# IMMUNE HEALTH ROLE OF SUPPLEMENTS

Global & Indian Market Insight

Significance of Nutrients

Holistic Immunity

**Current Trends** 

Volume 1 | February 2024



# INTRODUCTION

- Mode of operation of Immune System
- Consumer Insights on Immunity Supplements

# **MARKET SCENARIO**

- Global Market Insight
- Indian Market Insight

# WHY SUPPLEMENTS?

- Relationship between Nutrients and Immunity
- Holistic Immunity & its Significance

# **SUPPLEMENT SEGMENTS**

- Vitamins & Minerals
- Superfoods
- Prebiotics & Probiotics

# **CURRENT TRENDS**

- Immunity & Beauty
- Innovations in dosage forms
- Major Market Contributors
- E-commerce Market Players & Key Ingredients

Page 1 of 34

# HOW DOES THE IMMUNE SYSTEM OPERATE?

As long as your immune system is running smoothly, you don't notice that it's there. But if it stops working properly – because it's weak or can't fight particularly aggressive germs – you get ill. Germs that your body has never encountered before are also likely to make you ill.

The immune system can be activated by a variety of compounds that the body does not acknowledge as its own.

### The tasks of the immune system:

- To fight disease-causing germs (pathogens) like bacteria, viruses, parasites or fungi, and to remove them from the body,
- To recognize and neutralize harmful substances from the environment, and
- To fight disease-causing changes in the body, such as cancer cells.

# CONSUMER INSIGHTS

Today's consumers are driven by individual health needs and habits, especially when it comes to immune health. They place a high priority on immune health for year-round wellbeing.

Customers are taking control of their immune system health by investigating ingredients and insights on their own. They are learning the advantages of an all-encompassing approach to immunity as well as how nutrient status and the gut affect the immune system.

These insightful customers are aware that there is **no** "**one size fits all**" strategy for immune health.

Consumers are taking ownership of their health and spending more on wellness products and services.

In a 2021 survey, **36% of global consumers said they take more supplements than ever befor**e, with 69% of consumers are taking supplements to support their immune health. **69**%

taking

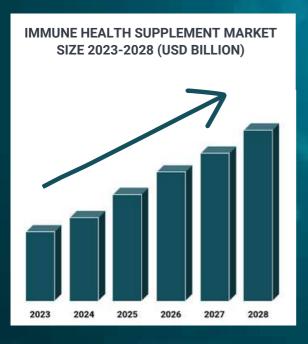
of consumers are

supplements to

support their 💋

# MARKET SCENARIO

Supplement products, such as vitamins, minerals, herbal products, and probiotics, for boosting immunity have witnessed a high demand in recent years. Population across the globe is now more conscious about their immune health and quality of life.



The rising aging population and the growing awareness among adult individuals to boost the body's immunity have increased the demand for immune health supplements that supports market growth.

31.4%

of the worldwide supplement market is dominated by Immunity Supplements.

# **GLOBAL MARKET**

The global immune health product market size was valued at \$15607.6 million in 2020, and is projected to reach \$28,996.3 million by 2027, registering a **CAGR of 9.4%** during the forecast period.

A major factor influencing market growth is rising consumer preference for natural products. Rise in concerns of consumers about preventive healthcare and the efficacy of immunity supplements on health are driving the market growth.

The **TABLET** segment dominated the market and accounted for the largest revenue share of **32.8%**.

The **SOFTGELS** segment is expected to exhibit the highest CAGR of **12.4%**.

The immunity boosting food market is expected to witness growth, due to an increase in number of rising purchasing ability of healthy food products in consumers.



# **INDIAN MARKET**

The Indian Immunity Boosting Product Market is projected to reach \$ 347 million by FY 2026 owing to increasing consciousness and focus among Indian consumers towards preventive health.

### Indians spent Rs 15,000 crore on immunity boosters in a year.

Indians bought immunity-boosting vitamin drugs and mineral supplements worth Rs 14,587 crore, about **20%** more than in the preceding year.

### - Nutrition Insights

Chyawanprash, one of the oldest immunity boosters on the Indian market with a share of more than **60%**, dominates the market. - according to "India Immunity Booster Market Outlook, 2020–25"

With advancements in the forms and consumption of immunity boosting products, the other segment, which includes these products in the form of tea, juices, snacks, and so on, is gaining popularity. **People are more likely to prefer these alternative forms of intake than Chyawanprash.** 

During the forecast year, the **south and north** regions are expected to grow rapidly and account for **60%** of the overall market.

Page 6 of 34

# WHY DO WE CONSUME SUPPLEMENTS?

Adequate intakes of micronutrients are required for the immune system to function efficiently. A deficiency of single nutrients can alter the body's immune response.

### 77% of adults

dietary supplements globally in 2020



# RELATIONSHIP BETWEEN NUTRIENTS & IMMUNITY

Each stage of the body's immune response relies on the presence of many micronutrients. Vitamin C, vitamin D, zinc, and selenium are a few nutrients that have been identified as essential for immune cell growth and function.

Micronutrient deficiency suppresses immunity by affecting innate, T cell mediated and adaptive antibody responses, leading to dysregulation of the balanced host response. This situation increases susceptibility to infections, with increased morbidity and mortality.

In turn, infections aggravate micronutrient deficiencies by reducing nutrient intake, increasing losses, and interfering with utilization by altering metabolic pathways.

Additionally, every individual has different micronutrient requirements depending on their gender, level of physical activity, eating habits, age, health, and medications.

Nutritional supplements enhances regular diet to ensure a healthy supply of nutrients. They contain vitamins and minerals that helps to feel better, look better, and even sleep better.



# HOLISTIC IMMUNITY

In search of a longer, healthier lifestyle, it is essential to take a more holistic view of immunity – and dietary supplements play a vital role. Consumers are waking up to the fact that lifestyle affects immune health; particularly sleep.

The groundwork of all happiness is health...

Stressful lifestyles require consistent energy levels, so products designed to maintain immune health and energy levels will grow in popularity. Now's the time for brands to explore immunity boosting supplements that could speed recovery, replenish nutrients and recharge energy levels.

# NURTURING THE WHOLE SELF: STRATEGIES FOR ACHIEVING HOLISTIC WELLNESS



The production of pro-inflammatory cytokines necessary for the development of adaptive immune responses appears to be preferentially promoted during sleep.

### EMOTIONAL WELLBEING

Negative moods change the way in which the immune response functions, and they are associated with an increased risk of exacerbated inflammation.

### EXERCISE

Moderate-intensity physical activities boost cellular immunity, whereas prolonged or high-intensity workouts without adequate rest reduce cellular immunity, increasing the risk of infectious diseases.

### MEDITATION

Meditation can help with health and performance by improving immune function, lowering blood pressure, and improving cognitive function.

### NUTRIENTS

Nutrients support the growth and activity of immune cells, aid in the production of antibodies, and act as antioxidants to protect healthy cells.

# SUPPLEMENT SEGMENTS

Vitamins and minerals are essential to helping your body develop and function as it should. While most people get all of what's recommended by eating healthy, others need a little extra nutrient boost. That's where supplements come in – providing you with the support your body needs to stay healthy.

# VITAMINS



Vitamin A stimulates the production and activity of Leucocytes; Maintains and strengthens epithelial tissues and mucous membranes — the first line of defense against pathogens; The antioxidant properties of vitamin A prevent oxidative stress of cells, keeping them healthier and protected from damage.



Vitamin C stimulate the immune system by increasing Tlymphocyte proliferation in response to infection, thereby increasing cytokine production and immunoglobulin synthesis. Vitamin C supplementation improves several aspects of the human immune response, including antimicrobial and NK cell activity, lymphocyte proliferation, chemotaxis, and DTH response.



Vitamin D acts as an **immune system modulator**, preventing excessive inflammatory cytokine expression and increasing macrophage '**oxidative burst**' potential. It stimulates the expression of potent antimicrobial peptides, which exist in neutrophils, monocytes, NK cells, and epithelial cells lining the respiratory tract.



Vitamin E supplementation **increases lymphocyte proliferation** in response to mitogens, IL-2 production, NK cell cytotoxic activity, and **phagocytic activity** by alveolar macrophages, as well as **resistance to infectious agents**, indicating that higher vitamin E intake promotes a Th1 cytokine-mediated response while suppressing a Th2 response.

# MINERALS

Zinc affects multiple aspects of the immune system. It is crucial for normal **development and function of cells mediating innate immunity**, neutrophils, and NK cells. Zinc supplementation increases **antibody responses**, the number of cytotoxic CD8+T cells, and cellular aspects of innate immunity.



Selenium plays a key role in the **redox regulation** and **antioxidant** function through glutathione peroxidases that remove excess of potentially damaging radicals produced during oxidative stress. Selenoenzyme **thioredoxin reductase** affects the redox regulation of several key enzymes, transcription factors and receptors.



Working together with catalase and glutathione peroxidase in the cytosolic **antioxidant defence** against ROS, copper is essential in the **dismutation of superoxide anion** to oxygen and H2O2, and diminishes damage to lipids, proteins, and DNA.



Iron is essential for **electron transfer reactions**, gene regulation, binding and transport of oxygen, and regulation of cell differentiation and cell growth. It is a critical component of **peroxide and nitrous oxide generating enzymes**. It is involved in the **regulation of cytokine** production and activation of protein kinase C.





CAGR of global superfood market during 2023-2028.

# SUPERFOODS

Conceptually superfoods are foods that are both **high in nutrition value** due to a high concentration of nutrients and, on the other hand, great biological value due to satisfactory **bio-availability** and **bioactivity** within the body due to a variety of bioactive ingredients they contain.

The high **vitamin** and **mineral** content found in superfoods can help your body ward off diseases and keep you healthier. When incorporated into a well-balanced diet, these foods can **promote heart health**, **weight loss**, **improve energy levels and even reduce the effects of aging**.

The superfood industry is providing the superfood label to nutrient-rich products with a supposed potential to have a beneficial impact on health.

### - Global Risk Community

**Antioxidants** found in many superfoods may help prevent cancer, while healthy fats can reduce your risk of heart disease. Fiber, which is also found in many superfoods, can diabetes and digestive help prevent phytochemicals problems while have numerous health benefits including reducing your risk of developing cardiovascular diseases.

Page 14 of 34



### **SPIRULINA**

It is **cyanobacteria** or "blue-green algae" which is commonly taken in tablet form. It contains a vast array of **antioxidants, vitamins, and minerals**, all of which are key for promoting health. It has been found to have a **high protein** content of **60%** – **65%**.

### **WHEATGRASS**

It is low in calories but high in nutrients, including antioxidants such as glutathione, vitamin C, and vitamin E, reducing oxidative stress and it contains enzymes that helps to break down food and absorb nutrients, which aids in better digestion & detoxification.





### MORINGA

The leaves have **7 times more vitamin C** than oranges and **15 times more potassium** than bananas which can protect cells from damage and boost your immune system. It also has **calcium, protein, iron, and amino acids**, which help your body heal and build muscle.

### **AVOCADO**

It offers an adequate amount of healthy fats i.e., monounsaturated fatty acids (MUFA) to the body. It is rich in powerful **antioxidants** and naturally contains nearly **20 vitamins and minerals**. It also aid in the **proliferation of** immune system cells known as **lymphocytes**.



# PREBIOTICS

**PREBIOTICS** are specialized plant fibers which act like fertilizers that stimulate the growth of healthy bacteria in the gut.

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Prebiotics fibers are generally acknowledged to act as a substrate for probiotic commensal bacteria, which release shortchain fatty acids and a number of other metabolites in the intestinal tract. They promote the increase of friendly bacteria in the gut, help with various digestive problems, and even boost your immune system.

<u>Barley</u> contains **Beta-glucan** which is a prebiotic fiber that promotes the growth of friendly bacteria in your digestive tract.

<u>Chicory Root</u> contain approx. **68% inulin** which improves digestion and bowel function, and helps relieve constipation.

<u>Onions</u> contains **FOS** which strengthens gut flora and boosts immune system by increasing nitric oxide production in cells.

> <u>Garlic</u> acts as a prebiotic by promoting the **growth of** beneficial **Bifidobacteria** in the gut.

<u>Wheat Bran</u> contains a special type of fiber **arabinoxylan oligosaccharides (AXOS)** which helps maintain healthy gut flora.



# 9.3% annual growth rate of global probiotics market during

2023-2032.

# PROBIOTICS

**PROBIOTIC BACTERIA** have been seen to enhance intrinsic host immune mechanisms.

77

Probiotics facilitate the longevity of epithelial cells, improve the immune barrier, and improve the immune response to intestinal epithelium, all of which lead to gastric mucosal homeostasis. Probiotics strengthen innate and adaptive immunity and suppress bacterial infection through toll-like receptorregulated signal transduction pathways.

<u>Yogurt</u> is made from milk that has been fermented by probiotics, mainly lactic acid bacteria and bifidobacteria.

> <u>Buttermilk</u> soothes the stomach, **facilitate gut microflora**, helps in hydration and improves digestion.

Certain types of <u>Cheese</u>, including Gouda, mozzarella, cheddar, and cottage cheese have **beneficial bacteria**.

> Kombucha is a tea which is fermented by a friendly colony of **bacteria and yeast** that supports healthy gut.

<u>Kimchi</u> is a fermented, spicy Korean side dish that contains the many lactic acid bacteria, including Lactobacillus kimchii.

Page 17 of 34

# INTERLINK BETWEEN GUT AND IMMUNITY

Scientists believe there is a **symbiotic relationship** between the gut and the immune system. The gut microbiota support and regulate the immune system by the enzymes and metabolites they produce. Metabolites act like signals, which the immune system recognises.

The lining of the gut is resilient but, when weakened, can leave the body more vulnerable to foreign invaders that could attack the immune system. Maintaining a healthy, balanced, and flourishing gut microbiota strengthens the gut lining and produces beneficial compounds, like short-chain fatty acids, that help maintain a healthy gut lining.

A healthy gut sends signals through to the immune system to **modulate immune responses** and support healthy immune function, and helps to **train immune cells**, to differentiate between foreign invaders and body tissue.

Your Immune system is virtually inseparable from your gut

Paul Schulick, master herbalist and founder of For the Biome supplement

# **JJ5** CURRENT TRENDS

The supplement market's proliferation is being driven by mega-trends toward holistic well-being, beauty-from-within and immunity support in the aftermath of a global pandemic.

# +26%

average annual growth of immunity supplemnts

Market Insights found that supplement launches have doubled since 2017, with **+26% average annual growth**. Europe brought **40%** of new products to market between 2021-2022, followed by North America (**33%**) and Asia (**16%**).

Supplements market expands post pandemic as holistic well-being, transparency & convenience inspire innovation.

### - Nutrition Insights

#### **Trust with transparency**

"

Primarily, consumers are more interested in recognizable and trusted ingredients such as vitamins and minerals to gain reassurance over products' health claims. Notably, Innova Market Insights found that the ever-popular **vitamin C** remains the leading ingredient in new supplements globally, included in **27%** of launches (2021/22).

### Convenience is the king

The modern consumer wants supplements that support the environment and live up to their health claims, but they also want more convenience to fit their busy, on-the-go lifestyles. New innovations in quick and simple delivery formats are being driven by the convenience trend.

According to Sophie Zillinger, global marketing lead for Biotis at FrieslandCampina Ingredients, "smaller pills and capsules as well as tasty, convenient gummies are trending as they're easy to consume as part of a busy daily routine."

27% launches

Vitamin C remains the leading ingredient in new supplements globally

Page 20 of 34

# IMMUNITY & BEAUTY

The demand for personal care items – topical and ingestible – that de-stress, soothe and protect as part of wider holistic wellbeing is surging. And within the rapidly expanding wellbeing trend, comes the sharper concept of 'immunity'.

We've all come to be aware of the importance of immune health for staying fit and healthy, but fewer people are aware of some of the other benefits of a robust immune system. One such benefit is the effect that your immune health has on your skin, hair and nails.

**Glutathione**, along with the treatment for damaged immune systems, provides protection to your skin, hair and nails.

### **Poor Immune Health**

Inflamed, puffy and acne prone skin that looks fragile; brittle nails; weak and dry hair, hair loss, etc.

### **Healthy Immune Function**

Skin will appear plump, smooth and hydrated, with no signs of inflammation or dryness; strong & shiny nails; hair will display less breakage, more volume, etc.



The global glutathione market is expected to grow at a **CAGR of 8%** in the forecast period of 2023-2028.



# INNOVATIVE DOSAGE FORMS IN IMMUNITY SUPPLEMENTS

The immunity supplement market has been on the rise in recent years, with a growing of number consumers turning to supplements to help bolster their immune system. While traditional pill-form supplements have long dominated the market, there has been a recent emergence of effervescent tablets and gummies as popular alternatives.

While people's attention constantly shifts to a healthier lifestyle, they also crave a better way of receiving their supplements.

In addition to **ease-of-swallowing**, two other important factors affecting how people respond to medicines are **taste** and **mouthfeel**. As many active ingredients tend to be bitter, taste-masking is essential to making the final product more palatable.

The need for consumer-friendly dosage forms is definitely an important trend that manufacturers can't overlook.

age 22 of 34



### **Gummies**

Within the immunity supplement market, gummies are on the rise with **16.5%** average growth rate in the past years, the strongest growth as a delivery form.

Most makers of immunity support products claim that the individual vitamins and minerals in the products help boost your body's defense system against sickness – your immune system.

Consumers are preferring gummy vitamins over pills because **they're easier to swallow, taste better, and don't have an unusual smell.** 

Most makers of immunity support Gummies as a innovative dosage form of products claim that the individual supplements are emerging because:

### THEY OFFER A UNIQUE CONSUMER EXPERIENCE -

- Melt in the mouth, offering unique texture and mouthfeel
- Soft chewable texture, a highly desired feature by consumers
- Tasty with unlimited flavor possibilities
- Coming with all kinds of shapes and colors (appealing to children)
- Customization to fulfil a consumer's diet requirements
- Carry "low allergen"/"no allergen", "gluten-free", and "dairy-free" claims

Page 23 of 34

From 2020 to 2028, Effervescent Tablet market is projected to grow at a CAGR of

# **8.01**%



### **Effervescent Tablets**

Effervescent tablets are designed to instantly and completely dissolve in water, releasing carbon dioxide, leading to rapid disintegration & making a homogenous solution.

Not only do they offer **stability** but also a **quick onset of action**. This makes effervescent tablets a preferred choice for many. One of the key advantages of effervescent tablets is that they **can be formulated with high doses** of vitamins and minerals, making them an effective way to boost the immune system.

# Effervescent tablets are becoming increasingly popular because they are -

- 100% bioavailable form
- Gentle effect, no stomach discomfort
- More hydration
- Distributed more evenly
- Great choice for those with difficulty in swallowing
- Easy alternative to regular tablets

Effervescent tablets are growing more prominent in the immunity market because they enable quick absorption for people with weakened immune systems and need a instant nutrient supply.

Effervescent tablets can provide a convenient way to get a range of beneficial nutrients in a single dose.

# MAJOR CONTRIBUTORS IN THE IMMUNITY SUPPLEMENT MARKET

Immune health has taken the center stage amidst the havoc wrecked by the COVID-19 pandemic globally. During this unprecedented time, families are turning to immune health supplements.

### **GLOBAL MARKETERS**

- Bayer AG
- Pfizer Inc
- NOW Foods
- Herbalife Nutrition of America, Inc.
- Amway
- Nature's Bounty
- Unilever
- Swisse Wellness
- Nestlè
- Glanbia, Plc

### **INDIAN MARKETERS**

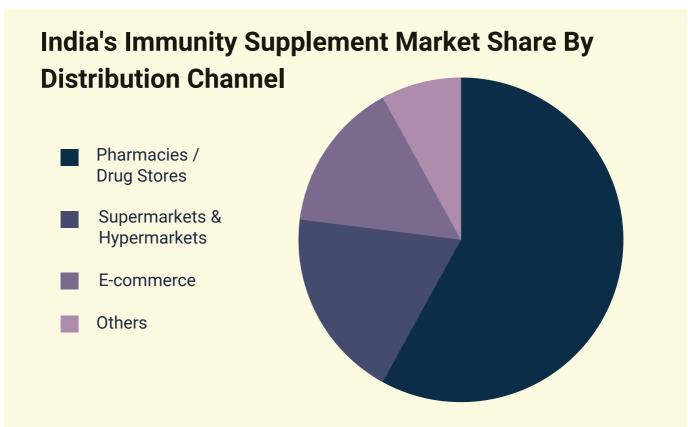
- The Himalayan Organics
- Dabur India Ltd.
- USV Private Limited
- Zuventus Healthcare Ltd.
- Zydus Lifesciences
- Signutra
- Cipla Ltd.
- Lupin Limited
- Sun Pharmaceutical Industries
  Limited
- ITC Limited





# **DISTRIBUTION CHANNEL INSIGHTS**

Rising consumer preference and availability of a wide variety of products is expected to augment the highest sale of the products in pharmacies or drug stores. However, **the e-commerce segment is expected to witness a CAGR of 12.1%** over the forecast period owing to the growing usage of e-commerce channels to purchase supplements. Furthermore, a rapid increase in the number of e-commerce vendors due to the COVID-19 pandemic is also expected to drive the immunity segment over the forecast period.



Page 26 of 34

# EMERGING E-COMMERCE MARKET PLAYERS



Zingavita is a supplement brand that focuses on supporting immune health along with other health segments. Their supplements are made from natural ingredients, including herbs, vitamins, and minerals, that are clinically proven to boost immunity and promote overall health.

**Setu India** is a supplement brand that offers a range of highquality nutritional supplements including multivitamins, probiotics, omega-3s, and more, with a focus on boosting immunity, improving gut health, and supporting healthy aging.



**Plix** has developed a range of high-quality immunity supplements that are designed to meet the needs of consumers. By selling their products online, Plix has been able to reach customers in different locations and make their products more accessible.

**Wellbeing Nutrition** is a health and wellness brand which provides effective & affordable supplements that promote healthy living, and they offer a variety of products to suit different needs and lifestyles, which innovative dosage forms having higher efficacy levels.



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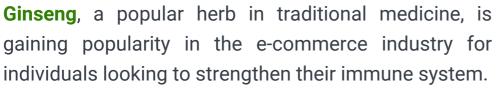


# EMERGING E-COMMERCE KEY INGREDIENTS

With the rise of e-commerce platforms, such as **Amazon**, **Flipkart**, **1mg**, **Pharmeasy**, etc. consumers have **easy access to a wide range of supplements from various brands**. This also suggests that the health and wellness category, which includes immunity supplements, is expected to be one of the fastest-growing categories in the e-commerce sector.

The e-commerce sector has been a major contributor to the growth of the Indian immunity supplement market & CURCUMIN Supplements are no exception.

According to a report by RedSeer Consulting, the Indian e-commerce curcumin market is expected to grow at a CAGR of 27% to reach \$99 billion by 2024.



The overall worth of the market may increase at a **CAGR of 4.3%** between 2023 and 2033. By 2033, the market is estimated to reach a valuation of US\$ 1.1 billion.







**Ashwagandha** is known for its adaptogenic and immune-boosting properties, & is widely available for purchase on various e-commerce platforms in India.

The Ashwagandha Market is projected to grow at a **CAGR of 11.90%** during 2023 to 2030 and is expected to reach USD 114.93 million by 2030.

**Echinacea** is a popular herbal supplement known for its immune-boosting properties, has a strong presence in the e-commerce market with many online retailers offering a wide range of echinacea products.

According to Verified Market Research, Echinacea Extract Market is projected to reach USD 2.88 Billion by 2027, growing at a CAGR of 8.25% from 2020 to 2027



**Elderberry** is a popular ingredient in the immune health e-commerce market due to its potential benefits for boosting immune function.

As per the research by Future Market Insight, value of elderberry supplement market is increasing at CAGR of 12.1% and the market is expected to reach USD 2.9 billion by 2033.



- The immune health category is growing, with no signs of slowing down, giving formulators and suppliers entry into the category.
- Consumers are waking up to the fact that lifestyle affects immune health; particularly sleep.
- Depending on their gender, level of physical activity, eating habits, age, health, and medications, every individual has different micronutrient needs.
- The effect that your immune health has on your skin, hair and nails is beyond beauty.
- Tried, trusted and true ingredients like vitamin C, vitamin E, selenium, zinc are still leading the immunity market.
- Superfoods are nutrient-dense edible products that assist individuals in maintaining their overall health and wellbeing while reducing their likelihood of developing life threatening chronic conditions.
- The importance of the gut microbiota in the immune health is paving the way for product innovation in prebiotics, probiotics, and even postbiotics.

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# **OUR SERVICES**



### **Novel Ingredients**

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We offer Novel Nutraceutical Ingredients which are designed to target particular health issues like digestive health, musculoskeletal health, cognitive function, reproductive health, cardiovascular health, etc. Clinical studies that support these compounds' safety and effectiveness are available.



### **Scientific Advisory Board & NPD Team**

Our scientific advisory board and NPD team play a crucial role in guiding and advising your organization's or company's research and development efforts, ensuring that they are scientifically rigorous, innovative, and have the potential to make a significant impact in the development of a successful product.



### **Regulatory Assistance**

We will provide technical assistance and guidance to assist your organization in understanding and complying with the regulations. This makes a significant contribution to product and service safety, environmental protection, and fair competition.



### **Ready-to-Launch Formulations**

We offer concept to consumer formulations as well as third-party manufacturing tie-ups that will help your company in introducing a new product into the market which involves several stages, including market research, product development, marketing, and distribution.

www.nutragenebiotech.com

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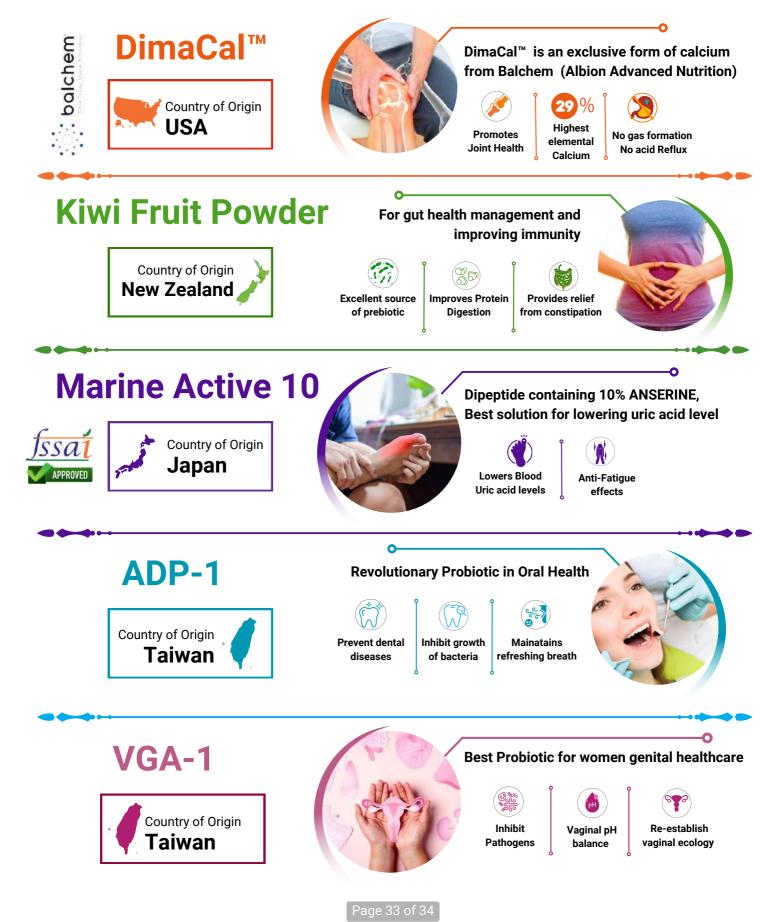
### **Specialty Novel Ingredients**



First Time In **India** 



Introducing our company's revolutionary product line, based on extensive research and scientific backing. With a unique blend of natural ingredients and cutting-edge technology, our team of experts is dedicated to helping you achieve optimal health and wellbeing.



### **GLOBAL PARTNERS**

U.S.A | Japan | Italy | Belgium | Spain | New Zealand | Taiwan



### VERSATILE DOSAGE FORMS





**Tablets** 



**Gummies** 



Powder



Effervescent

tablets



Chewable tablets

### **OUR CERTIFICATIONS**







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Page 34 of 34