

# Contribution to solve food and health issues

Since our founding, the Ajinomoto Group has aspired to fulfill the ambition of our founder to help people live healthier with nutritional, delicious foods that utilize umami, and we have been spreading this message across the world. The issues and needs related to food and nutrition in modern society are becoming more diverse and more complex. The Group aims to maximize our impact on resolving nutritional issues through our businesses. To achieve this aim, we encourage people to eat a nutritionally balanced diet by leveraging our expertise in amino acids. In this way, we contribute to the better health and dietary habits of people all over the world.

## Specific examples

- Undernutrition and overnutrition (customer welfare)
- Nutrition for infants, young women, and seniors
- Well-being
- Regenerative medicine
- Preventive medicine

## Related opportunities and risks ( ○ Opportunity ● Risk )

- Revised lifestyle habits, including diet and exercise, due to increasing seriousness and diversity of health issues
- Brand trust
- Stronger laws and rules related to health and nutrition (sugar tax, nutrition labeling)
- Involvement of food and nutrition in predictive prevention
- Development of regenerative medicine technology, antibody drugs, and oligonucleotide therapeutics
- Rising competition in the health and nutrition field

## Key initiatives by the Ajinomoto Group

- Offering tasty food and amino acid products as well as menus that nourish health and well-being
- Supporting the practice of “delicious salt reduction”
- Promoting protein intake
- Supporting the practice of “delicious sugar and fat reduction”
- Workforce nutrition improvement
- Use of nutrient profiling systems for product development
- Contributing to preventive medicine through “AminoIndex technology”
- Cell culture medium for regenerative medicine
- Contract development and manufacturing of biopharmaceuticals

## Related SDGs



## Contribution to Solve Food and Health Issues

## Performance

GRI203-DMA

> ASV Report 2022  
(Integrated Report)  
P51

&gt; P30

> Environmental and  
Health-Related  
Lifecycle Impact  
Assessment of  
Reduced-Salt  
Meals in Japan

## Quantifying salt reduction using umami

The Ajinomoto Group seeks to help extend the healthy life expectancy of one billion people by 2030. To this end, we are focusing on the excess intake of sodium as a health issue and setting our sights on achieving “delicious salt reduction” using the flavoring function of umami. However, we had not quantitatively clarified the salt reduction effect achievable using umami.

From August 2020, taking into account efforts<sup>[1]</sup> by the World Health Organization (WHO), we are working with academia to verify umami’s effectiveness in salt reduction (U20 Healthy Umami Research Project). Last fiscal year, we obtained the first results that the average salt intake per Japanese person can be reduced between 12.0% and 21.1% (1.3 g to 2.2 g/day) when incorporating umami into Japanese dietary patterns. Based on scenario analysis, the decrease in estimated DALYs<sup>[2]</sup> through salt reduction is 50 DALYs/g<sup>[3]</sup>. When combined with the estimated amount of salt reduction due to umami (1.3-2.2g in Japan), the projected DALYs reduction is up to 110 DALYs/g. This indicates that about 10% of the approximately 1,000 DALYs attributed to a high-salt diet could be reduced through salt reduction using umami. In fiscal 2021, we estimated the effect of umami on salt reduction in the U.S. dietary pattern. We found that in the U.S., the average salt intake per U.S. person could be reduced by 5.5% to 10.5% (0.5g to 0.9g/day) by utilizing umami. This indicates that “delicious salt reduction” with umami can make a significant contribution to the WHO salt reduction target, even in Western dietary culture, where the major source of salt intake differs from that of Japan.

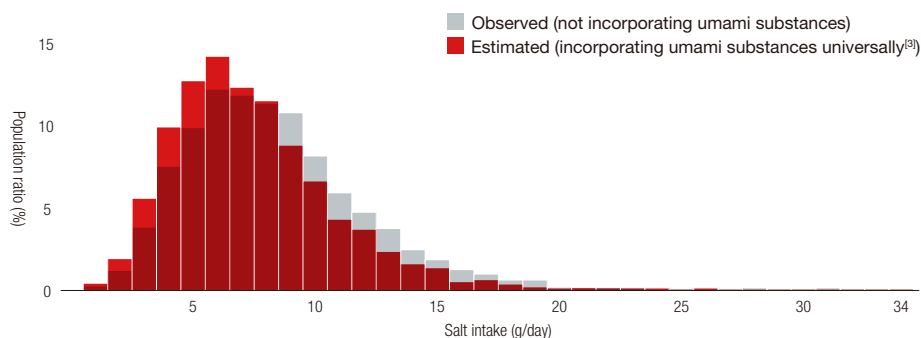
In the future, we intend to use these research results to verify the impact of delicious salt reduction via umami in other countries.

[1] The WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases (NCDs) calls for reducing salt intake by 30% (over 2011 levels) by 2025.

[2] DALY is the number of years of life a person might be expected to lose when adjusted for a disease or health condition and the severity of the disability. DALY is the sum of Years of Life Lost (YLLs) and Years Lost due to Disability (YLDs). Developed in the early 1990s by Harvard University Professor Christopher Murray, the DALY metric quantifies the overall burden of disease and health conditions. DALY is used by the WHO and the World Bank as an overall health outcome indicator that provides a different perspective than standard life expectancy, and is increasingly being used around the world as a complementary indicator to healthy life expectancy.

[3] Nakamura, K. Itsubo, N. *Sustainability* 2022, 14(14), 8265.

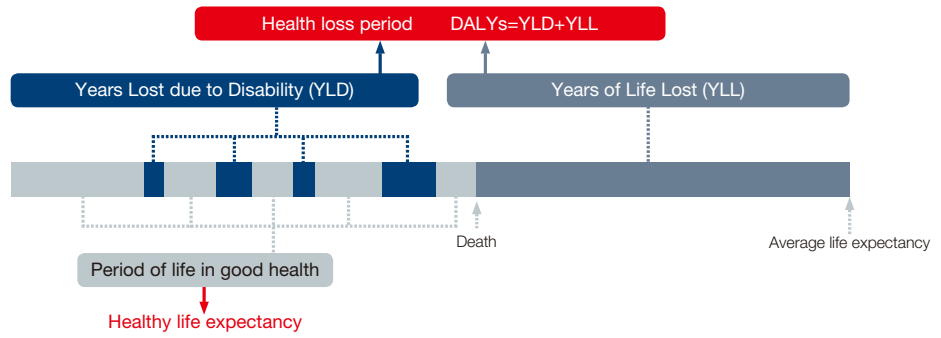
## Estimated results of salt intake when using umami



[3] Refers to cases in which 100% of salt-containing foods are replaced by foods with reduced salt content by using umami.

## Contribution to Solve Food and Health Issues

Relationship between healthy life expectancy and DALYs



## Contribution to Solve Food and Health Issues

# Unlocking the power of amino acids

### Approach

- > Examples of the Functions and Technological Applications of Amino Acids (Japanese only)
- > Enhancing Life with Amino Acids

GRI203-2

- > ASV Report 2022 (Integrated Report) P3-4
- > P90

The Ajinomoto Group business began in 1909 with the launch of umami seasoning *AJI-NO-MOTO*<sup>®</sup>. Dr. Kikunae Ikeda, a scientist, discovered a taste derived from traditional Japanese kombu dashi (kelp stock) that had yet to be recognized in the world. He succeeded in extracting the amino acid glutamate from the kombu dashi in 1908. Dr. Ikeda called this taste umami, inventing a method to produce umami seasonings made from glutamate that impart everyday umami and delicious tastes. Then, our founder, Saburosuke Suzuki II, received a request for commercialization from him and launched the seasoning as *AJI-NO-MOTO*<sup>®</sup> in 1909.

Since that time, we have worked diligently to evaluate and unlock the power of amino acids to discover how they can be used in different ways to improve society.

### Approaches by unlocking the power of amino acids

About 20% of the human body is made of proteins. These proteins are made up of 20 different types of amino acids. Amino acids form nearly 100,000 kinds of proteins through various combinations.

Some amino acids are made in the body; however, there are nine amino acids, called essential amino acids, that can only be obtained through foods. Since amino acids play an important role in maintaining life, humans must ingest a sufficient amount of amino acids in balance with other nutrients through daily diet.

Amino acids provide four functions: flavoring function, nutrition, physiological function, and reactivity. The Ajinomoto Group creates a variety of innovations, including the development of new materials, by unlocking these amino acids powers and technologies for design, exploration, production, and evaluation.

The Group unlocks the powers of amino acids to develop and market products that support comfortable lifestyles, as well as to provide amino acid-containing ingredients and product design solutions to our clients. In-house products include functional foods that support positive feelings<sup>[1]</sup> by maintaining attention<sup>[2]</sup> and cognitive flexibility, cognitive functions that decline with age. In BtoBtoC business, by adding various amino acid functions to food, we help consumers easily ingest these compounds to experience the health and nutritional value of amino acids. We pursue this BtoBtoC initiative both in Japan and overseas, offering our BtoB customers the Amino Acid Prime Mix, a line of optimally formulated amino acid ingredients for food and beverage products.

[1] Bright and pleasant mood, motivated, active, etc.

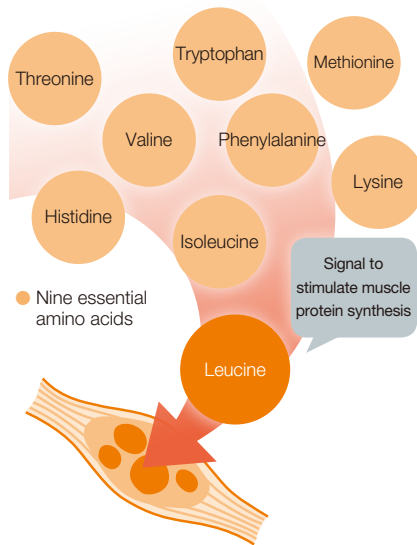
[2] Ability to pay attention to more than one thing, ability to focus attention quickly on important things

## Contribution to Solve Food and Health Issues

### Amino Acid Prime Mix ingredients

#### Essential amino acid mix with 40% leucine

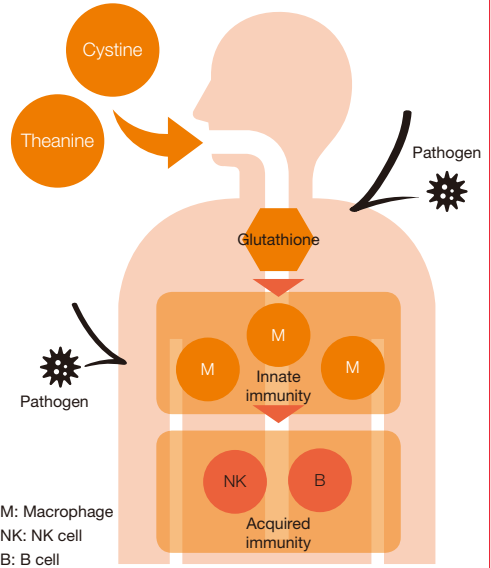
**Function** Maintains and improves muscle mass and strength



Of the nine amino acids, leucine works as a signal to stimulate muscle synthesis. This 40% leucine formulation supports efficient integration of essential amino acids in the body for enhanced muscle mass and strength.

#### Ingredient containing cystine and theanine<sup>[1]</sup>

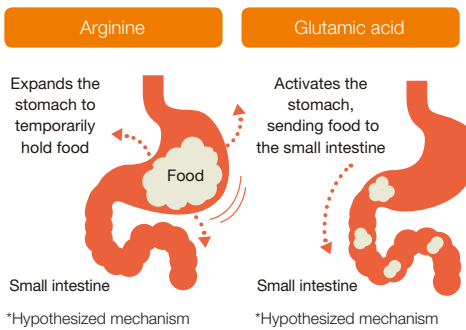
**Function** Improves immunity



Cystine and theanine support the production of glutathione<sup>[2]</sup>, an antioxidant. Glutathione boosts one's ability to fight pathogens by helping to activate the innate and acquired immune systems.

#### Arginine and glutamic acid mix

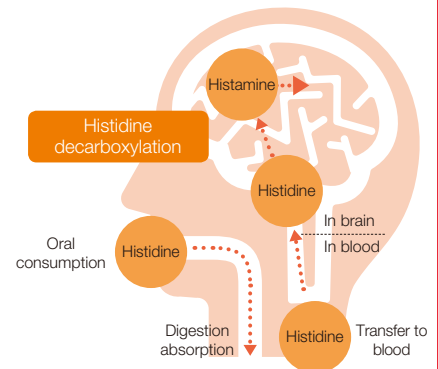
**Function** Improves gastric motility and appetite



Arginine and glutamic acid work to alleviate stomach discomfort from food and drink by promoting gastric motility.

#### Histidine and vitamin B6 mix

**Function** Reduces fatigue, improves work efficiency



Histidine is synthesized in the brain into histamine, levels of which are reduced by lack of sleep and stress. Histidine reduces mental fatigue and improves work efficiency for tasks requiring simple memory and judgment. Vitamin B6 help in the production of histamine from histidine.

[1] An amino acid found in tea leaves. A derivative of glutamic acid, theanine, when consumed, is broken down into glutamic acid and ethylamine in the body.

[2] An important antioxidant for many living organisms, glutathione is formed by joining three amino acids, glutamic acid, cysteine, and glycine, in that order. The amino acid cystine alone increases glutathione levels, but adding the glutamic acid derivative theanine increases glutathione levels even more significantly.

## Contribution to Resolve Food and Health Issues

# Addressing nutritional issues

### Approach

- > Decade of Action on Nutrition
- > ASV Report 2022 (Integrated Report) P50-51
- > Nutrition without Compromise
- > Group Shared Policy on Nutrition
- > P19

## Approach to nutrition

Health problems such as lifestyle-related diseases, undernutrition and overnutrition caused by aging, diet and lifestyle are increasing globally<sup>[1]</sup>. 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. Moving forward, we will continue to promote activities for improving nutrition while closely monitoring the progress of this commitment.

[1] UN: Decade of Action on Nutrition

## 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.

## Contribution to Resolve Food and Health Issues

### ■ The three pillars of our approach to nutrition

#### • 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 umami seasonings (such as MSG) and other seasonings, we contribute to delicious and healthy meals.

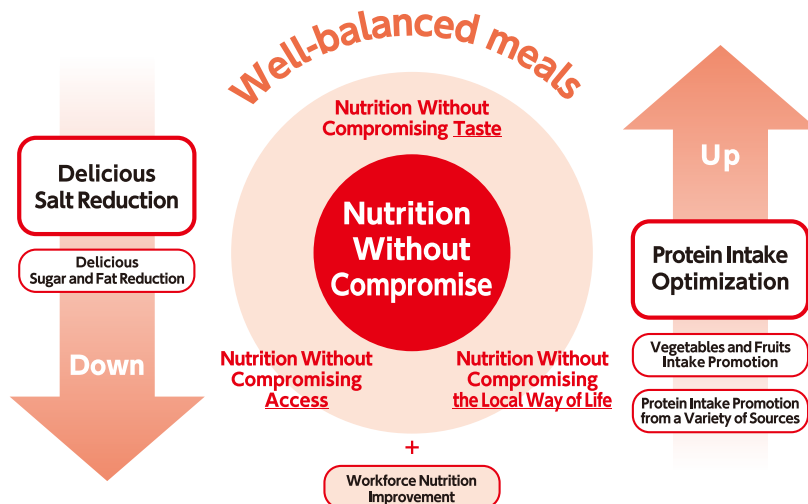
#### • Nutrition without compromising access

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.

#### • Nutrition 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 P30 to P38 for details of initiatives to make the above approaches a reality.

### Framework for nutrition management

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.

> Group Shared  
Policy on Nutrition  
> P4

## Contribution to Resolve Food and Health Issues

GRI203-2

> ASV Report 2022  
(Integrated Report)  
P51

> P24-25  
> P26-27  
> P28  
> P31-33  
> P34-35  
> P35

GRI102-48

Performance

GRI203-2

&gt; P24

### Use of nutrient profiling systems for product development

In response to the growing worldwide interest in improving nutrition, global food companies are developing and introducing 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 *ANPS-P* in 2020, and as of March 2022, the system has been introduced in 15 group companies in 12 countries, visualizing the nutritional value of approximately 700 products. However, the *ANPS-P* and other NPS used globally<sup>[1]</sup> have limitations in evaluating products, such as seasonings, that consumers do not consume as a single product. The Ajinomoto Group views this as an issue. Therefore, we continue developing NPS to evaluate the nutritional value of food items prepared with products such as seasonings. In December 2021, we announced *ANPS-M*, the world's first nutrient profiling system for food items that takes into account Japanese food culture and health issues. By introducing and utilizing *ANPS-P* and *ANPS-M*, we will promote the development of products, dishes, and recipes with enhanced 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. We will also explore utilizing these to provide support to consumers so that they can eat nutritionally well-balanced meals. In addition, we plan to develop *ANPS-M* 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.

### Initiatives to achieve our approach to nutrition

#### Nutrition commitment quantitative KPIs

	FY2020 (Results)	FY2021 (Results)	FY2025 (Targets)	FY2030 (Targets)
Percentage of products with improved nutritional value <sup>[2]</sup>	40% <sup>[3]</sup>	50%	—	60%
Provision of products with improved nutritional value in "delicious salt reduction" and "protein intake optimization"	280 million people per year	320 million people per year	—	400 million people per year
Availability of products utilizing the physiological and nutritional functions of amino acids	(Base year)	1.09 times	—	2 times
Nutrition education for employees	460	26,000	Cumulatively 100,000	—

[2] 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.

[3] The value was corrected because the additional applicable products were identified by more accurate collection of data.

#### ■ "Delicious salt reduction"

Risks due to excess salt intake are becoming more serious worldwide. Despite WHO initiatives<sup>[1]</sup> warning against such risks, improvements have yet to be seen. In fiscal 2021, 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 five 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. Furthermore, we are conducting a global survey of consumer awareness regarding salt reduction, and will apply the findings to our "delicious salt reduction" initiatives.

[1] 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.



## Contribution to Resolve Food and Health Issues

### Main products

Japan				Asia	
					
Salt	Flavor seasonings	Soups	Frozen foods	Flavor seasonings	
North America		South America		EMEA <sup>[1]</sup>	
					
Frozen foods	Flavor seasonings	Soups	Flavor seasonings	Soups	

[1] Europe, the Middle East and Africa

> ASV Report 2022  
(Integrated Report)  
P37

> Smart Salt Project  
(Japanese only)

> Delicious Salt  
Reduction

### 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. 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<sup>[2]</sup> 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. Its 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 the 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 plan new initiatives toward salt reduction through collaboration with governments, universities, and other companies.

We have similar activities underway overseas as well, and from fiscal 2020 onward, in addition to introducing 19 brands of 45 reduced-salt products in seven countries (as of July 2022), we also promote low-sodium diets in each Group company's owned media by providing low-sodium recipes and holding cooking classes.

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

### Initiatives in local ecosystems

The Ajinomoto Group is working with local governments, dietetic associations, distributors, and media to solve issues with diet and health that vary between regions, such as excess intake of salt and insufficient intake of vegetables. In 2021, we developed low-sodium recipes using seasonal ingredients in support of Ibaraki Prefecture's *Ibaraki Low-Salt Day*, a day designated for reducing salt, and introduced 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. We also created and distributed leaflets in supermarket storefronts to encourage salt reduction while maintaining respect for local food culture.

## Contribution to Resolve Food and Health Issues

### Performance

GRI203-2

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

### Protein intake optimization

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).

#### Main products

##### Japan



Seasonings  
for meat



Menu-specific  
seasonings



Soups



Frozen foods



Amino acid supplements

##### Asia



Menu-specific  
seasonings

##### North America



Medical foods



Amino acid supplements



Frozen foods

##### South America



Salt Seasonings



Soups



Amino acid supplements

##### EMEA



Medical foods



Frozen foods

#### Dealing with nutritional issues in the elderly (Japan, Europe)

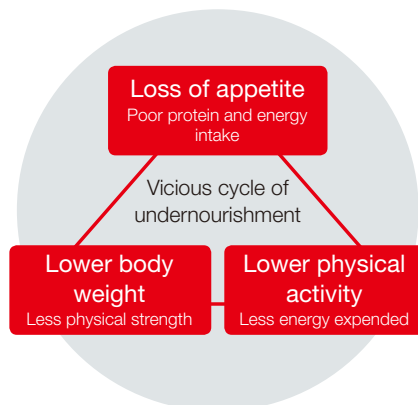
Elderly people may not be able to eat adequately due to declining physical functions and loss of appetite as they age. Less food intake causes muscular and physical strength to deteriorate, which may then lead to lower physical activity, less appetite, and a vicious cycle of undernourishment. To prevent this, Ajinomoto Co., Inc. 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.

We also work with other food companies in CGF Japan CHL<sup>[1]</sup> to support consumers' protein intake.

[1] The Japan branch chapter of the Collaboration for Healthier Lives (CHL), which is one of CGF's activity coalitions and co-chaired by Ajinomoto Co., Inc.

## Contribution to Resolve Food and Health Issues

### Vicious cycle of undernourishment



### Three keys to prevent undernourishment



In December 2020, we acquired Irish supplement company Nualtra Limited through our consolidated subsidiary Ajinomoto Cambrooke, Inc. Nualtra Limited has developed oral nutritional supplements (ONS), a type of high-energy, high-protein medical food targeting elderly people with dietary restrictions due to illness or who are suffering from aging-related nutritional deficiencies, and markets these in the UK and Ireland. By applying the accumulated knowledge of *Deliciousness Technologies*® and the physiological functions of amino acids to Nualtra Limited's ONS business, we will solve issues with existing ONS products that include consumer dissatisfaction with taste, variety, and price, thus improving user QOL.

### Delicious sugar and fat reduction

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.

#### Main products

Japan	Asia	South America
 Powdered beverages	 Sweeteners	 Seasonings
	 Canned coffee	 Powdered juice

#### ■ 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 times and between 20,000 times 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.

Performance

GRI203-2

## Contribution to Resolve Food and Health Issues

### Performance

GRI203-2

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

### Performance

GRI203-2

### Vegetables and fruits intake promotion

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.

#### Main products

##### Japan



Menu-specific seasonings



Consommé soup stocks



Soups



Frozen food (Chinese rice bowl)

##### Asia



Flavor seasonings



##### North America

Frozen foods  
(fried noodles with vegetables)

##### EMEA

Frozen foods  
(gyoza with vegetables)

#### 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. In fiscal 2021, we expanded the initiative nationwide across 27 prefectures in collaboration with industry, government, private and academia. We have utilized websites and social media to encourage the younger generation to appreciate and enjoy eating vegetables.

In recognition of these activities, the *Love Vege* project received the top prize in the Lifestyle-related Disease Prevention category of the 10th Let's Extend Healthy Life Expectancy Award, part of the Smart Life Project run by the Minister of Health, Labour and Welfare for supporting better health for citizens of Japan. We will further expand our *Love Vege* activities and work towards resolving nutritional issues in communities.



### Protein intake promotion from a variety of sources

To pass on a rich global environment to the next generation, the Ajinomoto Group is undertaking initiatives to boost the intake of sustainable and diverse proteins. With the exception of beans and some others, plant-derived proteins in general often have a poor amino acid balance and a lower nutritional value than animal-based proteins. As more plant-based proteins become consumed in the future, amino acid balance will become an issue. We believe that fortifying the deficient amino acids can increase nutritional value in plant-based proteins and contribute to improved protein intake. In addition to developing our own products, we also provide BtoB customers with solutions that improve the taste, flavor, and texture of plant-based meat alternatives, and collaborate with startups in developing plant-based meats.

## Contribution to Resolve Food and Health Issues

### Performance

GRI203-2

GRI403-5

GRI403-6

### Performance

GRI203-2

### Main products

Japan	EMEA
 <p>Bean soup</p>	 <p>Bean soup</p>

### Workforce nutrition improvement

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. In fiscal 2020, we started nutrition literacy program, and in fiscal 2021, we expanded our e-learning nutrition education, etc., to the entire Group, providing educational opportunities to 26,000 employees. By fiscal 2025, we aim to have provided education in nutrition to a sum total of 100,000 employees, while expanding educational content.

#### Initiatives to improve nutritional literacy

FY2021	<ul style="list-style-type: none"> <li>● Provided e-learning “Nutrition Basics” for the Company’s employees</li> <li>● Started rolling out to Group companies</li> <li>● Create new content focusing on priority initiatives</li> </ul>
FY2025	<ul style="list-style-type: none"> <li>● Expand and achieve educational content</li> </ul>

#### 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 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. At the time of the joining, 14 of the Group companies, representing approximately 70% of the Group's employees, were registered. Others are being considered for registration as well, taking into account their company size and situation.

The registered companies conduct annual self-assessments with regard to four important points (Health food at work, Nutrition education, Nutrition-focused health checks, and Breastfeeding support) to promote workforce nutrition improvement. Ajinomoto Co., Inc. will support work to improve workforce nutrition by preparing guidelines for self-assessment from a unified Group-wide perspective, as well as providing each company with examples of internal initiatives, tools developed by the WNA, and examples of initiatives by WNA members.

### Well-balanced meals

Since our founding, the Ajinomoto Group has contributed to the well-being of people by unlocking the power 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*<sup>®</sup> dietary guide to help consumers develop healthy dietary habits. Since fiscal 2018, AJINOMOTO PHILIPPINES CORPORATION has been implementing “*Mag-Pinggang Pinoy*<sup>®</sup> *Tayo!*” (MPPT) program with government agencies to help promote and implement *Pinggang Pinoy*<sup>®</sup>. Since then, the company has provided solution using its products and services to make consumption

## Contribution to Resolve Food and Health Issues

of safe and balanced food, delicious and enjoyable to thousands of Filipino households.

In 2021, APC in partnership with University of Los Baños – Institute of Human Nutrition and Food (UPLB-IHNF) and local government of Cainta Rizal started conduct of intervention study to establish evidence on the effectiveness of MPPT program. With established evidence, we aim to inspire lifestyle change towards healthy eating habit for Filipinos to help improve nutrition. In the future, we aim to acquire evidence and to expand these activities to other regions of the Philippines where nutritional deficiency is an issue.



### ■ 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, contains 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. We deployed the project software through a nationwide medical network, Vietnam Women's Union, online and offline communications activities, and the media. The software is also equipped with functions that include a dietary habit checking tool and a quick health monitoring tool. We will conduct online training for health officials and mothers, and 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 2022, School Meal Project activities have expanded across 62 municipalities 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 Project (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. In 2021, PTA expanded SLP to six boarding schools through an independent initiative in cooperation with Bogor University. The six boarding schools implement SLP in various ways that include nutrition education, expanded menu options, etc.

### ■ Addressing nutritional issues in infants and toddlers (Ghana)

The Ajinomoto Group helps eliminate malnutrition in weaning-aged children in the Republic of Ghana through donations to the Ajinomoto Foundation's Ghana Nutrition Improvement Project.

## Contribution to Resolve Food and Health Issues

### Performance

GRI203-2

### Performance

GRI102-12

GRI203-2

> ASV Report 2022  
(Integrated Report)  
P53

> Tokyo N4G Summit

> Building better  
food systems for  
nutrition and health

> Nature Outlook  
sustainable  
nutrition

### Other initiatives

The Ajinomoto Group is focused on optimizing the quality and quantity of nutrients in individual products and menus to improve nutrition. To accomplish this goal, we must supply the necessary nutrients.

#### Main products

<p>Japan</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Creaming powder (vitamins and calcium)</p> </div> <div style="text-align: center;">  <p>Supplements (lutein, etc.)</p> </div> </div>	<p>Asia</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Supplements (vitamins and minerals)</p> </div> <div style="text-align: center;">  <p>Pancake mix (calcium and zinc)</p> </div> </div>
<p>North America</p> <div style="text-align: center;">  <p>Medical foods (for patients with amino acid metabolism disorders, etc.)</p> </div>	<p>South America</p> <div style="text-align: center;">  <p>Powdered beverages (iron, calcium, vitamins)</p> </div>

### Initiatives to resolve nutritional issues

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.

#### ■ Tokyo N4G Summit 2021

The Tokyo Nutrition For Growth Summit 2021 (N4G 2021), led by the Japanese government, was held on December 7 and 8. The event was held in a hybrid format, with participants from Japan joining in person and those from overseas participating entirely online. During the high-level session on the first day of the conference, Prime Minister Fumio Kishida, while describing Japan's nutrition-related efforts, announced that Japan would provide nutrition-related assistance of 300 billion yen, or over 2.8 billion US dollars, over the next three years to help achieve universal health coverage (UHC) and other goals. The Ajinomoto Group was the only Japanese company to participate in the first summit. Takaaki Nishii, who was President and CEO of Ajinomoto Co., Inc. at the time, once again attended the summit and its opening ceremony on December 7. The Ajinomoto Group also represented food companies at the high-level session and presented our Nutrition Commitment.



The government's closing remarks indicated the helpfulness of corporations, presenting evidence that umami helps reduce sodium, calling this a success of the summit. This offered an important opportunity to communicate the Group's activities to the rest of the world. We will use our participation in this summit as an opportunity to build a network with a variety of stakeholders, including civil societies, international NGOs, corporations, investment institutions, governments, UN agencies, and academic societies to strengthen our engagement in resolving issues.

#### ■ Presenting at the CGF Sustainable Retail Summit

The Consumer Goods Forum Sustainable Retail Summit was held in October 2021, under the theme of "The Evolving Face of Sustainability: Acting Today to Shape Tomorrow." Takaaki Nishii, then President and CEO, spoke at the CEO session focusing on the topic of health and wellness as a member of Japanese companies in the Asian region. Introducing examples such as the Smart Salt Project and our work to improve workplace nutrition in Japan, as well as our project to support the autonomy of Thai farmers, he presented our Group's efforts to resolve food and health issues from the perspective of the Asian region.

## Contribution to Resolve Food and Health Issues

### ■ Participation in the Zero Hunger Private Sector Pledge

Ajinomoto Co., Inc. declared its participation in the GAIN-sponsored Zero Hunger Private Sector Pledge, designed to reduce hunger. The Company pledged a total of US\$11,211,564 to global entities, Africa, and Thailand in September 2021.

#### TOPIC

### Gyoza created from the feedback of top athletes, supporting the dietary habits of athletes and consumers

Since 2003, Ajinomoto Co., Inc. has been working with the Japanese Olympic Committee (JOC), unlocking the power of amino acids in our *Victory Project*®, an effort to support conditioning for top athletes to become more competitive internationally and to win more medals. 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 that unlock the power of amino acids. As part of this effort, we collected information directly from athletes about their dietary needs. Figure skater Yuzuru Hanyu, commented that he could eat *gyoza* dumplings, his favorite food, even if he did not have much of an appetite. However, ordinary *gyoza* are too high in fat for top athletes due to the use of oils and fats in the product and during cooking, creating the significant challenge of making them difficult to incorporate into an athlete's diet. We began development based on the concept that *gyoza* could help with the conditioning of top athletes by cutting down on fat and adding nutrients necessary for athletes.

In developing this product, we went through a process of trial and error based on the three requirements of a top athlete's diet during competitions: rich protein content, rich carbohydrate content, and not too much fat. As a result, two types of *gyoza* were developed: *Conditioning Gyoza*, which is rich in vegetables, low in fat, and contains protein and other necessary nutrients; and *Energy Gyoza*®, which is low in fat and contains vitamin B1 while increasing carbohydrate intake due to the rice flour dumpling dough. These were also used as part of the *Kachimeshi*® menu served at an international competition in which Yuzuru Hanyu was competing. These *gyoza*, which are both delicious and nutritious, were served at the JOC G-Road Station set up at the Tokyo 2020 and Beijing 2022 Olympic Winter Games to help Japanese athletes with their conditioning immediately before the competition, earning strong praise. These have since been marketed commercially as *For ATHLETE gyoza*, supporting a wide range of diets for those who want to maintain good health and those who are concerned about fat content.

Ajinomoto Co., Inc. is an official JOC Partner for Cooking Condiments, Dehydrated Soup, Nutritional supplements, Frozen Foods and Coffee beans.



Figure skater  
Yuzuru Hanyu



*Conditioning Gyoza*



*Energy Gyoza*®



## Contribution to Resolve Food and Health Issues

## Addressing health issues

## Performance

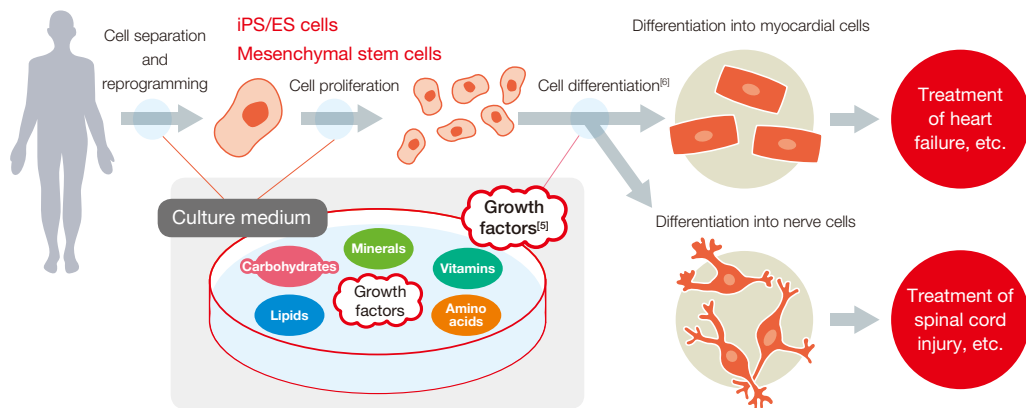
GRI203-2

Making regenerative medicine<sup>[1]</sup> a realityCommercial cell culture media<sup>[2]</sup> 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<sup>[3]</sup>/ES<sup>[4]</sup> cell culture medium free of animal-derived ingredients, and launching related products beginning in 2016. At present, several pharmaceutical companies are conducting or preparing to conduct clinical trials for regenerative therapies using our *StemFit*<sup>®</sup> media, including a new clinical trial that began in Japan in 2021.

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.

## Contribution to Resolve Food and Health Issues

### Performance

GRI203-2

### AminoIndex<sup>®</sup> Risk Screening

*AminoIndex<sup>®</sup> Risk Screening (AIRS<sup>®</sup>)* is a unique Ajinomoto Group service that can assess the risk of three major diseases (cancer, stroke, and heart disease), diabetes, and cognitive decline with a single blood draw based on the balance of amino acid levels in the blood. This service is an option for physical examinations or as part of workplace health checkups, and is used to detect and prevent diseases caused by lifestyle-related factors.

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

We will continue to contribute to healthy and comfortable lifestyles for consumers by utilizing “AminoIndex technology” to expand services that will lead to the early detection and prevention of various illnesses as well as to provide integrated solutions services for food and health issues.

### Performance

GRI203-2

### Smartphone app for enhancing lifestyle improvement solutions

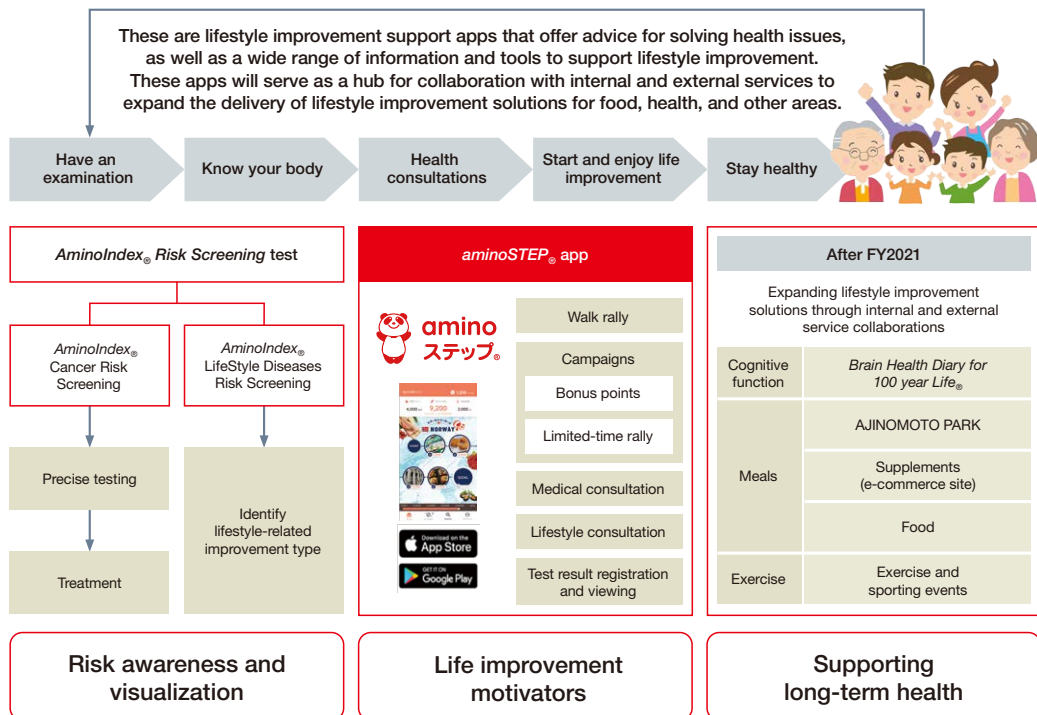
In April 2021, Ajinomoto Co., Inc. launched services for *aminoSTEP<sup>®</sup>*, a smartphone app that provides information supporting lifestyle improvements for *AminoIndex<sup>®</sup> Risk Screening (AIRS<sup>®</sup>)* screening recipients and general users in Japan. As of March 31, 2022, the number of users exceeded 36,000 individuals. This application features functions that include recording AIRS<sup>®</sup> test results, lifestyle improvement advice, and direct chat with the doctor for health advice. The food log function was added in March 2022 and the app began using this information to identify dietary trends and provide recipes and other diet-appropriate advice.

In April 2021, we released *Brain Health Diary for 100 year Life*, a smartphone app targeting general users aged 45 to 64. This app supports the upkeep of cognitive function through lifestyle-related improvements. We developed the app by using findings from collaborative research on cognitive function with the National Center for Geriatrics and Gerontology. This app visualizes the lifestyle of diet, exercise, and sleep from the perspective of cognitive function. Using our proprietary algorithm based on images of food taken via smartphone, along with linked data of exercise and sleep time recorded by smartphone, the app offers advice and recipes suited to the user through *AjiPanda<sup>®</sup>*.

These are lifestyle improvement support apps that offer advice for solving health issues, as well as a wide range of information and tools to support lifestyle improvement. These apps will serve as a hub for collaboration to expand the delivery of lifestyle improvement solutions for food, health, and other areas.

## Contribution to Resolve Food and Health Issues

### The Personal nutrition ecosystem



### Performance

### Industry-academia collaborations for healthier lives

In April 2020, Hirosaki University and Ajinomoto Co., Inc., established the Digital Nutrition and Health Sciences Course, a joint research course<sup>[1]</sup> on extending the healthy life expectancy under the Hirosaki University Graduate School of Medicine. Through this joint research course, we will create a new ecosystem of food and health, leading to the development of solutions for health issues.

In February 2022, the Niigata University Brain Research Institute, 18 medical institutions and facilities nationwide, 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.