the environment. Responding quickly to ever-changing circumstances to control fermentation is more challenging and exciting than I imagined.



Research Division

Placing excessive emphasis on quality and incorporating numerous refining processes raises manufacturing costs. The result is that customers are saddled with the heavy burden of purchasing at high prices; our company, too, may become unable to achieve expected profits. Placing too high a focus on manufacturing expenses for that reason, though, can lead to falling short of sufficient quality. Ensuring safety is a very important matter in the determination of corporate value.






Become a Japan-based global specialty fermentation company

supporting a future built on achievement

Kyowa Hakko Kogyo, the predecessor of Kyowa Hakko Bio, was founded in 1949. Now, 70 years after our establishment, we are at the forefront of supporting the future of the health science domain at Kirin Group.

- 1949 Establishment of Kyowa Hakko Kogyo Co., Ltd. as second company of Kyowa Sangyo Co., Ltd.
- 1951 Introduced production technology of Streptomycin and succeeded in its mass production.



Introduction of Streptomycin production technology

This contributed to the eradication of tuberculosis, once feared in Japan as untreatable disease.
- 1956 Emperor Hirohito and Empress Nagako visited our factory
- Invention of the world's first fermentation-based production technology for L-glutamic acid
- 1960 Awarded the Prime Minister's Invention Award for the invention of a production method for L-glutamic acid
- 1966 Received the Japan Academy Prize for "research about generation of amino acids through fermentation"
- 1977 Received Japan's first Director General of the Environment Agency Prize for achievements in the recycling of fermentation waste liquid and improvement of water quality
- 2004 Announcement of amino acids including the functional amino acid ornithine
- 2008 Succession of the Bio-Chemical business from Kyowa Hakko Kogyo Co., Ltd. and establishment of Kyowa Hakko Bio Co., Ltd.
- 2017 Launch of iMUSE plasma lactobacilli
- 2019 Kyowa Hakko Kirin transferred the shares of Kyowa Hakko Bio to Kirin Holdings



1956

Invention of the world's first fermentation-based production technology for L-glutamic acid

"Even if we could make a lot of proteins, it would not be profitable. Instead, mass production of amino acids, the constituent component of proteins, could be possible!" Researcher Shukuo Kinoshita had the idea of producing amino acids from microorganisms. In 1956, he discovered bacteria that create the amino acid called glutamic acid through the fermentation process. This marked the world's first success at mass production of amino acids.



2004

Announcement of Ornithine and other functional amino acids

We have begun supplying individual customers with in-house manufactured amino acids in the form of supplements.



2008

Succession of the Bio-Chemical business from Kyowa Hakko Kogyo Co., Ltd. and establishment of Kyowa Hakko Bio Co., Ltd.

Kyowa Hakko Kogyo Co., Ltd. and Kirin Holdings Company, Limited announced a strategic business alliance to leverage the mutual strengths of both groups. The alliance is aimed at strengthening competitiveness, improving management efficiency, maximizing synergies, and further raising corporate value. Through it, Kyowa Hakko Bio Co., Ltd. was created.

Joy brings us together



2019

Became a direct subsidiary of Kirin Holdings Company, Limited through transfer of shares

To accelerate business development in what it views as the growing domain of health, Kirin Holdings Company, Limited made Kyowa Hakko Bio Co., Ltd., which engages in bio-related businesses, a direct subsidiary.

GLOBAL NETWORK

As of August 2022



Domestic sales branches

Kyowa Hakko Bio Co., Ltd.

Head office

Address: 4 - 10 - 2, Nakano, Nakano-ku,
Tokyo 164 - 0001
(Nakano Central Park South)
TEL: 03 - 6625 - 0480

R&D centers

Production technologies
laboratory

Address: 1 - 1 Kyowa-cho, Hofu-shi,
Yamaguchi 747 - 8522
TEL: 0835 - 22 - 2518

Production plants

Yamaguchi Production Center

Address: 1 - 1 Kyowa-cho, Hofu-shi,
Yamaguchi 747 - 8522
TEL: 0835 - 22 - 2511

Kyowa Pharma Chemical Co., Ltd.

Address: 530 Chokeiji, Takaoka-shi,
Toyama 933 - 8511
TEL: 0766 - 21 - 3456

Kyowa Hakko Bio's global network

Overseas sales offices

- | | |
|---|--|
| ① KYOWA HAKKO U.S.A., INC.
New York, U.S.A. | ⑥ KYOWA HAKKO (GUANGDONG)
PHARMACEUTICAL CO., LTD. BEIJING BRANCH
Beijing, China |
| ② KYOWA HAKKO Europe GMBH
Düsseldorf, Germany | ⑦ KYOWA HAKKO (GUANGDONG)
PHARMACEUTICAL CO., LTD. SHANGHAI BRANCH
Shanghai, China |
| ③ KYOWA HAKKO BIO ITALIA S.R.L.
Milan, Italy | |
| ④ KYOWA HAKKO BIO SINGAPORE PTE. LTD.
Singapore | |
| ⑤ KYOWA HAKKO (GUANGDONG)
PHARMACEUTICAL CO., LTD.
Guangzhou, China | |

Production plants

- | |
|--|
| ⑧ BIOKYOWA, INC.
Missouri, U.S.A. |
| ⑨ SHANGHAI KYOWA AMINO ACID CO., LTD.
Shanghai, China |
| ⑩ THAI KYOWA BIOTECHNOLOGIES CO., LTD.
Rayong, Thailand |
| ⑪ KYOWA PHARMA CHEMICAL CO., LTD.
Toyama, Japan |
| ⑫ YAMAGUCHI PRODUCTION CENTER
Yamaguchi, Japan |