# Help Extend the Healthy Life Expectancy of 1 Billion People

# Quantifying salt reduction using umami

Performance

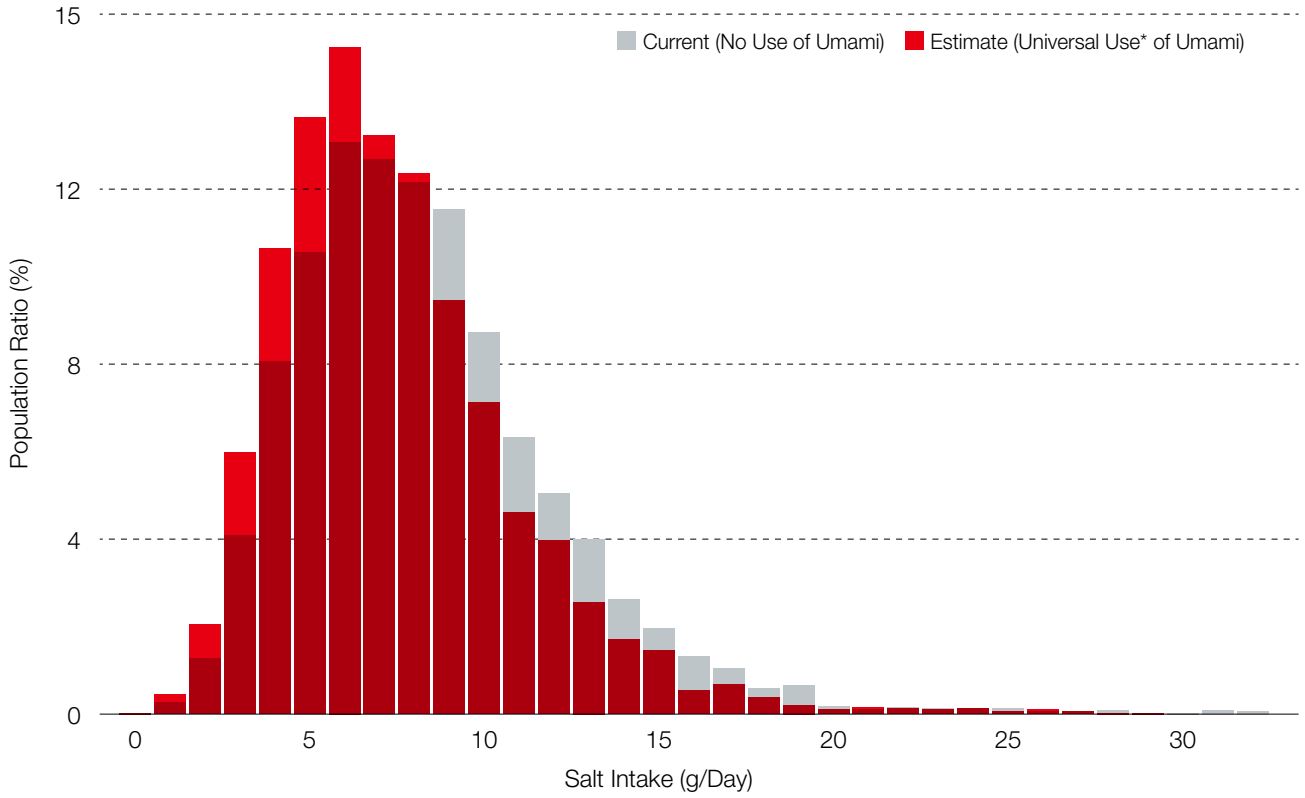
GRI3-3

The Ajinomoto Group seeks to extend healthier lives by 2030. One of the most important efforts to achieve this goal is to solve the problem of excessive salt intake. The Ajinomoto Group proposes initiatives for delicious salt reduction, which uses *umami* to both enhance flavor and reduce salt. However, we still struggle to quantify exactly how effective this initiative will be at the national level.

In 2020, the Ajinomoto Group began collaborating with academic institutions on the U20 Healthy Umami Research Project. This project is a study to estimate the extent to which umami can reduce salt intake at the national level. Previous studies have estimated that adding umami to the diet can reduce salt intake by between 12% and 21.1% (1.3 grams to 2.2 grams) per day in Japan, and by between 7.3% and 13.5% (0.6 grams to 1.1 grams) in the United States. In fiscal 2022, researchers confirmed that salt reduction using umami is effective in the UK. Specifically, the study found a potential reduction in salt intake of between 9.1% and 18.6% (0.5 grams to 0.9 grams) per day for the British population. To date, estimates on the effect of salt reduction through umami have been conducted at the national level across the differing cultures of Japan, the United States, and the United Kingdom.

Based on the results of these studies, we plan to conduct educational activities to spread the value of delicious salt reduction in other countries and conduct similar studies.

**Estimate of Salt Intake in the United Kingdom After Using Umami**




*Indicates replacing 90% of salt containing foods with foods using umami to reduce salt content

Nakamura H, et al. Reducing salt intake with umami: A secondary analysis of data in the UK National Diet and Nutrition Survey. Food SciNutr 2023; 11(2): 872-82.

# Addressing nutritional issues

## Approach to nutrition

Approach

GRI3-3, GRI203-2

Health problems such as lifestyle-related diseases, undernutrition and overnutrition caused by aging, diet and lifestyle are increasing globally*. A Double Burden of Malnutrition (combination mixture of the problems of undernutrition and overnutrition) is possible not only in a single country or region, but also in an individual. Improving the nutritional balance in our daily diets is important for solving problems such as the insufficient intake of proteins and vegetables or an excess intake of sugar, saturated fat, and salt.

As a global food company involved intimately in daily dietary habits, we are enhancing our nutrition-focused initiatives based on the Group Shared Policy on Nutrition and the related Ajinomoto Group Nutrition Strategy Guideline. These initiatives are based on the principle of "Nutrition Without Compromise."

Aimed at extending the healthy life expectancy of one billion people by 2030, in 2021, we formulated a commitment outlining paths and KPIs to improve people's nutrition. This commitment was announced and registered at the Tokyo Nutrition for Growth Summit 2021, held in December. The Summit requires that any commitments meet its SMART criteria (Specific, Measurable, Achievable, Relevant, and Time-Bound). We are pleased to announce that Global Nutrition Report, an organization that verifies the performance of all commitments, has rated our nutrition commitments with a SMARTness of "High."

* UN: Decade of Action on Nutrition

> Global Nutrition Report
> UN Decade of Action on Nutrition
> ASV Report 2023 (Integrated Report) P080-081
> Nutrition without Compromise
> Group Shared Policy on Nutrition
> P024

### Nutrition Commitment

By 2030, we will help extend the healthy life expectancy of one billion people by increasing the current reach to 700 million consumers and providing products and information that support consumers in enjoying nutritious and delicious food with Nutrition Without Compromise as basic policy on our approach to nutrition.

■ Support practice of "delicious salt reduction" using umami

- We will leverage our current reach to 700 million consumers to raise general awareness of salt reduction using umami, and support more people to achieve salt reduction without compromising taste.

■ Provide nutritious products to contribute to people's wellness

- By fiscal 2030, 60% of our products will have improved nutritional value while maintaining good taste. We will use the Ajinomoto Group Nutrient Profiling System (ANPS) to guide product development and reformulation.
- Among the nutritious products, we will provide products that promote "delicious salt reduction" and "protein intake optimization" to 400 million people a year by fiscal 2030.
- By utilizing the physiological and nutritional functions of amino acids, by fiscal 2030, we will double the availability of such products that contribute to health, compared to fiscal 2020.

■ Support consciousness/ behavior change of consumers by providing information that supports health and nutrition improvement

- We will provide consumers with information to help them improve their health and nutrition, as well as easy recipes and menus both on product packaging and on our website that support delicious and well-balanced meals and healthy lifestyles.

■ Improve nutrition literacy of Group employees

- We will help our employees improve and maintain their health by providing healthy meals in the workplace, nutrition education, health checkups, and maternity leave.
- By fiscal 2025, we will provide nutrition education to sum total of 100,000 employees.

## Resolving Nutritional Issues

■ The three pillars of our approach to nutrition

• Without compromising taste

The Ajinomoto Group continues to develop and sell healthy products (salt reduction, etc.), and we do so without compromising on taste. By providing seasonings such as umami seasoning (MSG), we contribute to delicious and healthy meals.

• Without compromising access ~delivering nutrition to all people~

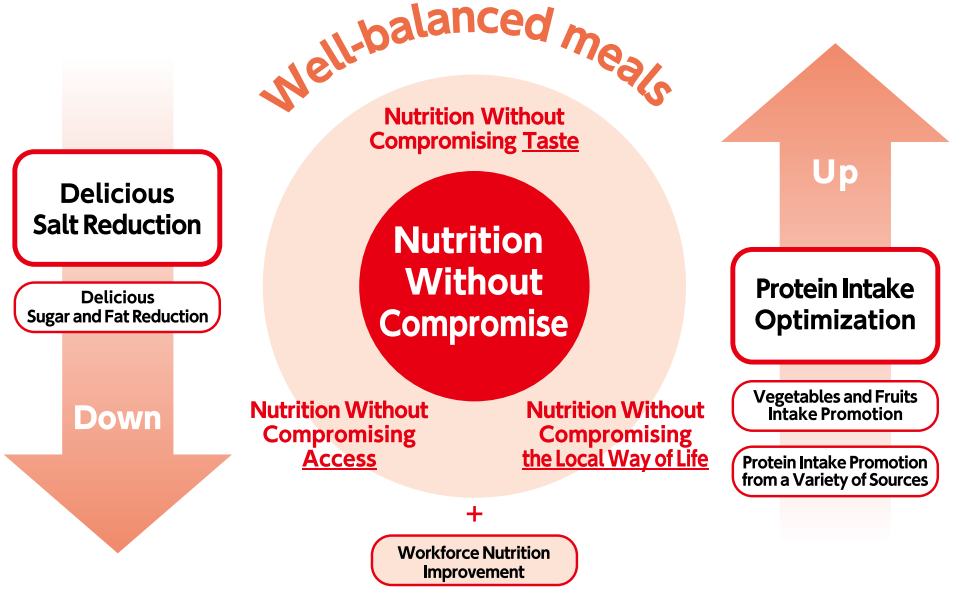
Through innovation initiatives unlocking the power of amino acids and distribution, we will help make nutritious meals more accessible than ever before in terms of availability, affordability, and convenience.

• Without compromising the local way of life

When expanding our businesses globally, we adapt our operating models to respect national and local customs, food preferences, resources, ingredients, and stakeholders. While communities and economies grow and shift, our emphasis on personalization becomes even more relevant.

When nutritious foods taste good, are convenient and easily accessible, and respect local customs and flavors, we are able to promote the long-term intake of well-balanced meals by consumers.

**Ajinomoto Group approach to nutrition**




Refer to P031 to P038 for details of initiatives to make the above approaches a reality.

## Roadmap to one billion people

GRI3-3

Framework / Performance

The Ajinomoto Group pursues initiatives for nutrition improvement to help extend the healthy life expectancy of 1 billion people by 2030. In fiscal 2022, we created touchpoints for deliciousness and health with 880 million people. Going forward, we will continue to contribute to extending the healthy life expectancy of one billion people by promoting delicious salt reduction through umami and providing products and information that are useful for health.

> P031

## Framework for nutrition management

GRI3-3

Framework

Under the supervision of the Executive Officer in charge of sustainability, the Sustainability Committee and the Sustainability Development Dept. follow up on nutrition-related policies, strategies, and business unit activities. The committee and department collect information which is reported to the Executive Committee and the Board of Directors. In addition, the Sustainability Advisory Council second phase will evaluate the status and progress of the Company's efforts to address the risks and opportunities (including nutrition) identified as materialities.

> Group Shared Policy on Nutrition
> P016

## Use of nutrient profiling systems

Performance

GRI3-3, GRI203-2

In response to the growing worldwide interest in improving nutrition, global food companies have developed and introduced nutrient profiling systems (NPS), a scientifically based method to evaluate the amount of nutrients in a product and express nutritional quality in an easy-to-understand manner. The Ajinomoto Group began operating the Ajinomoto Group Nutrient Profiling System for Products (ANPS-Product) in 2020, and as of March 2023, the system has been introduced in 16 group companies in 13 countries, evaluating the nutritional value of over 800products. However, the Ajinomoto Group recognizes the limits and issues to ANPS-Product and other NPS[1] used globally to assess seasonings and other products that are normally not eaten on their own as a self-standing food item. We launched ANPS-Dish[2] in December 2021 as the world's first nutrient profiling system to take Japan's food culture and health issues into consideration, making it possible to assess the nutritional value of dishes prepared with seasoning products. In addition, as a satellite event of the Prince Mahidol Award Conference (PMAC) 2023 in Bangkok, Thailand, we jointly held the "Healthy Eating and Nutritional Profiling in Asia" symposium with the Institute of Nutrition at Mahidol University and Nature Research Custom Media. At this event, we discussed with the distinguished panelists the importance of and issues related to developing nutrition profiling systems for nutritional issues and eating patterns in Asia.

By introducing and utilizing ANPS-Product and ANPS-Dish, we will promote the development of products, dishes, and recipes with improved nutritional value. These include seasonings with reduced salt content while maintaining the same delicious taste, and dishes and recipes that provide strong protein and vegetable content while reducing saturated fats. As we advance our partnerships with those in academia, we are also exploring the utilization of these to provide support to consumers so that they can eat nutritionally well-balanced meals. In addition, we plan to develop ANPS-Dish in accordance with the food culture of each country, and expand globally to ASEAN, Latin America, and other regions.

[1] This refers to the Health Star Rating utilized in Australia and New Zealand and the Nutri-Score utilized in parts of Europe.
[2] In the Ajinomoto Group Sustainability Data Book 2022, this was listed as "ANPS-M" (for Menu), but its name has been changed to ANPS-Dish.

> ASV Report 2023 (Integrated Report) P081

## Initiatives to achieve our approach to nutrition

Performance

GRI3-3

**Nutrition commitment quantitative KPIs**

GRI2-4

| | FY2020 (Results) | FY2021 (Results) | FY2022 (Results) | FY2025 (Target) | FY2030 (Target) |
|---|---|---|---|---|---|
| Percentage of products with improved nutritional value[3] | 40% | 50% | 56% | — | 60% |
| Provision of products from among those with high nutritional value that are beneficial to "delicious salt reduction" and "protein intake" | 280 million people annually | 320 million people annually | 340 million people annually | — | 400 million people annually |
| Availability of products utilizing the physiological and nutritional functions of amino acids | (Base year) | 1.07 times[4] | 1.10 times | — | 2 times |
| Nutrition education for employees | Cumulatively 460 | Cumulatively 26,000 | Cumulatively 56,000 | Cumulatively 100,000 | — |

[3] Products with improved nutritional value means the products that meet our criteria and contribute to the intake of improved nutrition from an international public health perspective.
[4] Correction has been made as a result of a review of totals.

> P006
> P028
> P029
> P033–034
> P035–036

### "Delicious salt reduction"

GRI203-2

Risks due to excess salt intake are becoming more serious worldwide. Despite initiatives against such risks amid WHO initiatives[5] warning about them, improvements have yet to be seen. In fiscal 2022, the Ajinomoto Group worked to promote salt reduction through our unique technologies (e.g., improved taste using materials such as MSG and other umami seasonings along with formulation technology, improve texture, etc., by using enzyme technologies, etc.) in Japan in cooperation with 12 municipalities and overseas in 10 countries. In addition, in the U20 Healthy Umami Research Project, which conducts scientific verification and dissemination of the usefulness and public health value of umami, we are collaborating with academia in an attempt to quantify the efficacy of salt reduction using umami. Results in the U.K., U.S., and Japan have been published in research papers.

## Resolving Nutritional Issues

Satellite event for PMAC 2023 was held in January 2023. By collaborating with a local subsidiary (Ajinomoto Co., (Thailand) Ltd.), we held discussions with various stakeholders in public nutrition and nutrition administration on how umami can be one of the solutions for salt reduction, leading to solutions for both global and local issues. Furthermore, we are seeing steady expansion in delicious salt reduction utilizing umami, including the WHO's listing in March 2023 of MSG as a viable alternative in a review for developing guidelines for salt reduction alternatives. We aim to spread this practice among as many consumers as possible through social media-based influencer messaging about delicious reduced-salt recipes and other information.

[5] The Global Action Plan for the Prevention and Control of Noncommunicable Diseases (NCDs) states a goal to reduce sodium intake by 30% (over 2011 levels) by 2025, and in May 2021, also announced benchmarks for sodium content in each food category.

> The battle to reduce salt and save lives
> Review of contextual factors to inform the development of the WHO guideline on the use of low-sodium salt substitutes
> LOW SALT CLUB: Eat Deliciously! (Japanese only)
> P024

### Smart Salt initiatives

Japanese food is known around the world for being healthy, but the fact remains that it contains a lot of salt.
More than 80% of Japanese consume more than the recommended amount of salt per day (estimate from the National Health and Nutrition Survey (2019), Ministry of Health, Labour and Welfare, based on dietary salt intake of people aged 20 years and older). In Japan's Ministry of Health, Labor and Welfare's Dietary Reference Intakes for Japanese (2020 edition), the standards for daily per-person consumption of salt were lowered by 0.5g to no more than 7.5g for males and 6.5g for females.

A survey* conducted by Ajinomoto Co., Inc. revealed that only 5.2% of Japanese adhered to these standards. In July 2020, we launched the Smart Salt® Project that promotes the use of umami and dashi (broth) to practice "delicious salt reduction" for people of all ages. The goal is not only to solve issues faced by many consumers about salt reduction (lack of deliciousness, difficulty, etc.), but to make salt reduction the norm. For senior citizens, as well as for pregnant and nursing mothers and younger generations who find it difficult to incorporate salt reductions in their lives, we provide suggestions about delicious salt reduction using umami and other flavor seasonings. This information includes videos and recipes on our owned media. We also are carrying out new initiatives toward salt reduction through collaboration with governments, universities, and other companies.

Overseas, we have conducted global salt reduction surveys in 11 countries and found that, as in Japan, dissatisfaction has emerged about issues such as reduced-salt dishes are not delicious and that recipes are limited. We are developing activities globally to promote delicious salt reduction while utilizing the knowledge from the Smart Salt® Project in Japan. From fiscal 2020 onward, in addition to introducing 20 brands of 47 reduced-salt products in seven countries (as of March 2023), we also promote low-sodium diets in each Group company's owned media by providing low-sodium recipes and holding cooking classes.

* Estimate by Japan's Ministry of Health, Labor and Welfare's National Health and Nutrition Survey calculated from salt consumption amongst 20-year olds and up (2019)

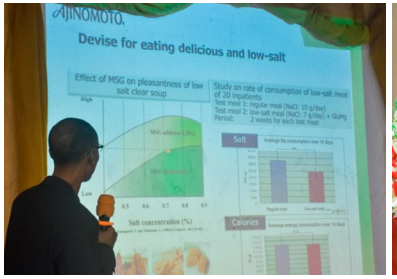
> Products that help delicious salt reduction (Japanese only)
> Smart Salt Recipe Site | Ajinomoto Park (Japanese only)

### Salt Reduction Initiatives (Brazil)

In Brazil, high sodium intake, hypertension, and cardiovascular disease are among the biggest public health problems. At AJINOMOTO DO BRASIL INDÚSTRIA E COMÉRCIO DE ALIMENTOS LTDA., we educate people about efforts to reduce salt and sodium in response to excessive salt intake, and suggesting how consumers can improve their dietary habits. Specifically, we are developing recipes and content to educate consumers and customers, reviewing the composition of current food products and launching new products with reduced sodium, and providing food ingredient solutions that can achieve sodium reduction for food companies. As a result, more than 4,000 tons of salt have been successfully reduced from products and recipes.

### Overseas Cases


A wrapped bus advertisement (Malaysia)





Invited a local authority on food science to speak at our seminar on MSG safety and ability to reduce salt (Nigeria)

## Resolving Nutritional Issues

■ Initiatives in local ecosystems for delicious salt reduction and Smart Salt® (Japan)

We are working with local governments, dietetic associations, distributors, and media in Japan on salt reduction initiatives in accordance with the different food cultures and customs of each region. Since 2021, we have been developing low-sodium recipes using seasonal ingredients in support of Ibaraki Prefecture's Ibaraki Low-Salt Day, a day designated for reducing salt, and introducing these at supermarkets in Ibaraki Prefecture.

In addition, in collaboration with Yamagata Prefecture's Less Salt, More Veggies Project, we have worked with local academics to jointly develop a nutritionally balanced re-imagining of imoni (stew using taro root), a soul food dish in Yamagata, utilizing our salt reduction technologies. In Hokkaido, we also conduct a Smart Salt® recipe contest at a university for training dietitians, and created and distributed leaflets in supermarket storefronts to raise awareness and encourage salt reduction while maintaining respect for local food culture.

We have raised awareness in a variety of ways about delicious salt reduction, including promoting local Smart Salt® gourmet dishes in cooperation newspapers and TV stations nationwide from September to December 2022, and deploying collaborative products with local governments and distributors. In recognition of these efforts for salt reduction in the interest of helping to mitigate Japan's nutritional challenges, we were awarded for excellence in consumer-oriented management for 2022 by the Commissioner of the Consumer Affairs Agency.

消費者志向経営 Award 2022


Advertising Smart Salt® local gourmet recipes

### Protein intake optimization

GRI203-2

Insufficient dietary protein and lack of access to high-quality protein are issues of modern society. According to the WHO, about 20% of elderly people worldwide do not have sufficient intake of essential nutrients such as protein. This is a major issue facing the elderly. Such undernourishment is recognized as an issue. The Ajinomoto Group strives to improve protein intake by providing seasonings which enhance the flavor of protein-rich meals as well as amino acids to supplement low-quality protein sources. We are also working to provide information such as recipes and menus through websites and social media (including proposals for hospitals and nursing care facilities).

Recently, in the interest of sustainability and reducing environmental impact, it has become increasingly important to intake protein from a variety of sources, not just from animals but plants as well. However, it is generally known that plant-derived proteins have poorer digestibility and absorption rates than those derived from animals, making it more important to consider how well these are digested and absorbed.

In 2013, the Food and Agriculture Organization of the United Nations (FAO) proposed a new indicator, the Digestible Indispensable Amino Acid Score (DIAAS), which can more accurately assess the nutritional value of protein by taking into account the digestibility and absorption rates of essential amino acids in food. Under these circumstances, the Ajinomoto Group is focusing not only on the quantity of protein but also on quality, evaluating digestibility. We are also engaged in research to improve DIAAS levels through the utilization of amino acids and food processing technologies. Going forward, we will develop our products and provide services to contribute to people around the world at higher levels, encouraging the consumption of needed nutrients from a variety of food sources and fostering healthy and nutritious dietary habits in consideration of global environment.

> Protein Intake Optimization

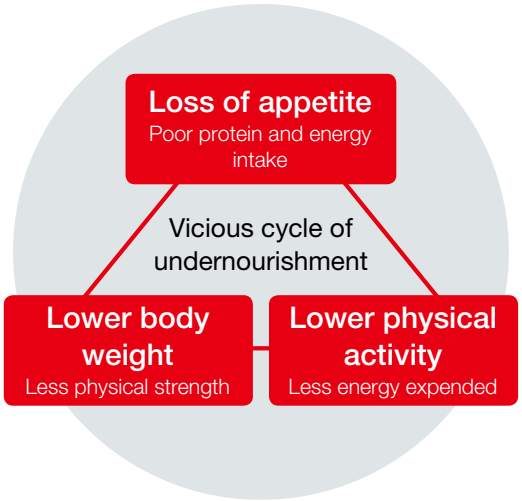
## Resolving Nutritional Issues

■ Dealing with nutritional issues in the elderly (Japan)

Elderly people may not be able to eat adequately due to declining physical functions and loss of appetite as they age. Less food intake causes muscular and physical strength to deteriorate, which may then lead to lower physical activity, less appetite, and a vicious cycle of undernourishment. To prevent this, Ajinomoto Group leverages its protein and amino acid nutrition expertise and strives to publicly disseminate nutritional knowledge to people with health problems. In addition, we are strengthening collaboration with healthcare providers, registered dietitians, and other specialists by providing information for immediate use to them as guidance tools, and conducting training to foster deeper understanding. Our website for restaurant-use products now features a page entitled *Tabesapo* to eat well and prevent malnutrition. This webpage provides suggestions on tasty and easy-to-eat meals designed to reflect changes unique to elderly people. We aim to support their nutritional intake by introducing techniques that make eating easier, as well as menu suggestions that utilize our products and cooking methods for each ingredient.

> Eating Well and Preventing Malnutrition: *Tabesapo* (Japanese only)

**Vicious cycle of undernourishment**




**Three keys to prevent undernourishment**


■ Medical foods[1] for fulfilling special nutritional needs (North America, Europe)

Ajinomoto Cambrooke, Inc., which became part of the Ajinomoto Group in 2017, manufactures and sells medical foods designed for daily nutritional intake for patients with disease-related special nutritional needs. Ajinomoto Cambrooke offers its products in about 20 countries worldwide, mainly in North America and Europe. Its products leverage the Ajinomoto Group's strength, "AminoScience", to help improve patients' QOL[2] by balancing medical nutritional requirements and delicious taste. These include products for amino acid metabolism disorders that combine special proteins with amino acids, as well as products for protein allergies that use amino acids as a protein source. Nualtra Limited, which we acquired in 2020, has developed oral nutritional supplements (ONS), a small-volume, high-calorie, high-protein medical food for patients who are unable to obtain adequate nutrition from their regular diet due to illness or for the elderly who are nutritionally deficient due to aging. The company has developed and markets these in the UK and Ireland.

[1] Defined by the FDA as "a food which is formulated to be consumed or administered enterally under the supervision of a physician and which is intended for the specific dietary management of a disease or condition for which distinctive nutritional requirements, based on recognized scientific principles, are established by medical evaluation."
[2] Quality of Life

### Delicious sugar and fat reduction

GRI203-2

Issues such as excess intake of sugar and fat are gaining attention in the global debate on health. The Ajinomoto Group is focusing on developing alternative sweeteners and kokumi, and improving the taste of our products and those of our business customers with enhanced ingredients and formulation technologies.

■ Sugar reduction

The Ajinomoto Group has utilized its amino acid production technologies in the use of two amino acid sweeteners, aspartame and advantame, which are roughly 200 and between 20,000 to 40,000 times sweeter than sugar, respectively. The selective use of high-intensity sweeteners can meet consumer sugar-reduction needs without sacrificing the taste of sweetness, and we provide these sweetness applications to businesses across the food and beverage industry. We also sell reduced-sugar products for the BtoC market under the PAL SWEET® brand in Japan and overseas.

■ Fat reduction

The Ajinomoto Group has identified a substance that imparts a rich taste and deep flavor to cooking. We call the function of this substance *kokumi*. We are increasingly finding that kokumi serves to compensate for the sensation of fat in foods. Utilizing this function, the Group developed and markets *Pure Select® Koku Uma®* mayonnaise. This product has the same rich taste as regular mayonnaise (due to a proprietary manufacturing method) and 65% fewer calories (compared to the Group's regular mayonnaise). We have also developed and marketed a low-fat Marim® creaming powder with 50% less fat.

## Vegetables and fruits intake promotion

GRI203-2

By providing seasonings and frozen food products, the Ajinomoto Group promotes the intake of vegetables and fruits, which are sources of nutrient intake such as vitamins and minerals. For example, our product packages display recipes that encourage consumers to consume more vegetables and fruits.

■ Vegetable intake promotion *Love Vege* project (Japan)

In Japan, we are promoting the Love Vege project as a way to support the recommendation by the Ministry of Health, Labour and Welfare to consume at least 350 g of vegetables per day. This was started in order to improve the situation in Aichi Prefecture, which had the lowest consumption of vegetables per person in the country. In this project, we are launching PR products in collaboration with cut vegetable producers and proposing recipes developed in cooperation with producers at vegetable sections of supermarkets.

The initiative has expanded nationwide, and in fiscal 2022, 28 ecosystems were created and deployed in collaboration with players in industry, government, and academia. We also hold events utilizing vegetable consumption measurement devices at stores and use our website and social media accounts to foster interest, fondness, and natural eating habits for vegetables among children and young adults.

We will further expand our Love Vege activities and work towards resolving nutritional issues in communities.

Vegetable consumption measurement event

> A local approach to improving nutrition in Japan targets vegetable consumption

## Workforce nutrition improvement

GRI203-2, GRI403-5, GRI403-6

The Ajinomoto Group believes that employee health is one of our most important foundations. We are focused on improving employee nutrition in the workplace and nutrition literacy.

■ Workforce nutrition alliance

In March 2022, the Ajinomoto Group became the first Japanese company to join the Workforce Nutrition Alliance (WNA). This organization was launched by the Consumer Goods Forum (CGF), an international consumer goods trade association, and the Global Alliance for Improved Nutrition (GAIN), an international nutrition improvement NGO, to promote workforce nutrition improvement. The subsequent publication of the WNA CASE STUDY BOOKLET gave us the opportunity to disseminate our message from the CEO and specific initiatives to promote improved nutrition in the Group's workplaces. The 14 companies[1] registered when we joined the alliance, based on self-assessment guidelines providing Group assessment criteria, each conduct self-assessments with regard to four important points (Health food at work, Nutrition education, Nutrition-focused health checks, and Breastfeeding support), carry out PDCA cycles, and partner with Ajinomoto Co., Inc. to promote workforce nutrition improvement. In fiscal 2023, we will continue our activities with three new companies[1].

Ajinomoto Co., Inc. will support work to improve workforce nutrition by suggesting countermeasures for shared issues identified from group company self-assessment results and engagement surveys in the category of health and well-being), as well as providing each company with examples of internal initiatives, tools developed by the WNA, and examples of initiatives by WNA members.

[1] The 14 corporations at the time of joining the WNA were Ajinomoto Co., Inc., Ajinomoto AGF, Inc., Ajinomoto Food Manufacturing Co., Ltd., Ajinomoto Fine-Techno Co., Inc., Ajinomoto Frozen Foods, Co., Inc., Ajinomoto Co., (Thailand) Ltd., Ajinomoto Sales (Thailand) Co., Ltd.,

## Resolving Nutritional Issues

PT AJINOMOTO INDONESIA, PT AJINOMOTO SALES INDONESIA, Ajinomoto Vietnam Co., Ltd., Ajinomoto Health & Nutrition North America, Inc., Ajinomoto Foods North America, Inc., AJINOMOTO DO BRASIL INDÚSTRIA E COMÉRCIO DE ALIMENTOS LTDA., and S.A. Ajinomoto OmniChem N.V. The three companies for which activities began in fiscal 2023 are AJINOMOTO DEL PERÚ S.A., Ajinomoto Poland Sp. z o.o., and Agro2Agri, S.L., resulting in a total of 17 companies and approximately 70% of the Group's total workforce.

> WNA CASE STUDY BOOKLET

■ Initiatives to improve nutritional literacy (nutrition education)

In fiscal 2020, we started our nutrition literacy program, and in fiscal 2021, we expanded our e-learning nutrition education, etc., to the entire Group, educating a cumulative total of 56,000 employees through fiscal 2022. Engagement survey results show that more than 70% of employees are taking action to improve their own nutrition. By fiscal 2025, we will provide nutrition education to a total of 100,000 employees, while expanding educational content and measures for behavioral change.

**Main initiatives in fiscal 2022**

- Conducted nutrition education mainly on “Delicious salt reduction” and “ Protein intake optimization and amino acids” at all Group companies.
- Shared best practices from two Group companies in Japan (AGF Kanto, Inc., AJINOMOTO TRADING, INC.) and four Group companies (Ajinomoto Co., (Thailand) Ltd., PT AJINOMOTO INDONESIA, Ajinomoto Vietnam Co., Ltd., AJINOMOTO DO BRASIL INDÚSTRIA E COMÉRCIO DE ALIMENTOS LTDA.) with the entire Group
- Engagement survey results show that more than 70% of employees are changing behavior toward improving their own nutrition

### Delicious sugar and fat reduction

GRI203-2

Since our founding, the Ajinomoto Group has contributed to the well-being of people by utilizing the function of amino acids to promote well-balanced meals that are full of flavor but also offer nutritional value.

We promote well-balanced meals with the precondition that they match the dietary habits and food preferences of each country and region. We also value a comprehensive approach to health, such as providing nutrition that meets the diverse lifestyle and the diverse value required for food, and providing nutritious meals at schools and hospitals.

■ Support to address the double burden of malnutrition (Philippines)

The Philippines faces challenges of both under- and over-nutrition, resulting in underweight and obesity. These challenges are likely due in part to a nutritional imbalance characterized by overconsumption of carbohydrates and lack of vegetables in the diet. In response to these challenges, the Philippine government, in collaboration with the WHO and other parties, developed the Pinggang Pinoy® dietary guide to help consumers develop healthy dietary habits. Since fiscal 2018, AJINOMOTO PHILIPPINES CORPORATION has been implementing *Mag-Pinggang Pinoy® Tayo!* (MPPT) program with government agencies to help promote and implement Pinggang Pinoy®. Since then, the company has provided solution using its products and services to make consumption of safe and balanced food, delicious and enjoyable to thousands of Filipino households.

In 2022, as an evolutionary effort, we partnered with the University of the Philippines Los Baños Institute for Human Nutrition and Food Research (UPLB-IHNF) and the Municipality of Cainta in the province of Rizal to conduct a study to establish evidence on the effectiveness of the MPPT program. The study's program included: 1. Basic education for health workers approaching the target housewives; 2. Nutrition education for the target housewives; and 3. 120 days of lunch for 270 underweight 3-5 year old children. Through this study, after 120 days of providing lunches, all 270 eligible children from 3 to 5 years old gained an average of about 1 kg in weight.

The study results were also presented at the 68th convention of the Nutritionists-Dietitians Association of the Philippines in February 2023. Going forward, we will use the MPPT module to also work with other government agencies such as the National Nutrition Council (NNC) and the Department of Health (DOH). Through these efforts, we aim to jointly create an ecosystem that encourages lifestyle changes to expand the practice of eating well-balanced meals.


■ Addressing maternal and child nutrition (Vietnam)

In Vietnam, knowledge regarding nutritional needs of pregnant women, lactating women, and young children is limited, and mothers and children experience nutritional issues. In December 2020, AJINOMOTO VIETNAM CO., LTD. launched the Mothers & Children Project with the Ministry of Health of Vietnam, rolling the project out nationwide. As a part of the project, the company developed project software that provides nutritionally balanced menus, containing more than 1,300 dishes for mothers and more than 700 dishes for children. The nutritionally balanced menus were developed based on the nutritional standards of the National Institute of Nutrition– Ministry of Health. We deployed the project software through a nationwide medical and healthcare network, the Vietnam Women's Union, online and offline communications activities, and the media, and provided training to health officials and mothers. The software is also equipped with functions that include a dietary habit checking tool and a quick health monitoring tool. Looking ahead, we will continue to support the improvement of maternal and child nutrition in Vietnam.

■ Addressing nutritional issues in childhood and adolescence through school meals

Many children in Vietnam suffer from stunted growth or low body weight, especially in rural areas. At the same time, a growing number of children in urban areas are overweight or obese. To resolve these issues, AJINOMOTO VIETNAM CO., LTD. launched the School Meal Project in 2012 to apply ideas learned from Japan's school lunch system. Working with central government ministries, including the Ministry of Education and Training and the Ministry of Health, the company has engaged in a range of activities to deploy the project nationwide. The project has grown and provides nutritionally balanced menu development software, food nutrition education materials, and model kitchens for primary boarding schools. As of March 2023, School Meal Project activities have expanded across 62 provinces/cities and 4,262 primary boarding schools.

In Indonesia, the high percentage of children with low body weight, stunted growth, or anemia is a serious social problem. PT AJINOMOTO INDONESIA (PTA) has implemented a School Lunch Program (SLP) in partnership with the Department of Nutrition at Bogor Agricultural University since fiscal 2018. The ten-month program provides nutritionally balanced school lunches and teaches diet and nutrition to teenage students. The program has led to lifestyle changes and improvements in anemia among students. In fiscal 2020, PTA created a guide book to promote the voluntary adoption of this program, aiming to expand the number of schools using the program. The program also received the support of the Ministry Of Religion of the Republic of Indonesia (MOR), given that SLP has proven to be successful in contributing to nutrition and health improvements among the Islamic boarding schools over which MOR has authority. Through PTA's own efforts and collaboration with Bogor Agricultural University, SLP was introduced in 6 boarding schools in fiscal 2021 and in 12 boarding schools in fiscal 2022, improving knowledge and practices at each school regarding nutrition and healthy lifestyles. In December 2022, SLP affiliates were invited by the Asian Development Bank to the 6th Special Session of the Asia-Africa 20 in Tokyo, where SLP was shared as an initiative to improve the physical and mental development of the next generation in Indonesia.

## Initiatives to resolve nutritional issues

Performance

GRI3-3, GRI203-2

The Ajinomoto Group aims to deepen our understanding of global nutritional issues through participation in international conferences and dialogue with leaders around the world. We also help resolve nutritional issues through global collaboration and by actively sharing our knowledge and expertise.

■ Initiatives at CGF Japan CHL

Ajinomoto Co., Inc. is a member of the Collaboration for Healthier Lives (CHL), a coalition of CGF, an international trade association for consumer goods. With Ajinomoto Co., Inc. as co-chair of CGF Japan CHL, Ajinomoto Co., Inc. is leading social implementation efforts around the themes of salt reduction and healthy aging. In our efforts to reduce salt intake, we have concluded an agreement with Chiba City and are working together to spread awareness about salt reduction (through the development of low-sodium recipes, in-store events, etc.). Our initiatives for healthy aging help deepen knowledge in consumers about frailty, helping them improve their own and their family members' dietary habits, especially through optimized protein intake.

■ Ministry of Health, Labour and Welfare's Strategic Initiative for a Healthy and Sustainable Food Environment

In 2021, the Ministry of Health, Labour and Welfare (MHLW) held a study group on promoting the creation of a naturally healthy and sustainable food environment. This group was tasked with identifying nutrition issues that Japan needs to address and discussing how to solve them in the public and private sectors. Results from the group's studies were included in the Japanese government's commitment at the Tokyo Nutrition for Growth Summit 2021. Here, creating a food environment refers to the interrelated development of both access to food (ingredients, food preparation, and meals) and access to information so that people can enjoy healthier diets. As a business operator, the Ajinomoto Group has been actively promoting this initiative. We will continue to contribute to the development and social implementation of the Japanese version of nutrient profiling models by leveraging our knowledge of delicious salt reduction and ANPS-Dish accumulated over the years and participating in this initiative that started in 2022 and the industry-academia collaborative project by the National Institute of Health and Nutrition that started the year after that. By doing so, we will continue to contribute to the realization of the Ministry of Health, Labour and Welfare's goal of a healthy and sustainable food environment not only in Japan but around the world.

TOPIC

## Nutritional Support for the Japanese National Blind Soccer® Team

Since 2003, Ajinomoto Co., Inc. has leveraged the function of amino acids in our *Victory Project*®, an effort to support conditioning for top athletes. We established the *Kachimeshi*® nutritional program utilizing the knowledge we have gained over approximately 20 years of activities, backed by sports nutrition science. Through this program, comprised of food and amino acids, we provide the nutrients necessary for the bodies and conditioning people want to achieve in tasty and easy-to-consume foods and supplements through “Amino Science”. We have provided support to Japanese Paralympic athletes since the Rio 2016 Paralympics. In April 2016, we signed a partnership agreement with the Japan Blind Football Association, as well as a sponsorship agreement with the Japanese national Blind Soccer team to provide products and nutritional support activities. In 2021, we provided on-site support at the Tokyo 2020 Paralympics athletes village, contributing to physical conditioning through the use of amino acids. Currently, we provide conditioning support for training and major international competitions in preparation for the Paris 2024 Paralympic Games.

We made a proposal to the Japanese men’s national Blind Soccer team to build a nutritional supplementation program, explaining the usefulness of aminoVITAL®. We also provided recommended intake timing in an amino acid utilization study session to keep the team in peak condition throughout the season. In on-site visits to practices, we learned that athletes consume much more energy than we imagined. We also discovered a nutritional issue that could have led to fatigue in certain players. Based on our findings, we endeavored instill in players and staff the best nutritional supplementation methods for the Japanese national team to compete with the rest of the world.

Ryo Kawamura, the captain of the men's national blind soccer team, said, "Our next tour will be in Kochi, India, where the heat is expected to exceed 30 degrees, even in November. Those conditions will be a heavy burden on our physical fitness. We’re going to use aminoVITAL® to enhance our conditioning and win.”

The Ajinomoto Group aims to improve diversity and create an inclusive society. As part of these efforts, we are working to improve the competitiveness of players on the Japanese national Blind Soccer team. We will continue to utilize the knowledge gained through *Kachimeshi*® and our support for top Olympic and Paralympic athletes to solve health issues. At the same time, we will also use these experiences to build societies that respect for diverse human resources and pursue DE&I initiatives.

Blind Soccer (©JBFA)

Kawamura (right), Captain of the Japanese Men's National Blind Soccer Team, and Members of the Victory Project® (©JBFA)


aminoVITAL®

# Disseminating information on MSG safety and benefits

## Activities to promote a correct understanding of MSG

Approach

The Ajinomoto Group was the first company in the world to commercialize glutamic acid as a seasoning. Glutamic acid (a type of amino acid) is an ingredient in *umami*, and we are the leading company today in publicizing the usefulness of umami globally. MSG improves flavor, reduces salt intake, shortens cooking time, and reduces the cost of meals at schools and other facilities.

At the same time, MSG has been the subject of nebulous anxieties for many years as a purported chemical harmful to health. Labels such as “additive-free,” “chemical-free seasoning,” or “No MSG,” have led to unsubstantiated rumors and misunderstandings among consumers that continue to this day.

We see a tremendous opportunity today in how consumers around the world communicate online, as well as in the rising global interest related to food safety, food security, and health. We are seizing on this opportunity to leverage various media in actively sharing information to consumers based on facts and scientifically backed evidence. Not only do we resolve misunderstandings about safety, but we also engage in initiatives to spread information about the benefits of MSG to the world, including MSG’s role in improving flavor, reducing sodium intake, and improving nutrition for the elderly.

> P028
> Know MSG

TOPIC

### Guideline on Non-use Labeling of Food Additives

After a year of deliberations in Japan by the expert-led Study Group on Guideline on Non- use Labeling of Food Additives, in March 2022, the Consumer Affairs Agency formulated the Guideline on Non-use Labeling of Food Additives. The guideline is to be used by food-related business operators for self-assessments to determine whether labeling falls under prohibited items (i.e., misidentification of quality or contents) stipulated in the Food Labeling Standards. Ten categories have been defined related to non-use labeling that require careful consideration so as to avoid misleading consumers. Examples of labeling highly likely to fall under prohibited practice are also provided in the guidelines.

(Examples)

Classification: Labeling using terms not specified in food labeling standards (synthetic, artificial, chemical, natural, etc.) ➡ “No chemical seasoning added” and “No artificial sweetener used” are considered highly likely to fall under prohibited terms.

Classification: Labeling on foods using ingredients with the same or similar functions ➡ “No additives used as seasonings (amino acids, etc.)” for foods using yeast extract is considered highly likely to fall under the prohibited items.

A transitional period of about two years (until the end of March 2024) has been set aside to review labeling based on the guidelines. Even now, however, labeling such as *no chemical seasonings used* remain in use. We intend to publicize and raise awareness of the guidelines in cooperation with the Japan Food Additives Association and the Umami Manufacturers Association of Japan.

## Resolving Nutritional Issues

### Umami and MSG promotions in the United States

The Ajinomoto Group strives to ensure that reliable information regarding the effect of umami on salt reduction and the safety of MSG reaches consumers through direct and indirect channels.

Interest is growing in salt reduction, including the U.S. Food and Drug Administration's October 2021 guidelines for businesses to voluntarily reduce sodium in foods. Amid this trend, in March 2023, the WHO included MSG as a low-sodium salt substitute in the review conducted for the development of salt reduction guidelines.

With this tailwind, we continue to provide information to registered dietitians on the usefulness of MSG for salt reduction.

At the same time, communications to consumers through our Know MSG campaign[1], offered via social media and specialized websites, has encouraged an understanding of MSG among Gen Z and Millennials, who have a high interest level in food. Our efforts have been leading to a shift in attitudes.

We are seeing more stories using MSG increasingly as a topic in plays and documentaries, while the media is covering the change in attitude toward MSG more widely.

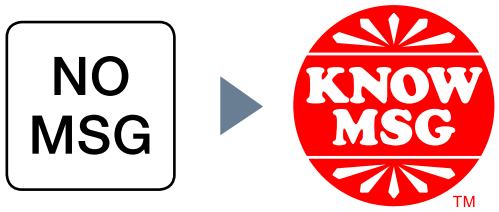
Through these and other means, we will continue to support delicious, nutritionally balanced meals, creating an environment more accepting and more confident in using MSG.

* A consumer campaign started in December 2020. Through a tie-up campaign with an Asian-inspired food company located in the United States, we posted a video on our Know MSG website and social media, calling upon our audience to know more about the safety and benefits of MSG (including salt reduction). As a part of the campaign, the seasoning company began sales of seasonings rich in umami and featuring the Know MSG logo on packaging.

**Survey results in the United States**

| Segment | KPI | FY2022 Result | FY2023 Target |
|---|---|---|---|
| General consumers | Don't care if foods are made with MSG | 53% | 55% |
| | MSG-positive or MSG-neutral | 47% | 48% |

(Per Ajinomoto Co., Inc. survey)




> Know MSG

### Other communication activities

- Japan: Ajinomoto Co., Inc. launched a website for professionals involved in food and health to provide science-based knowledge of food and amino acids. The website includes information on the use of umami seasonings to reduce salt intake in delicious ways and to increase the amount of food consumed by the elderly who are cutting back on their salt intake. On the other hand, for consumers, we started a club activity called the Low Salt Club~Salt Reduction With Umami Club in on July 25, 2022 (July 25 is Umami Seasoning Day). Activities include inviting culinary influencers to communicate with Gen Z and spread the message that salt reduction is necessary, even from a young age, and that delicious salt reduction can be achieved using umami seasonings.
- Singapore: In February 2023, the Ajinomoto Group held a tenth-consecutive year of lectures about Japanese cuisine and umami for 80 students at the National University of Singapore. This year's event was held on-site, and in addition to an explanation of Japanese food and how to reduce salt intake using umami and MSG, participants tasted *dashi* and experienced delicious salt reduction with MSG. Feedback after the lecture confirmed that the experience led to a deeper understanding of umami and MSG.

# Addressing health issues

## Making regenerative medicine[1] a reality

Performance

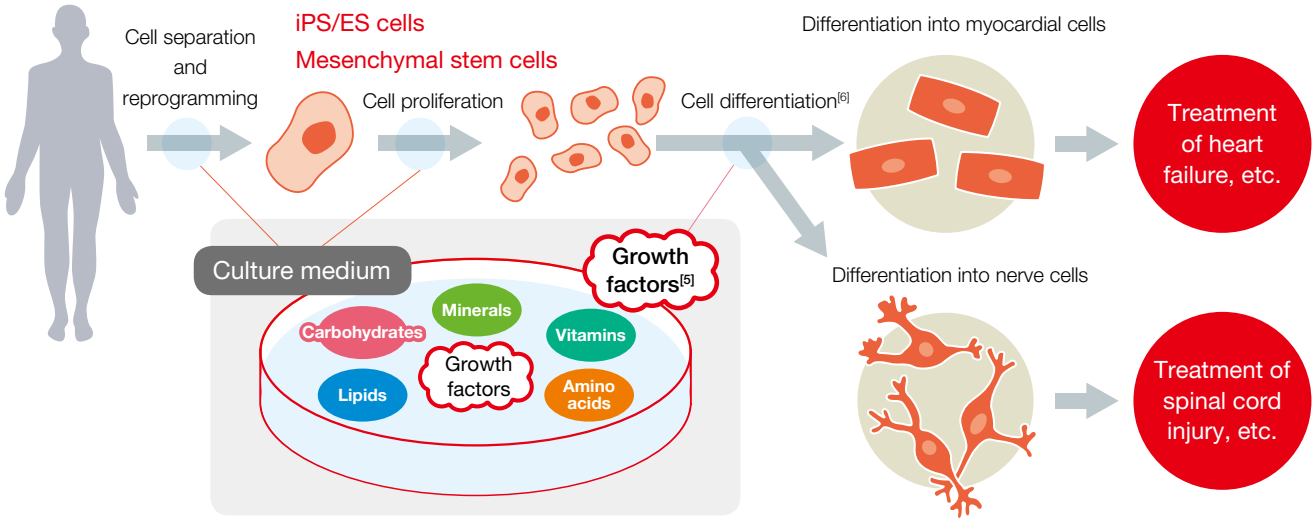
GRI203-2

### Commercial cell culture media[2] for regenerative medicine

Today, scientists around the world are researching regenerative medicine as a radical treatment for solving problems in organ transplantation. The Ajinomoto Group supplies pharmaceutical-grade amino acids, which are a key ingredient in cell culture media. In 2014, the Group developed, an iPS[3]/ES[4] cell culture medium free of animal-derived ingredients, and launching related products beginning in 2016. At present, several academic institutions and pharmaceutical companies are conducting or preparing to conduct clinical trials for regenerative therapies using our StemFit® media. For example, the first successful transplant using Heartseed Inc.'s HS-001, an iPS cell-based cardiac regenerative medicine (phase I/II study), announced in February 2023, used our StemFit® media.

We will enhance our presence in the field of regenerative medicine in Japan by utilizing our high- quality amino acids, expertise in amino acids, fermentation technology, formulation technology, and other advantages. We will also aim to expand our business in cell culture medium for regenerative medicine in North America and other regions overseas, contributing to innovative treatments as quickly as possible.

**Role of cell culture medium in regenerative medicine**




[1] Medical treatment of dysfunctional, non-functional or defective tissues. Artificially reproduced functional cells or tissues are transplanted to regenerate tissue and replicate function.
[2] A nutrient solution that contains a balanced mixture of amino acids, carbohydrates, lipids, vitamins, minerals and growth factors required for cell growth.
[3] Induced pluripotent stem cells generated from human body cells by adding several types of factors. These stem cells exhibit pluripotency (ability to differentiate into various tissues and organs) and an almost limitless capacity for proliferation.
[4] Embryonic stem cells created using inner cell mass from human blastocysts. These cells exhibit the ability to differentiate into various human tissues and organs.
[5] Proteins that promote the proliferation and differentiation of specific cells in human and animal bodies.
[6] The conversion of iPS/ES cells into cells of different tissues and organs that make up the body.

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## AminoIndex® Risk Screening

AMINOINDEX®

Performance

GRI203-2

AminoIndex® Risk Screening (AIRS®) is a unique Ajinomoto Group service that can assess the risk of three major diseases (cancer, stroke, and myocardial infarction), diabetes, and cognitive decline with a single blood collection based on the balance of plasma amino acid levels . This service is an option for physical examinations or as part of workplace health checkups, and provides an opportunity to detect and prevent diseases caused by lifestyle-related factors. To date, more than 500,000 individuals have received AminoIndex.

AIRS® has been adopted as a disease prevention service available to policyholders of the cancer and critical illness prevention insurance offered by Taiyo Life Insurance Co., Ltd. beginning June 2021, making it easier for subscribers to continue receiving medical examinations.

We are contributing to healthy and comfortable lifestyles for customers by utilizing AminoIndex technology® to expand services that will lead to the early detection and prevention of various diseases as well as to provide integrated solutions services for food and health issues.

## Smartphone app for enhancing lifestyle improvement solutions

aminoステップ®

Performance

GRI203-2

In April 2021, Ajinomoto Co., Inc. launched aminoSTEP®, a smartphone app that provides information contributing to lifestyle improvements for AminoIndex® Risk Screening (AIRS®) examinees and general users in Japan.

As of the beggining of July, 2023, the number of users exceeded 100,000 individuals. The aminoSTEP® app has been well received for its fun walking function and easy meal logging function. Approximately 20,000 users take advantage of these functions every day to maintain and improve their health.

We also offer *Brain Health Diary for 100 year Life®*, a smartphone app targeting general users aged 45 to 64. This app supports the maintenance of cognitive function through lifestyle improvements. The app visualizes lifestyle factors such as diet, exercise, and sleep from the perspective of cognitive function. Using our proprietary algorithm based on images of food taken via smartphone, linked with data of exercise and sleep time recorded by smartphone, the app offers advice and recipes suited to the user. In January 2023, a joint study with the National Center for Geriatrics and Gerontology revealed that the cognitive function maintenance score used by the *Brain Health Diary for 100 year Life®* app serves as an indicator of future cognitive decline.

## Industry-academia collaborations for healthier lives

Performance

In April 2020, Hirosaki University and Ajinomoto Co., Inc., established the Digital Nutrition and Health Sciences Course, a joint research course[1] on extending the healthy life expectancy under the Hirosaki University Graduate School of Medicine. In the joint research course, we analyze large-scale health checkup data to clarify the relationship between diet and physical and mental health, leading to proposals of optimal diets. Through industry-government-academia collaboration, we are building a new ecosystem of food and health to solve health issues.

In February 2022, the Niigata University Brain Research Institute, 18 medical institutions and facilities, and Ajinomoto Co., Inc. conducted joint research to develop a new blood biomarker for mild cognitive impairment (MCI). Mild cognitive impairment is known as a high-risk indicator for progression to dementia. The newly developed blood biomarker will enable the detection of MCI in its early stages, allowing lifestyle modification and other preventive measures to be taken. In the future, we aim to develop biomarkers that can predict the transition from MCI to dementia.

[1] A research organization founded by the university and funded by private companies and other organizations.
In addition to providing researchers, facilities, and equipment, the university hosts researchers from funding corporations and other organizations.
In this way, the university and companies providing funding operate the research organization on an equal footing.

## Providing solutions to the pharmaceuticalvs industry

Performance

GRI203-2

The Bio-Pharma Services Dept. provides manufacturing and development services for pharmaceuticals and its intermediates to pharmaceutical companies.
This business takes advantage of synergies between services leveraging innovative proprietary technologies and the capabilities of each of our global manufacturing sites, contributing to our pharmaceutical company clients and, by extension, the health of patients.

Producing large quantities of high-quality oligonucleotide medicines and delivering the medicines to patients in numbers has been a challenge in the field of nucleic acid theapeutics.
Our proprietary AJIPHASE® technology solves this problem, and we contribute to the improved quality of life for patients through the production of commercial oligonucleotide drugs together with partner pharmaceutical companies.
Antibody-drug conjugates (ADC) have been attracting attention in recent years as oncology drugs. We use our proprietary AJICAP® technology to provide development services for partner pharmaceutical companies in this field.
ADC is a generic term for drugs that exert anticancer effects selectively on targeted cancer cells by conjugating an antibody to anticancer drugs. AJICAP® technology is a breakthrough technology fostering the easy creation of ADC having high drug efficacy and safety. Our technology has already contributed to the development of high-performance ADC through technology licensing to multiple pharmaceutical companies.

We continue to contribute to the health of patients by providing innovative technologies and services to our partners in the pharmaceuticals industry.

*https://www.ajinomoto.co.jp/company/en/ir/business/healthcare.html

> Healthcare and others
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