

BC30 - A unique spore-forming probiotics that survives and thrives.



Genny TAN
Business Development manager
Proactive Health



The gut microbiota

The gut microbiota is the population of trillions of bacteria and microorganisms in your intestines that are **key to your health and wellbeing.**

Stressors = Out-of-balance Microbiota

Probiotics may help normalize the gut microbiota that can be disrupted by lifestyle stressors, including:

- Antibiotics and medications
- Hormonal changes
- Poor diet or changes in diet
- Illness
- Aging
- Stress
- Travel



Probiotics Defined

“Live microorganisms which when administered in adequate amounts confer a health benefit on the host.”



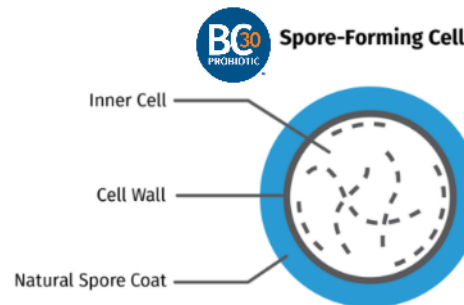
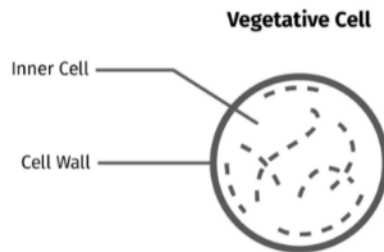
- ✓ Live microbes in the diet
- ✓ Must provide a health benefit to the consumer
- ✓ Must be delivered to the digestive tract in efficacious quantities

Introducing BC30™ Probiotic

BC30™ (Bacillus coagulans GBI-30, 6086®) is a spore-forming, patented probiotic ingredient that can be formulated into almost any food and beverage product.

Spore-Forming vs. Vegetative Probiotics

Simply put, spore-forming probiotics survive better in food and beverage products. [What are the differences?](#)



- Vegetative cells are very fragile and vulnerable to the low gastric pH and bile salts.
- Susceptible to the rigors of most manufacturing processes and shelf life of most food products.
- Generally, need to be refrigerated to survive shelf life of finished product.

BC30 germinates with the right:

- Temperature (30°C)
- Water Activity (greater than 0.7)
- Substrate (food source)

BC30 beyond the conventional probiotic's application



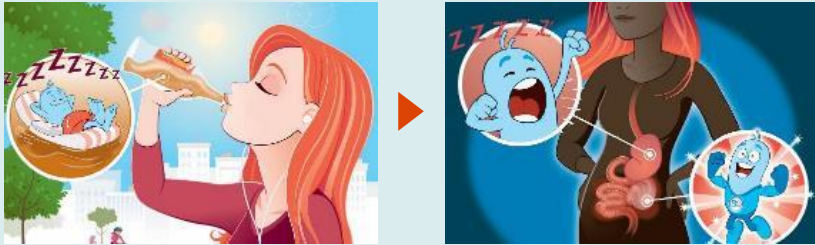
In food:

- Hot & cold cereal
- Baked goods - cookies, muffins, pancakes
- Sweet & savoury snacks
- Sports & nutritional bars
- Yogurt & dairy products
- Fruit purees & cups

In beverages:

- Teas and coffees
- Cold press/HPP juice
- Pasteurised milk/juice
- Enhanced waters
- Nutritional beverages

How Does BC30 Work?



Fact 1

Health benefits are strain-specific

Just as CFU counts are strain specific, so are probiotic benefits.

Many probiotics have digestive benefits, but some strains have specialized benefits such as immune support, heart health, mood balance or protein utilisation.

Peer reviewed, published studies are required to support the benefits of a particular probiotic strain.



Understanding Strain Specificity

Japanese car » Bacterial group » Lactic acid bacteria

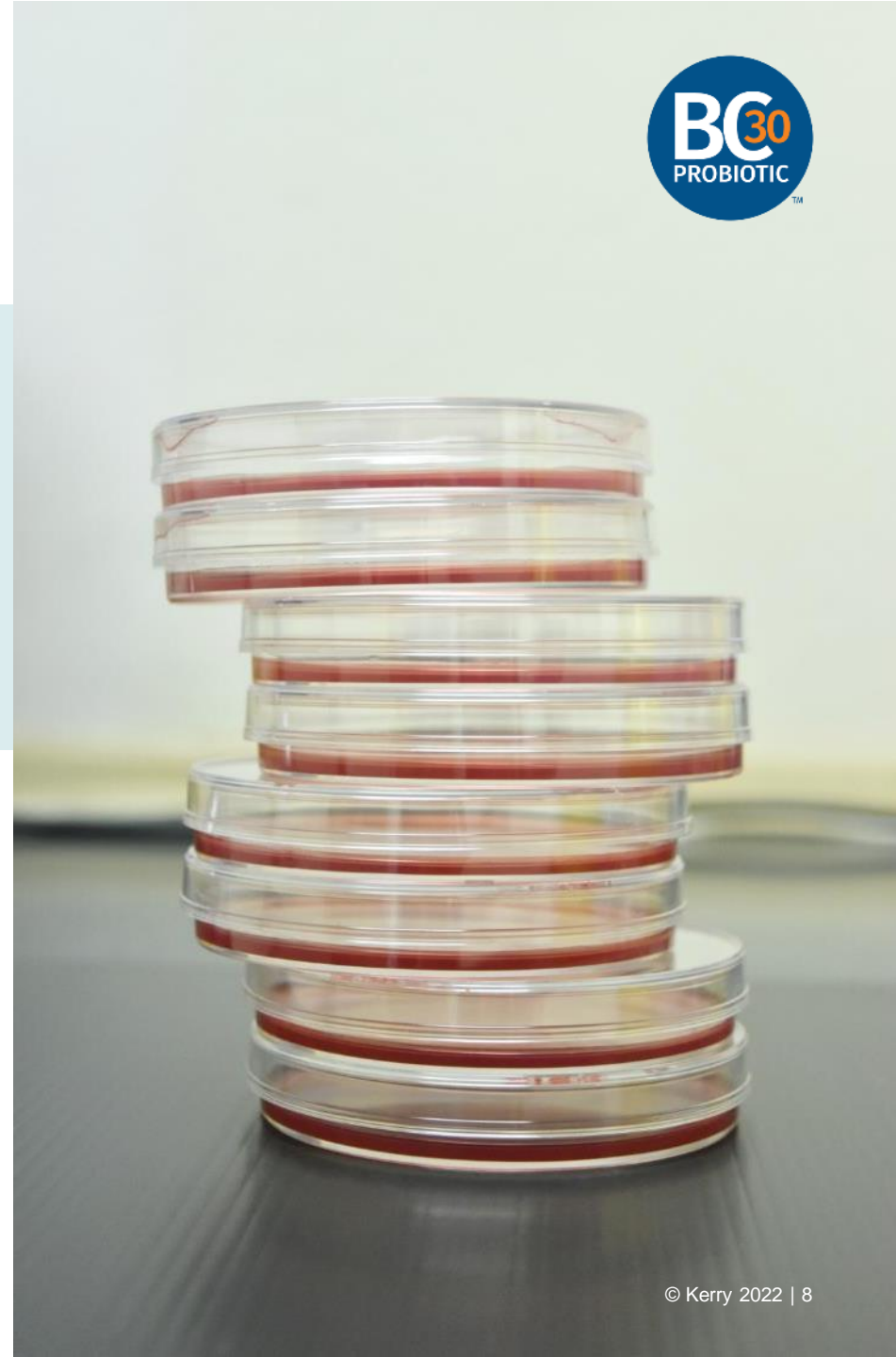
Honda » Bacterial genus » Bacillus

Accord » Bacterial species » Bacillus coagulans

EX-L V-6 Sedan » Bacterial strain » Bacillus coagulans GBI-30, 6086

Every bacteria strain has its own strain-specific genomic and phenotypic characteristics.

- **NO TWO** strains of bacteria are identical.
- Safety and clinical data from one strain **cannot** be used to support the safety and efficacy of another strain.

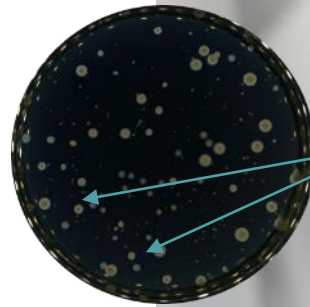


Fact 2

More CFUs aren't always better

There is no “ideal” number of CFUs.

- Probiotics are measured in CFUs (Colony Forming Units).
- Probiotic organisms must be alive to be grown and counted.
- Probiotic organisms are unique - as are the levels needed for benefit efficacy and safety.
- Peer reviewed, published studies on the specific strain are required to support inclusion levels - 100 Billion CFU is not necessarily better or more efficacious than 1 Billion CFU.



Colony



Science-backed Benefits of BC30

Research supports the ability of BC30 to help support the following benefits:

- **Digestive health @ 1 billion CFU/daily**
 - Survives gastric transit.
 - Decreases abdominal pain and bloating.
 - Improved stooling habits and patterns.
- **Protein absorption @ 1 billion CFU/daily**
 - May enhance digestibility of plant proteins.
 - May enhance recovery after strenuous exercise.
 - May enhance nutrient absorption.
- **Immune health @ 500M CFU/daily**
 - Supports a healthy immune system.
 - Enhanced cellular response to simulated viral challenges.
 - Helps to modulate immune response.

A Broad Range of Consumers

BC30 published clinical, pre-clinical, and biomarker research includes a wide range of consumers:



Active Consumers



General Population



Older Adults



Children

The research includes a variety of studies:



Abdominal Distress



IBS Symptoms



Modulation of Gut Microbiome



Exercise Stress










Immune Health Biomarkers








Digestive Health Biomarkers

BC30 Clinical Research Highlights

	Focus	Published Study	Type	Topline Results	First Author, Journal Name, Year
	Digestive Health	Abdominal Distress Study	Clinical Digestive Health	BC30 helps normalize bowel function in adults experiencing IBS.	Kalman, BMC Gastroenterology, 2009
	Digestive Health	IBS Symptoms Study	Clinical Digestive Health	BC30 reduces occasional digestive discomfort, including reported abdominal pain and bloating.	Dolin, Methods & Findings in Experimental & Clinical Pharmacology, 2009
	Digestive Health	IBS Symptoms Study - II	Clinical Digestive Health	BC30 supports the digestive health of adults.	Hun, Postgraduate Medicine, 2009
	Digestive Health	School Aged Children in Mexico Part 1	Clinical Digestive and Immune Health	BC30 reduces gastrointestinal (GI) discomfort in children.	Anaya-Loyola, Food Research International, 2019
	Immune Health	School Aged Children in Mexico Part 2	Clinical Digestive and Immune Health	BC30 helps support the immune health of children.	Anaya-Loyola, Food Research International, 2019
	Immune Health	Viral Challenge Model (In Vitro)	Biomarkers of Immune Health	BC30 may support the immune response in adults.	Baron, Postgraduate Medicine, 2009
	Immune Health	Viral Challenge Model II (In Vitro)	Biomarkers of Immune Health	BC30 may support the immune response.	Kimmel, Methods & Findings in Experimental & Clinical Pharmacology, 2010

BC30 Clinical Research Highlights

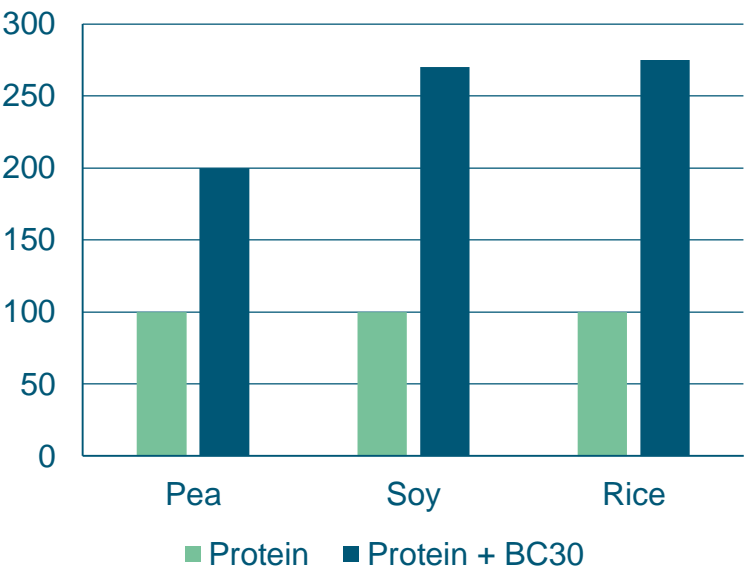
	Focus	Published Study	Type	Topline Results	First Author, Journal Name, Year
	Protein Absorption	Milk Protein Digestion	Clinical Protein Absorption	BC30 improves milk protein absorption in humans.	Stecker, Nutrition & Metabolism, 2020
	Protein Absorption	Soldier Exercise Stress	Clinical Protein Absorption	BC30 improves the recovery response from intense training when combined with nutritional supplementation.	Gepner, Journal of Applied Physiology, 2017
	Protein Absorption	Recovery from Exercise Stress	Clinical Protein Absorption	BC30 increases recovery and decreases soreness after intense exercise in active adults.	Jaeger, PeerJ, 2016
	Protein Absorption	Milk Protein Digestion (In Vitro)	Preclinical Model Protein Absorption	BC30 may improve milk protein digestion.	Maathius, Beneficial Microbes, 2010
	Protein Absorption	Plant-based Protein Digestion (In Vitro)	Preclinical Model Protein Absorption	BC30 may improve digestion of plant-based proteins.	Keller, Beneficial Microbes, 2017

Plant-based Protein Digestion study (In Vitro)

Study Protocol

Study Type	Preclinical Model Protein Utilisation
Study Site	Maastricht University; Maastricht, The Netherlands
Population	Not applicable
Age	Not applicable
Study Design	Validated laboratory benchtop model (TIM-1) of the stomach and small intestine
Duration	Not applicable
Serving	1 billion CFU BC30 vegetative cells per day
Details	Rice, pea and soy protein were added to the TIM-1 system in a complex “meal” format with or without BC30 vegetative cells. Total and α -amino nitrogen were measured over 6 hours to determine the amount of protein digested.

Protein Bioavailability



BC30 to increase Plant protein absorption study (In Vivo) - New Study

- Design: double-blind, placebo-control, crossover, multi-center trial.
- Intervention: 27g of Prodiem Complete PR with either B.coagulans GBI-30, 6086 (BC30) or a placebo for two weeks, 3 weeks washout.
- Subjects: 30 healthy 50-70 year-old females.
- Measures: Blood samples were taken at baseline and 30-, 60-, 90-, 120-, 180-, and 240 min. post ingestion and analyzed for amino acid content.

MOH BC30 Approval in Food and Beverage



PEJABAT TIMBALAN KETUA PENGARAH KESIHATAN (KESIHATAN AWAM)
KEMENTERIAN KESIHATAN MALAYSIA
[OFFICE OF THE DEPUTY DIRECTOR-GENERAL OF HEALTH (PUBLIC HEALTH)]
DEPARTMENT OF PUBLIC HEALTH
MINISTRY OF HEALTH, MALAYSIA
ARAS 8, BLOK E10, KOMPLEKS E
PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN
62590 PUTRAJAYA, MALAYSIA.



No. Tel : 03-8000 8000
No. Fax : 03-8883 4030

Ruj. Tuan :
Ruj. Kami : KKM.600-1/3/6 Jld. 3 (66)
Tarikh : 10 Mac 2022

Kerry Inc.
3400 Millington Rd,
Beloit, WI 53511
United States of America.

Kerry Ingredients (M) Sdn. Bhd.
26th Floor, Menara Zurich
No.15 Jalan Abdullah Tahir
80300 Johor Bahru
(selaku wakil di Malaysia)

Tuan/Puan,

KELULUSAN UNTUK MENGGUNAKAN PROBIOTIK YANG DIBENARKAN DI BAWAH PERATURAN-PERATURAN MAKANAN 1985



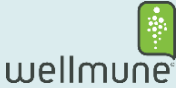


Dengan hormatnya saya merujuk perkara di atas.

2. Seperti mana pihak tuan/puan sedia maklum, semua makanan yang hendak diimport dan dijual di Malaysia perlu mematuhi Akta Makanan 1983 dan Peraturan-Peraturan Makanan 1985. Di bawah Peraturan 26A, probiotik hanya boleh digunakan sekiranya telah tersenarai di bawah Peraturan ini atau dengan kelulusan bertulis daripada Pengarah di bawah Akta Makanan 1983 dan Peraturan-Peraturan Makanan 1985.

3. Pada menjalankan kuasa yang diberikan kepada Pengarah oleh Peraturan 26(2), Peraturan-Peraturan Makanan 1985 dan yang terletak hak pada saya mengikut Peraturan 26A(2) Peraturan-Peraturan Makanan 1985, saya selaku Pengarah di bawah Akta Makanan 1983 dengan ini memberi kelulusan bagi membenarkan penambahan probiotik *Bacillus coagulans* GBI-30,6086 di bawah Peraturan 26A sepertimana yang diperuntukkan di bawah Peraturan 26A, Jadual Keduabelas A, Peraturan-Peraturan Makanan 1985.

3. → To execute the authority given to Director under Regulation 26A(2) of Food Regulations 1985, and the right given to me under Regulation 26A(2) of Food Regulations 1985, I, as the Director under Food Act 1983 hereby provide approval to allow *Bacillus coagulans* GBI-30,6086 to be added under Regulations 26A, as per the provision under Regulations 26A, Schedule Twelfth A, Food Regulations 1985.¶

Kerry Other Technologies to Nourish the Future of Health and Wellness Demands

Digestive Health	Immune Health	Cognitive (Sleep/Stress)	Joint Health	Heart Health	Women's & Infant Health
					
					
					



KERRY

Q&A



KERRY

Thank You