

BEYOND CLARITY

Revolutionizing Clear Beverages
to Unlock New Wellness Segments

การปฏิวัติเครื่องดื่มใส
เพื่อเปิดตลาดสุขภาพกลุ่มใหม่

“ Clear is more than appearance.
It is a platform for wellness,
innovation and meaningful ”

FoodSERP
YOUR INNOVATION PARTNER



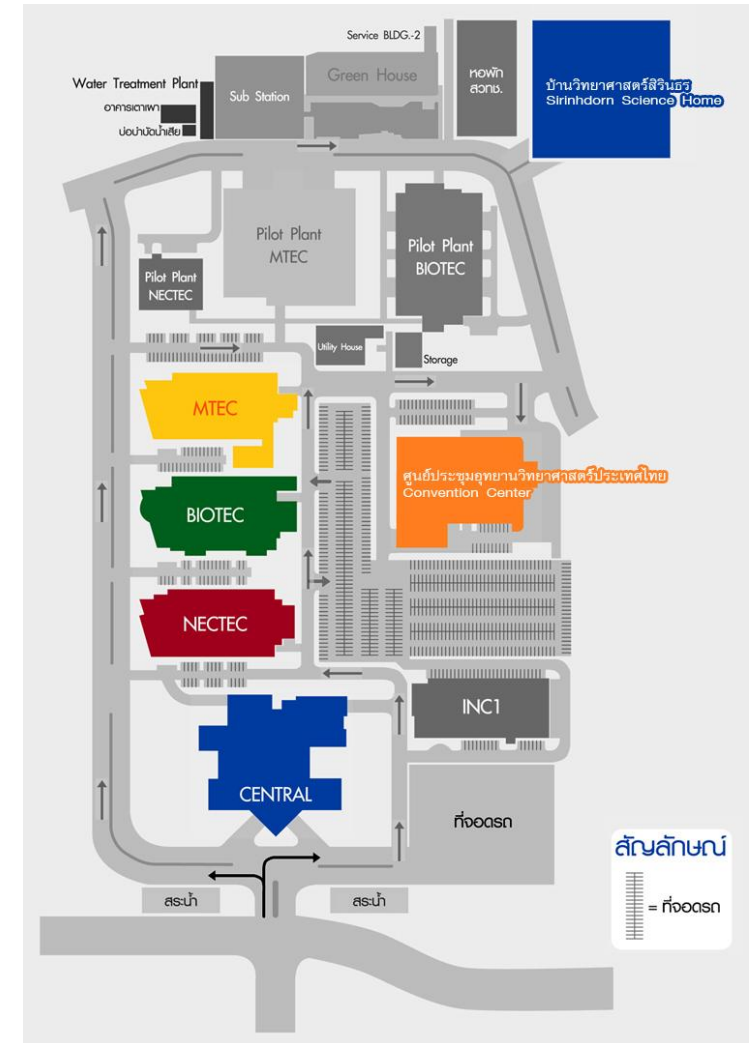
Atikorn Panya, Ph.D.

Director of Functional Ingredients and Food Innovation Research Group

4 Aug 2026



NSTDA



foodSERP
NSTDA's Core Business

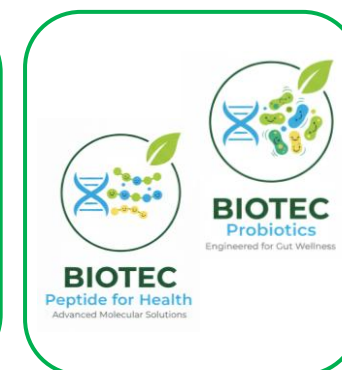
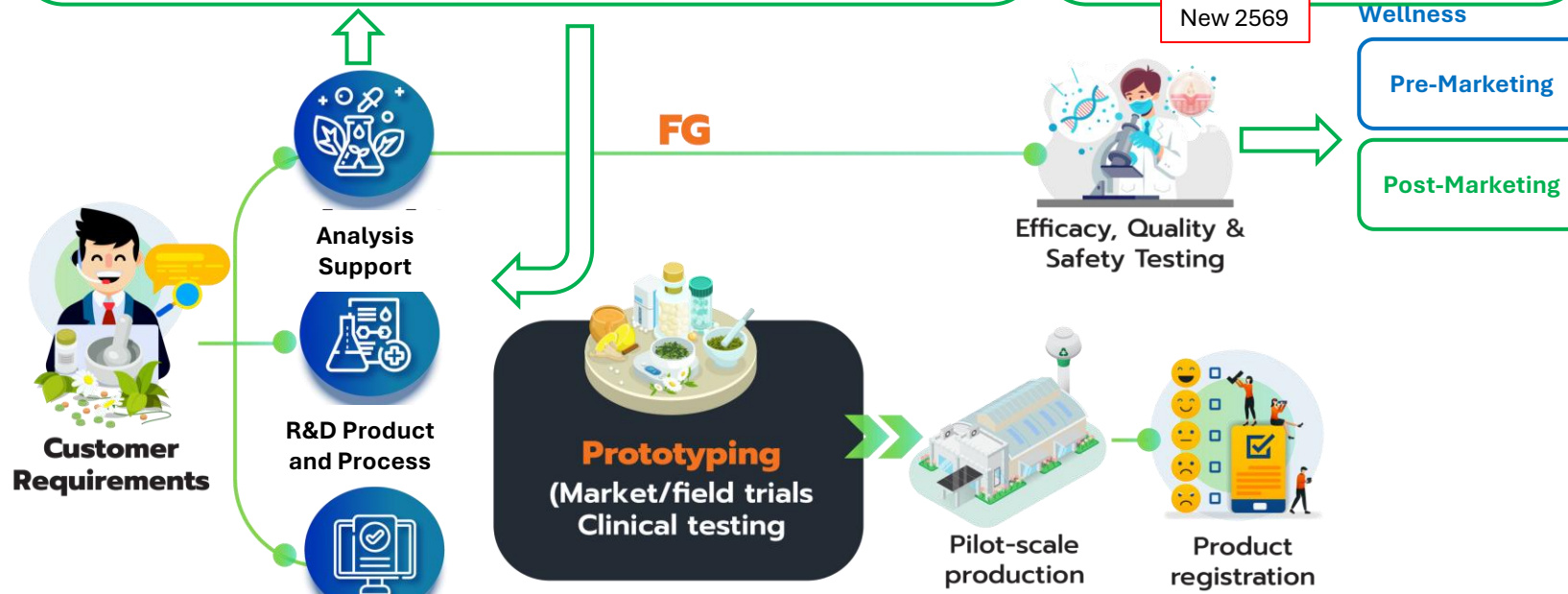
TECHNOLOGY & FACILITIES



SERVICE PLATFORM



PRODUCT GROUPS



BEYOND CLARITY

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to Unlock New Wellness Segments

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“ Clear is more than appearance.
It is a platform for **wellness**,
innovation and **meaningful** ”



FoodSERP
YOUR INNOVATION PARTNER



OUR VISION

To transform clear beverages from simple refreshment into science-backed wellness solutions for every moment of life.



CLARITY

Crystal clear in appearance, clean in perception, advanced in technology.



FUNCTIONALITY

Purpose-led formulations that deliver real benefits across multiple health dimensions.



EVIDENCE

Science-backed ingredients, validated systems and responsible claims.



PERSONALIZATION

Solutions tailored to lifestyle, occasions and individual wellness needs.



ENJOYMENT

Great taste, light & refreshing experiences that consumers love and repeat.



Global Trends
Local Opportunities



Clean Label
Better Ingredients



Innovation
with Impact



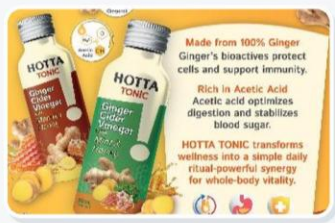
Partner for
Your Success



ส่วนผสมสารสกัด (Ingredient List)	
Pea Protein Isolate/ โปรตีนสกัดจากถั่วเขียว	24,000 mg
L-Leucine/ แอล-ลิวซีน	700 mg
Beetroot Extract/ สารสกัดจากบีต	500 mg
L-Carnitine/ แอล-คาร์นิทีน	500 mg
L-Valine/ แอล-วาลีน	350 mg
L-Isoleucine/ แอล-ไอโซลิวซีน	350 mg
Green Coffee Bean Extract/ สารสกัดจากเมล็ดกาแฟเขียว	186 mg
Green Tea Extract/ สารสกัดจากชาเขียว	186 mg
Bacillus Coagulans/ แบคทีเรีย โกลดูลัน	34 mg
Turmeric Extract/ สารสกัดจากขมิ้นชัน	20 mg
Tart Cherry Powder/ พาวเดอร์เชอร์รี่	2 mg
Blueberry Powder/ พาวเดอร์บลูเบอร์รี่	2 mg



NUTRITION FACT	
ปริมาณต่อขวด (1 ขวด 30 กรัม)	
Energy	120 kcal
Protein	24 g
Carbohydrate	0 g
Fat	0 g
Sodium	0 mg
Calcium	20 mg
Iron	0 mg
Vitamin B1	0 mg
Vitamin B2	0 mg
Vitamin B6	0 mg
Vitamin C	0 mg



Serving size 1 sachet (10g)	
Amount per serving	
Calories	100
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 22mg	1%
Total Carbohydrate 20g	9%
Dietary Fiber 0g	0%
Total Sugars 20g	9%
Includes 20g Added Sugars	9%
Protein 10g	50%
Vit D 0mg 0%	Calcium 0.4 mg 1%
Iron 0mg 0%	Phosphorus 0mg 0%



The New Era of Hydration

From basic hydration to science-driven, purpose-led beverages for a healthier, better, and more meaningful life.

CONSUMER EXPECTATIONS ARE EVOLVING



Beyond Thirst



Better For Me



Backed by Science



Better for the Planet



Personalized for My Life



1. WATER
(THE BASICS)



Purpose:
Quench thirst and stay alive



2. FUNCTIONAL WATER
(ADDED BENEFITS)



Purpose:
Support hydration and basic wellness



3. WELLNESS BEVERAGE
(TARGETED OUTCOMES)



Purpose:
Deliver functional benefits for specific needs



4. PRECISION BEVERAGE
(PERSONALIZED NUTRITION)



Purpose:
Personalized solutions for optimal health & performance

“

Consumers drink for **outcomes**, not just hydration.

The future of beverages is clear, functional, and personal.



We are moving beyond plain water to a new era of beverages that deliver real value, power **better choices**, and unlock **human potential**.

WHY CONSUMERS LOVE CLEAR BEVERAGES

Clear beverages resonate deeply with today's consumers. They deliver both rational benefits and emotional satisfaction.

CLEAR = TRUST

What consumers see is what they get.



Visual transparency
Builds immediate trust and confidence



Clean & minimal
Perceived as pure, light, and less processed



Quality assurance
Signals safety, reliability, and premium quality



KEY TAKEAWAY

Clear beverages are not just about looking good—they deliver a combination of **trust, function, and feel-good experiences** that modern consumers truly value.



EMOTIONAL CONNECTION

Clear beverages deliver more than function—they create feelings of:



REFRESHMENT
Instant refreshment and satisfaction



BALANCE
Supports a healthy and balanced life



CONFIDENCE
Choosing what is good for myself and my body



MINDFULNESS
A conscious choice for better well-being



GLOBAL SHIFT TOWARD PURPOSEFUL HYDRATION

Consumers no longer drink just to quench their thirst. They choose beverages that support their lifestyle, health goals, and overall well-being.



A GLOBAL WELLNESS MOVEMENT

Wellness is now a daily priority for consumers around the world.



GLOBAL
WELLNESS
ECONOMY

USD **5.6 Trillion**
in 2023

CAGR **7.3%**
(2023–2028)



FUNCTIONAL
BEVERAGE
MARKET

USD **196.6 Billion**
in 2023

CAGR **8.7%**
(2023–2030)

Source: Global Wellness Institute, Grand View Research

KEY CONSUMER DRIVERS

1



ACTIVE LIFESTYLE

More people prioritize fitness, movement, and active living.



2



HEALTHY AGING

Consumers seek solutions to age well, stay strong, and maintain vitality.



3



WEIGHT MANAGEMENT

Low-calorie, sugar-free, and high-protein beverages support modern lifestyles.



4



GUT HEALTH

Rising awareness of the gut-immune-brain axis drives functional choices.



5



MENTAL WELLNESS

Consumers look for beverages that help reduce stress, improve focus and mood.



Purposeful hydration is not a trend—
it is the new expectation.



Hydration
at the core

+



Functionality
with purpose

+



Science-backed
ingredients

=



Better health
and well-being

BEYOND CLARITY FRAMEWORK

A holistic approach to create clear beverages that deliver real outcomes and meaningful wellness for consumers.



1. CLARITY

Clean, Pure, and Transparent

- Visually clear and appealing
- Free from unwanted additives
- Builds trust through purity and minimalism



4. PERSONALIZATION

Tailored Solutions
for Every Individual

- Designed for diverse lifestyles
- Solutions for specific needs
- The future of personalized wellness hydration



2. FUNCTIONALITY

Purposeful Ingredients,
Proven Benefits

- Science-backed ingredients
- Targeted health benefits
- Effective dosages that make a difference



3. EVIDENCE

Backed by Science,
Validated by Data

- Clinical studies & research
- Transparent data and claims
- Continuous innovation and verification



When these 4 pillars come together, we create beverages that go **BEYOND CLARITY**—delivering real value, building trust, and shaping the future of wellness.



CLARITY

+



FUNCTIONALITY

+



EVIDENCE

+



PERSONALIZATION

=



MEANINGFUL
WELLNESS

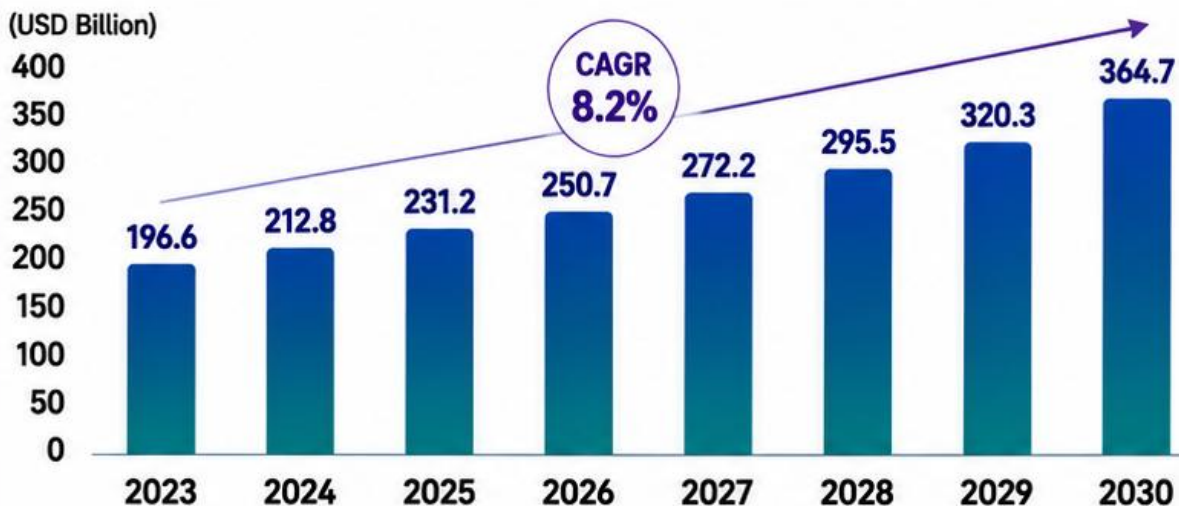


GLOBAL WELLNESS BEVERAGE MARKET

A High-Growth Category Driven by Health, Science and Lifestyle

The global wellness beverage market continues to expand rapidly as consumers seek functional benefits beyond basic hydration.

GLOBAL WELLNESS BEVERAGE MARKET SIZE (USD BILLION)



Strong long-term growth supported by increasing health awareness, innovation in functional ingredients, and rising demand for clean-label beverages.

MARKET OUTLOOK

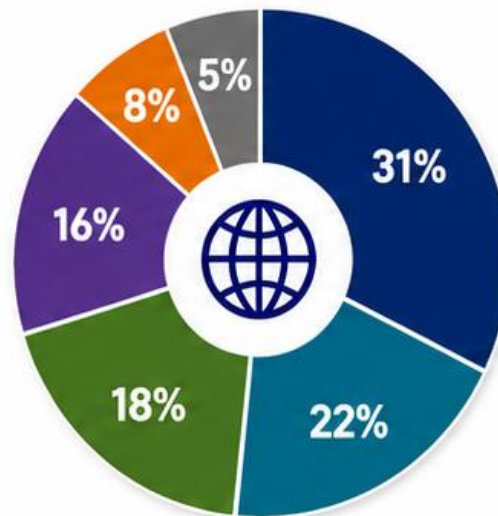


USD 196.6 Billion
in 2023

USD 364.7 Billion
in 2030

CAGR 8.2% (2023–2030)

MARKET BY MAJOR SEGMENT (2023)



Functional Beverages 31%



Sports Nutrition Beverages 22%



Gut Health Beverages 18%



Beauty & Collagen Beverages 16%



Mental Wellness Beverages 8%



Others (Energy, Meal Replacement, etc.) 5%



KEY TAKEAWAY

Wellness beverages are evolving from a niche category to a mainstream **growth engine** in the global beverage industry.



Rising Health Consciousness

Consumers prioritize preventive health and longevity.



Science-Backed Innovation

Functional ingredients with proven benefits drive consumer trust.



Clean Label Demand

Consumers prefer natural, transparent and safe products.



Expanding Distribution

Wider availability across retail, e-commerce and convenience.



Global Adoption

Strong growth across developed and emerging markets.



BEYOND CLARITY

Revolutionizing Clear Beverages to Unlock New Wellness Segments



CLEAR BEVERAGES ARE EXPANDING BEYOND WATER

		EXAMPLES
	FUNCTIONAL WATER Hydration + basic nutrients	Electrolyte water, Vitamin water, Mineral water
	ACTIVE HYDRATION Performance & recovery support	Sports drinks, Electrolyte beverages, BCAAs
	TARGETED WELLNESS Gut health, Immunity, Beauty, Mind & Mood	Postbiotics, Beauty drinks, Focus drinks, Adaptogens
	CLEAR PROTEIN High quality protein, Low calories, Easy to digest	Clear whey, Plant protein water, Protein + Amino acid blends
	PRECISION & PERSONALIZED Individual goals, Biomarkers, Precision nutrition	Personalized blends, DNA-based nutrition, Condition-specific beverages

KEY CONSUMER SEGMENTS

ACTIVE PEOPLE	HEALTH CONSCIOUS	GUT HEALTH SEEKERS	BEAUTY FOCUSED	BUSY GENERATIONS	AGING WELL CONSUMERS
• Sports & fitness	• Weight management	• Digestive wellness	• Skin health	• Convenience	• Muscle health
• Endurance	• Clean label	• Microbiome care	• Anti-aging	• On-the-go	• Bone health
• Recovery	• Low calorie	• Immunity	• Glow	• Multi-benefit	• Healthy aging

CONSUMER INSIGHT

Consumers want more than just hydration. They want clear beverages that fit their lifestyle and deliver **real benefits**.

Lifestyle Fit

Health Benefits

Clean & Safe

Great Taste

Convenience on the Go

USE OCCASION MOMENTS

Morning Kickstart
Rehydrate, Refresh, Vitamin boost

Before / During Workout
Hydration, Electrolytes, Performance

After Workout Recovery
Protein, Amino acids, Muscle recovery

Focus & Productivity
Mental clarity, Calm, Cognitive support

Evening Wind Down
Relaxation, Gut health, Better sleep

WHAT DRIVES REPEAT PURCHASE?



Source: Global Functional Beverage Consumer Survey 2024

GLOBAL PRODUCT SPOTLIGHT

PROPEL Electrolyte Water (USA)	AQUAFINA flavorsplash (USA)	VITAMINWATER Zero (USA)	HINT WATER (USA)	EVIAN Sparkling (France)	POCARI SWEAT (Asia)
INNO.N READY Q (Korea)	INNER RESET Postbiotic Drink (Singapore)	MAURTEN Hydrogel Drink Mix (Sweden)	VITAMIN WELL FOCUS (Sweden/Europe)	CLEAN WATER Whey Water (USA)	DYMATIZE ISO100 (USA)
AS-IT-IS CLEAR WHEY (India)	FUJIFIT Protein Water (Japan)	BOLERO Hydration Mix (UK/Europe)	CLEAR WHEY (India)	DRINK ICONIC Protein Water (USA)	QWENCH Electrolyte Water (USA)

EVOLUTION OF FUNCTIONAL BEVERAGES

From Energy to Personalized Wellness

Consumer needs, science, and technology have transformed beverages from simple energy boosters to targeted, personalized wellness solutions.

MARKET SHIFT

“Beverages are no longer drunk for a moment, but for a **better life**.”



1

GEN 1 (1990s–Early 2000s)

ENERGY DRINKS

Focus: Stimulation & Performance Boost
Key Ingredients: Caffeine, Taurine, Sugar, B-vitamins



Consumer Need

Instant energy, alertness, and physical performance.

2

GEN 2 (2000s–2010s)

SPORTS HYDRATION

Focus: Rehydration & Electrolyte Balance
Key Ingredients: Electrolytes, Carbs, Vitamins, Minerals



Consumer Need

Hydration, electrolyte replenishment, and endurance support.

3

GEN 3 (2010s–Early 2020s)

FUNCTIONAL BEVERAGES

Focus: Targeted Health Benefits
Key Ingredients: Botanicals, Probiotics, Proteins, Collagen, Adaptogens, Vitamins



Consumer Need

Better health, immunity, gut health, beauty, mental well-being.

4

GEN 4 (2020s and Beyond)

PERSONALIZED BEVERAGES

Focus: Precision Nutrition & Personalization
Key Ingredients: Precision actives, Postbiotics, Bioactives, AI-driven formulations



Consumer Need

Solutions tailored to my body, my data, my life.

THE JOURNEY of Functional Beverages



From Stimulation
(Energy)



To Hydration
(Replenishment)



To Health
(Function)



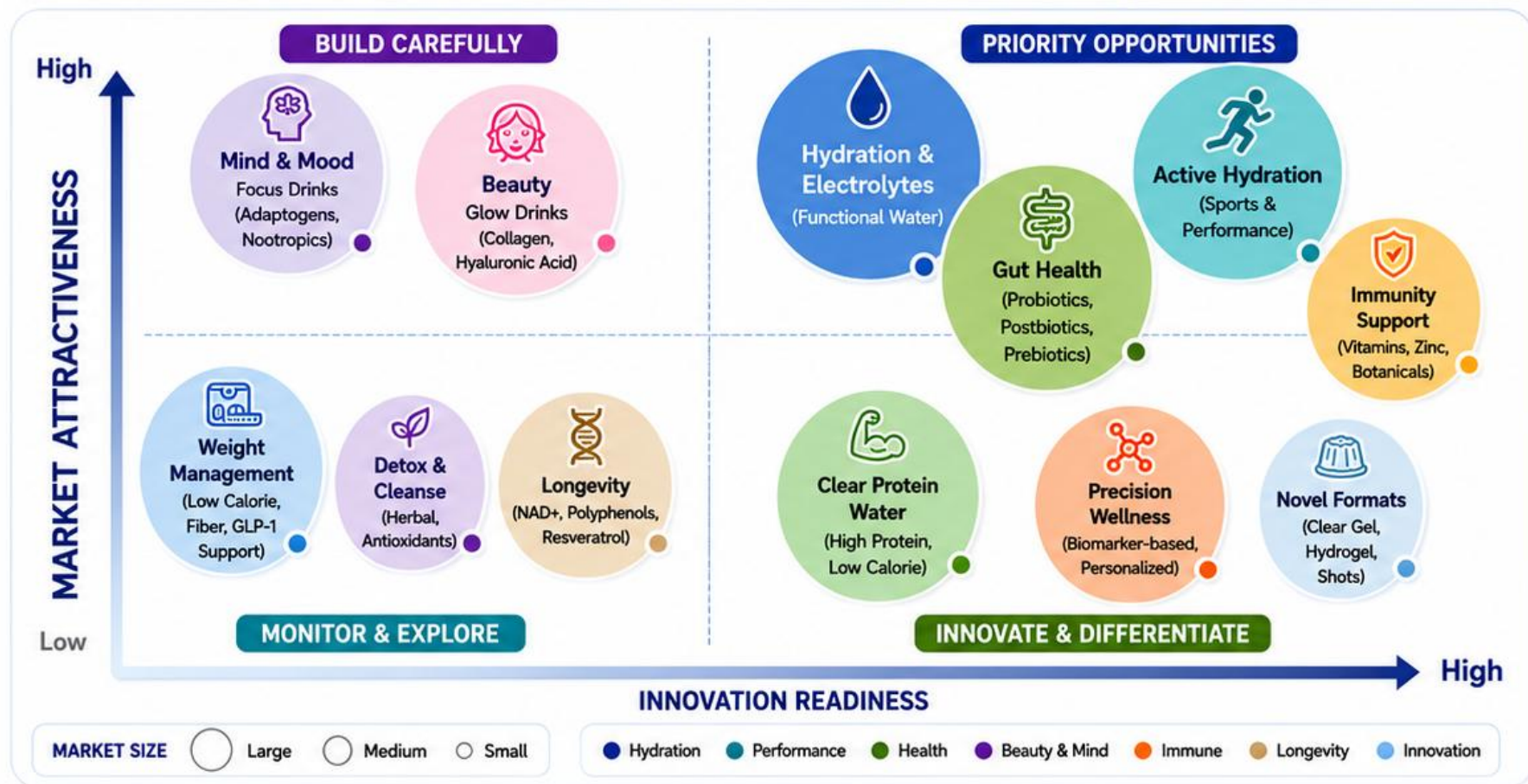
To Personalization
(Precision)

The future of beverages
is **clear**, **functional**,
and **uniquely yours**.

CLEAR BEVERAGE OPPORTUNITY MAP

Large Market Potential with Different Levels of White Space

Market Attractiveness = Market Size × Growth Rate | Innovation Readiness = Ingredient & Technology Readiness



KEY INSIGHTS



Hydration and Active Hydration lead the market with high size, high growth, and high readiness.



Gut Health is a fast-growing segment with strong consumer demand and clinical support.



Clear Protein and Precision Wellness represent high-potential white spaces for innovation.



Beauty, Mind & Mood, and Longevity are emerging spaces with strong future upside.



Novel Formats such as clear gel and hydrogel create new usage occasions and experiences.



WHY IT MATTERS

- ✓ Clear beverages offer vast opportunities across multiple wellness dimensions.
- ✓ Innovation-ready brands can capture new segments and build loyalty.
- ✓ The future belongs to brands that combine science, functionality, and consumer relevance.



CLEAR OPPORTUNITIES. PURPOSEFUL GROWTH.

By focusing on the right segments with the right innovations, clear beverages can unlock sustainable growth and meaningful wellness impact.

Note: Bubble size represents relative market size

Source: Euromonitor International, Grand View Research, Innova Market Insights, Mintel, 2023–2024



WHITE SPACE OPPORTUNITIES

High-Potential Segments Ready for Innovation

Consumer needs are evolving fast, but many segments remain under-served. These white spaces represent significant opportunities for growth and differentiation.



The future of clear beverages lies in solving unmet consumer needs with science-backed, innovative solutions.

WHITE SPACE = GROWTH SPACE

1



CLEAR PROTEIN

High-quality protein in a light, refreshing, easy-to-drink format.

Consumer Need

Protein without heaviness or dairy taste.

Example Products



2



POSTBIOTIC & GUT HEALTH

Gut health beyond probiotics, with postbiotics and fermented bioactives.

Consumer Need

Digestive comfort, immunity, and overall wellness.

Example Products



3



BEAUTY WATER

Beauty-from-within solutions targeting skin, hair, and nails.

Consumer Need

Radiant skin, anti-aging, and natural beauty support.

Example Products



4



MIND & FOCUS

Cognitive support, stress relief, and mental clarity in daily life.

Consumer Need

Better focus, calm mood, and reduced stress.

Example Products



5



IMMUNITY & LONGEVITY

Nutrition that supports immune defenses and healthy aging.

Consumer Need

Stronger immunity and long-term vitality.

Example Products



KEY TAKEAWAY



Clear beverages have expanded far beyond hydration.



Multiple high-growth white spaces are emerging.



Innovation with science-backed ingredients will win.



Brands that solve real consumer needs will lead the future.



These white spaces represent the next wave of clear beverage innovation—where science meets lifestyle and delivers meaningful wellness outcomes.



Hydration



Gut Health



Beauty



Mind



Immunity



PRODUCT INSPIRATION & CONCEPT IDEAS

From White Spaces to Winning Products

Translating opportunities into refreshing, science-backed clear beverages for next-generation consumers



Clear beverages are no longer just a format — they are a canvas for innovation and wellness.

1 Hydration+

Beyond Plain Water



- Faster hydration
- Low sugar / zero sugar
- Clean taste

2 Gut Health

Clear Pre-/Postbiotic Drink



- Digestive comfort
- Balanced gut microbiome
- Light & refreshing

3 Beauty from Within

Collagen / Ceramide / GABA



- Radiant & hydrated skin
- Hair & nail support
- Light, elegant taste

4 Mental Wellness

Functional for Mind & Focus



- Stress relief
- Better focus
- Calm and refreshed

5 Immunity & Longevity

Vitamin / Polyphenol / NMN



- Stronger immunity
- Antioxidant protection
- Healthy aging

6 Sport & Active Lifestyle

Amino Acid / BCAA / Recovery



- Muscle recovery
- Energy boost
- Low calorie

CONCEPT DEVELOPMENT ROADMAP



WHY CLEAR BEVERAGES WIN



From science and creativity to consumer delight — creating the next wave of clear beverages that deliver real wellness value.

GLOBAL PRODUCT SHOWCASE II

Emerging Innovations & Concept Inspiration

A new wave of clear beverages is pushing boundaries with novel ingredients, technologies, and formats to create unique experiences and differentiated wellness benefits.

EMERGING INNOVATION THEMES & INSPIRING CONCEPTS

EXAMPLE PRODUCT	1 NEXT-GEN FUNCTIONAL WATERS	2 MICROBIOME SUPPORT DRINKS	3 BEAUTY FROM WITHIN	4 PLANT POWER & ADAPTOGENS	5 LONGEVITY & CELLULAR HEALTH	6 CLEAN ENERGY & SPORT HYDRATION
KEY BENEFIT	Focus, clarity and cognitive support	Gut balance, digestion and overall well-being	Radiant skin, elasticity and hydration	Stress balance, resilience and mood	Healthy aging, cellular energy	Hydration, endurance and recovery
HERO INGREDIENTS	Lion's Mane, GABA, L-Theanine, B vitamins	Prebiotics (GOS, IMO), Postbiotics, 2'-FL, Akkermansia	Collagen peptides, Ceramides, Hyaluronic acid, Vitamin C	Ashwagandha, Rhodiola, Holy Basil, Magnesium	NMN, Resveratrol, PQQ, Spermidine, Polyphenols	Electrolytes, BCAAs, Coconut Water, Inositol
CONCEPT DIRECTION	Clean, light, everyday functional hydration for mind performance	Daily gut support in a light, refreshing clear format	Beauty rituals in a delicious, low-calorie daily drink	Natural stress relief and mental balance on-the-go	Science-backed longevity support in premium clear beverages	Performance hydration with clean, transparent formulations

FROM INSPIRATION TO INNOVATION: CONCEPT DEVELOPMENT ROADMAP



Innovation happens when creativity meets science and consumer insight. These emerging concepts show where clear beverages are headed next.

BE BOLD. BE DIFFERENT. BE THE NEXT.

MARKET OUTLOOK



USD **196.6 Billion**
in 2023

USD **364.7 Billion**
in 2030

CAGR 8.2% (2023–2030)

WHAT'S NEXT?



Novel Ingredients
Biotech actives, postbiotics, precision fermentation and rare botanicals.



Advanced Technologies
Better stability, natural preservation, taste modulation and bioavailability.



Personalized & Targeted Benefits
Solutions tailored to lifestyle, age, gender and wellness goals.



Sustainable & Ethical Innovation
Upcycled ingredients, eco-friendly packaging and responsible sourcing.

CONSUMER EXPECTATION IS EVOLVING



Clean Label



Proven Benefits



Holistic Wellness



Good for Me,
Good for Planet

CLEAR. CLEAN. FUNCTIONAL.
THE NEXT GENERATION IS HERE.

These innovations show how clear beverages are evolving into powerful wellness solutions that fit modern lifestyles.



PLATFORM 1: FUNCTIONAL WATER

Hydration. Function. Clarity. Everyday Wellness.

Functional Waters deliver more than hydration. With clean ingredients and science-backed actives, they provide **targeted benefits** in a clear, light and refreshing experience.

“The simplest platform with the highest potential. Functional Waters are the gateway to daily wellness — clean, effective, and future-ready.”

CLEARER HYDRATION. SMARTER BENEFITS.

PRODUCT CONCEPT EXAMPLES

1 DAILY HYDRATION

Electrolytes
+ Minerals



Clean hydration
with essential minerals
for everyday balance.

2 GUT BALANCE™

Prebiotics
+ Postbiotics



Support gut health
and digestion in a light,
refreshing way.

3 BEAUTY BOOST™

Collagen Peptide
+ Ceramide



Nourish skin from within
for hydration, elasticity
and natural glow.

4 MENTAL REFRESH™

L-Theanine
+ B Vitamins



Enhance focus, reduce
stress and promote
mental clarity
throughout the day.

5 IMMUNE SHIELD™

Vitamin C
+ Zinc



Strengthen daily defenses
and support overall
immune health.

KEY INGREDIENT CATEGORIES



HYDRATION & ELECTROLYTES

Electrolytes, minerals, coconut water powder, sea minerals



GUT HEALTH

Prebiotics (GOS, IMO), postbiotics, probiotics, fiber



BEAUTY & SKIN HEALTH

Collagen peptides, ceramides, hyaluronic acid, biotin



MENTAL WELLNESS

L-Theanine, B vitamins (B6, B12), GABA, adaptogens



IMMUNITY & VITALITY

Vitamin C, Zinc, Elderberry, Echinacea, Beta-glucan

SCIENCE & TECHNOLOGY ENABLERS



CLEAN-LABEL FORMULATION

Transparent, simple ingredients that consumers trust.



ADVANCED INGREDIENT DELIVERY

Microencapsulation, solubility enhancement for stability and bioavailability.



CLARITY & STABILITY TECHNOLOGY

Maintain crystal clarity, neutral taste and shelf stability without compromise.



SCIENCE-BACKED BENEFITS

Supported by clinical studies and emerging research.



SUSTAINABLE & RESPONSIBLE

Eco-friendly ingredients, sustainable sourcing and recyclable packaging.

FORMATS & APPLICATIONS



STILL WATER

Still functional
water for
everyday wellness



SPARKLING WATER

Lightly sparkling
for a refreshing
experience



ENHANCED WATER WITH FLAVOR

Natural fruit & botanical
flavors, zero sugar



RTD POWDER & CONCENTRATE

On-the-go solutions
and subatables



SHOTS & MINI FUNCTIONALS

High potency,
targeted benefits

GO-TO-MARKET ROADMAP

1

INSIGHT

Identify hydration
and wellness
needs & trends



2

CONCEPT & FORMULATION

Create clean,
effective and
great-tasting
formulas



3

VALIDATION

Test stability,
safety, efficacy
and consumer
appeal



4

LAUNCH

Bring to market
with compelling
story and
experience



5

GROW & EXPAND

Scale, extend
and enter new
segments



KEY BENEFITS FOR CONSUMERS



Refreshment
with Purpose



Daily Wellness
Made Simple



Clean Ingredients,
Clear Benefits



Light, Great Taste,
No Compromise



Backed by
Science



Good for You,
Good for the Planet

PLATFORM 2: GUT HEALTH

Balance. Restore. Thrive from Within.

Gut Health Clear Beverages support digestive balance, microbiome diversity, and gut barrier function with **clinically supported ingredients**—delivered in a light, tasty, and convenient format.

PRODUCT CONCEPT EXAMPLES

MICROBIOME BALANCE

Prebiotics + Postbiotics



Nourish good bacteria and support a diverse, resilient microbiome.

DIGEST & COMFORT

Fiber + Enzymes



Support digestion and reduce bloating for a lighter, more comfortable you.

DAILY PREBIOTIC REFRESH

Lactoferrin + Prebiotics



Feed beneficial bacteria and support gut barrier health every day.

POSTBIOTIC RECOVERY

Postbiotics + Polyphenols



Support immune bacteria and gut recovery with next-gen postbiotics.

GUT BARRIER SHIELD

Glutamine + Zinc



Strengthen gut barrier and protect against everyday stressors.

KEY INGREDIENT CATEGORIES



PREBIOTICS

GOS, IMO, FOS, Inulin, Resistant Starch



POSTBIOTICS & PARAPROBIOTICS

Heat-killed probiotics, Cell lysates, Metabolites (SCFAs)



GUT BARRIER SUPPORT

Glutamine, Zinc, L-Glutamine, Colostrum, Polyphenols



DIGESTIVE ENZYMES & FIBER

Protease, Amylase, Bromelain, Psyllium Husk, Acacia Fiber



FUNCTIONAL BOTANICALS

Chamomile, Peppermint, Ginger, Turmeric, Licorice

SCIENCE & TECHNOLOGY ENABLERS



MICROBIOME SCIENCE

Evidence-based strains, postbiotics and metabolites for targeted microbiome modulation.



ADVANCED DELIVERY TECHNOLOGIES

Microencapsulation, protection technologies for stability and bioavailability.



GUT-BARRIER FOCUS

Science-backed ingredients to support barrier integrity and immune defense.



CLINICAL & REAL-WORLD EVIDENCE

Supported by human studies and emerging research.



CLEAN & TRANSPARENT

Clean-label, natural ingredients, with full transparency.

FORMATS & APPLICATIONS



STILL WATER

Daily hydration with gut health benefits



SPARKLING WATER

Refreshing bubbles with functional goodness



FUNCTIONAL SODA

Better-for-you gut-friendly indulgence



POWDER STICKS

On-the-go convenience for daily support



SHOTS

Concentrated support in a small dose

GO-TO-MARKET ROADMAP

1

INSIGHT



Identify gut health needs, pain points and trends

2

CONCEPT & FORMULATION



Develop science-backed concepts and optimize taste & stability

3

VALIDATION



Test efficacy, safety, and consumer acceptance

4

LAUNCH



Bring to market with clear claims and compelling story

5

GROW & EXPAND



Scale, extend portfolio and enter new segments



A healthy gut is the foundation of total wellness. Our Gut Health platform delivers science-backed benefits your body can feel—every day.

HAPPY GUT. BETTER YOU. EVERY DAY.



Gut health is at the center of modern wellness. Our clear beverage platform makes it **easy, enjoyable, and effective.**

PLATFORM 3: BEAUTY FROM WITHIN

Radiant. Replenish. Reveal Your Natural Glow.

Beauty starts within. Our Beauty from Within platform combines premium functional ingredients that **nourish skin, hair, and nails** at the cellular level—delivered in a clear, refreshing experience.



True beauty is healthy, hydrated, and radiant.
This platform helps you glow—inside and out.

GLOW STARTS WITH WHAT YOU DRINK.

PRODUCT CONCEPT EXAMPLES

GLOW COLLAGEN+

Collagen Peptide
+ Vitamin C



Improve skin elasticity,
reduce wrinkles,
and boost radiance.

CERAMIDE GLOW

Ceramide +
Hyaluronic Acid



Strengthen skin barrier,
deep hydration,
and moisture retention.

ANTIOX GLOW

Astaxanthin +
Polyphenols



Protect skin from oxidative
stress and support a
brighter, even tone.

HAIR & NAIL NOURISH

Biotin + Zinc +
Silica (from Bamboo)



Support strong hair,
healthy nails, and
cellular regeneration.

KEY INGREDIENT CATEGORIES



COLLAGEN & STRUCTURAL PROTEINS

Collagen Peptides, Elastin Peptides,
Keratin Peptides



SKIN HYDRATION & BARRIER

Ceramides, Hyaluronic Acid,
Squalane, Aquaporin Boosters



ANTIOXIDANTS & BRIGHTENING

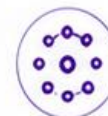
Vitamin C, Glutathione, Astaxanthin,
Polyphenols, Resveratrol



BEAUTY NUTRIENTS

Biotin, Zinc, Silica, MSM, Copper,
Vitamin E, Niacin, Vitamin B6

SCIENCE & TECHNOLOGY ENABLERS



ADVANCED DELIVERY SYSTEMS

Peptide encapsulation, nanoemulsion,
and liposomal technology for
better absorption.



BIOAVAILABILITY OPTIMIZATION

Synergistic ingredient combinations
to enhance absorption and efficacy.



CLINICAL & CONSUMER INSIGHTS

Science-backed benefits with
clinical studies and consumer
perception validation.

KEY BENEFITS FOR CONSUMERS



Radiant Skin
& Healthy Glow



Deep Hydration
& Moisture



Stronger Barrier
& Protection



Stronger Hair
& Healthy Nails

GO-TO-MARKET ROADMAP

1

INSIGHT

Identify beauty
needs, trends, and
ingredient
opportunities

2

CONCEPT & FORMULATION

Design clean,
effective formulas
with optimal
taste & stability

3

VALIDATION

Test efficacy,
safety, stability,
and sensory
acceptance

4

LAUNCH

Bring to market
with compelling
story and
targeted positioning

5

GROW & EXPAND

Scale, extend
portfolio, and enter
new beauty
segments



Beauty is more than skin deep. Our clear beverage solutions **nourish from within** for visible, lasting results.

PLATFORM 4: MENTAL WELLNESS

Focus. Calm. Balance. Fuel Your Mind.

Our Mental Wellness platform supports cognitive performance, mood balance, and stress resilience with **clean nootropics** and **adaptogens**—delivered in a clear, light, and refreshing format.

PRODUCT CONCEPT EXAMPLES

FOCUS FLOW

L-Theanine + Caffeine
B Vitamins



Enhance focus, attention and sustained energy.

CALM CLARITY

L-Theanine + Magnesium + B6



Support relaxation, reduce stress and promote calm focus.

MOOD BALANCE

Saffron Extract + 5-HTP + B6



Support positive mood, emotional balance and stress resilience.

BRAIN BOOST

Lion's Mane + Ginkgo Biloba + B12



Support memory, learning and overall cognitive performance.

ADAPT & DEFEND

Rhodiola + Ashwagandha + Vitamin C



Support stress adaptation, mental endurance and daily resilience.

KEY INGREDIENT CATEGORIES



NOOTROPICS & AMINO ACIDS

L-Theanine, Alpha-GPC, Citicoline, Taurine, Tyrosine



ADAPTOGENS

Ashwagandha, Rhodiola, Ginseng, Holy Basil, Schisandra



VITAMINS & MINERALS

B1, B6, B9, B12, Magnesium, Zinc, Vitamin C



PLANT & BOTANICAL EXTRACTS

Ginkgo Biloba, Bacopa Monnieri, Saffron, Green Tea Extract, Gotu Kola



GUT-BRAIN SUPPORT

Prebiotics (GOS, Inulin), Postbiotics, Polyphenols

SCIENCE & TECHNOLOGY ENABLERS



ADVANCED DELIVERY SYSTEMS

Nanoencapsulation, liposomal and emulsion technologies for better absorption and stability.



CLINICAL-BACKED FORMULATIONS

Evidence-based ingredients and dosages supported by human studies and emerging research.



SENSORIAL & TASTE TECHNOLOGY

Masking techniques and natural flavor systems for great taste without compromise.



STABILITY & SHELF-LIFE SCIENCE

pH control, antioxidant systems and natural preservation for clear stability and quality.



CLEAN LABEL INNOVATION

Minimal, recognizable ingredients with maximum transparency and consumer trust.

FORMATS & APPLICATIONS



STILL WATER
Daily hydration with clarity and focus.



SPARKLING WATER
Refreshing calm and uplift on-the-go.



FUNCTIONAL SPARKLING
Energizing nootropic boost.



POWDER STICKS
Convenient mix for work or study.



SHOTS
Concentrated mental support in a small dose.

GO-TO-MARKET ROADMAP

1

INSIGHT



Identify mental wellness needs, trends and consumer moments.

2

CONCEPT & FORMULATION



Design science-backed formulas with clean ingredients and great taste.

3

VALIDATION



Test efficacy, safety, stability and sensory acceptance.

4

LAUNCH



Bring to market with targeted positioning and compelling storytelling.

5

GROW & EXPAND



Scale, extend portfolio, and enter new mental wellness segments.

KEY BENEFITS FOR CONSUMERS



Sharpen Focus



Reduce Stress & Anxiety



Improve Mood & Emotional Balance



Enhance Memory & Cognition



Boost Energy & Alertness



Build Resilience & Daily Performance



A clear mind creates a better you.
Our Mental Wellness platform helps you stay sharp, calm, and in control—naturally.

CLEAR THINKING. BETTER EVERY DAY.



A clear mind. A better life. Our Mental Wellness platform helps you think clearly, feel calm, and perform at your best—every day.

PLATFORM 5: IMMUNITY & LONGEVITY

Protect. Strengthen. Thrive for the Long Run.

Our Immunity & Longevity platform helps **strengthen your body's natural defenses**, **reduce inflammation**, and **support healthy aging**—delivered through clean, science-backed ingredients.

“Longevity is not just about living longer, it's about living stronger. Nourish your body's defenses today for a healthier tomorrow.”

STRONGER TODAY. HEALTHIER TOMORROW.

PRODUCT CONCEPT EXAMPLES

1. IMMUNE DEFENSE+

Vitamin C + D + Zinc



Daily immune support
Support immune function and help your body defend every day.

2. ANTI-INFLAMMATION

Curcumin + Ginger



Inflammation management
Help reduce inflammation and support joint, heart and metabolic health.

3. CELLULAR PROTECT

Resveratrol + Quercetin



Cellular protection
Protect cells from oxidative stress and support healthy aging at the cellular level.

4. LONGEVITY BOOST

NMN + CoQ10 + PQQ



Healthy aging & vitality
Support energy production, mitochondrial health and healthy aging.

KEY INGREDIENT CATEGORIES



1. IMMUNITY SUPPORT

Vitamin C, D, Zinc, Selenium, Elderberry, Echinacea



2. LONGEVITY & CELLULAR HEALTH

NMN, CoQ10, PQQ, NAD+ Precursors



3. POLYPHENOLS & ANTIOXIDANTS

Resveratrol, EGCG, Quercetin, Grape Seed Extract



4. ADAPTOGENS & HEALTHY AGING

Reishi, Astragalus, Ashwagandha, Holy Basil

SCIENCE & TECHNOLOGY ENABLERS



1. ADVANCED DELIVERY SYSTEMS

Nanoencapsulation, liposomal and nanoemulsion technologies for stability, bioavailability and targeted delivery.



2. CLINICAL VALIDATION

Evidence-based formulations supported by human studies and emerging longevity research.



3. CLEAN LABEL & SUSTAINABILITY

No artificial colors or preservatives. Premium, natural ingredients with full traceability and eco-friendly processes.



KEY BENEFITS FOR CONSUMERS



STRONGER IMMUNITY

Support your body's natural defenses



HEALTHY AGING

Promote healthy aging and longevity



MORE VITALITY

Enhance energy, stamina and vitality



COGNITIVE RESILIENCE

Support memory, focus and mental performance

GO-TO-MARKET ROADMAP

1

INSIGHT

Identify consumer needs, trends and growth opportunities

2

CONCEPT & FORMULATION

Design science-backed formulas with clean ingredients and optimal efficacy

3

VALIDATION

Test stability, safety, efficacy and validate with lab or clinical data

4

LAUNCH

Bring to market with compelling story and strong positioning

5

GROW & EXPAND

Scale, extend portfolio and enter new wellness segments



Empower your body. Extend your healthspan. Our Immunity & Longevity platform helps you **thrive today—and for years to come.**

PLATFORM 6: SPORT & ACTIVE LIFESTYLE

Rehydrate. Replenish. Perform at Your Best.

Our Sport & Active Lifestyle platform delivers rapid hydration, key electrolytes, energy, and recovery support—formulated with clean, functional ingredients for active bodies and minds.

PRODUCT CONCEPT EXAMPLES

1 HYDRATION PERFORMANCE+

Electrolytes +
Coconut Water
B Vitamins



Rapid hydration and electrolyte balance for peak performance.

2 ENDURANCE FUEL

BCAAs + Citrulline
Electrolytes



Sustain energy and delay fatigue for longer workouts.

3 RECOVERY REFRESH

Whey Protein Isolate
Tart Cherry + Magnesium



Support muscle recovery and reduce soreness after exercise.

4 FOCUS PERFORM

Taurine + L-Theanine
Caffeine (Natural)



Enhance focus, reaction time and mental clarity during activity.

“

Every movement counts.

Fuel your potential. Recover faster.

Go further with clarity.

.....
MOVE CLEAN. PERFORM STRONG. RECOVER SMART.

KEY INGREDIENT CATEGORIES



1. HYDRATION & ELECTROLYTES

Sodium, Potassium, Magnesium, Calcium, Chloride, Coconut Water Powder



2. PERFORMANCE & ENERGY

Natural Caffeine, Guarana, CoQ10, B Vitamins, Creatine (Clean-Label)



3. AMINO ACIDS & PROTEIN

BCAA (Leucine, Isoleucine, Valine), Citrulline, Taurine, Whey Protein Isolate



4. RECOVERY & FOCUS

Tart Cherry Extract, Magnesium, L-Glutamine, Collagen Peptides, L-Theanine, Tyrosine

SCIENCE & TECHNOLOGY ENABLERS



1. ADVANCED DELIVERY SYSTEMS

Microencapsulation, liposomal and nanoemulsion technologies for stability and fast absorption.



2. CLINICAL VALIDATION

Targeted performance formulations supported by human studies and real-world athlete trials.



3. BIOMARKER & PERFORMANCE TRACKING

Measure hydration status, performance, recovery and fatigue markers for data-driven outcomes.

GO-TO-MARKET ROADMAP

1

INSIGHT

Identify active consumer needs, trends and performance gaps.



2

CONCEPT & FORMULATION

Design clean, effective formulas with optimal ingredients & function.



3

VALIDATION

Test stability, safety, efficacy and sensory acceptance.



4

LAUNCH

Bring to market with compelling story and athlete / trainer partnerships.



5

GROW & EXPAND

Scale, extend portfolio and enter new performance segments.

KEY BENEFITS FOR CONSUMERS



OPTIMAL HYDRATION & ELECTROLYTE BALANCE

Replace what you sweat. Perform at your best.



SUSTAINED ENERGY & ENDURANCE

Fuel your body for longer, stronger workouts.



FASTER RECOVERY & LESS SORENESS

Rebuild, restore and get back to your best—sooner.



BETTER FOCUS & MENTAL CLARITY

Sharpen your mind. React faster. Stay in the zone.



From training to recovery, our clear beverage solutions help you hydrate, fuel, and perform—cleanly and effectively. **Your active lifestyle. Our clear advantage.**

THE PLATFORM ENABLERS: SCIENCE + TECHNOLOGY + DESIGN

Building the next generation of clear functional beverages that deliver on taste, stability, safety, and science.

1. SCIENCE-LED FORMULATION

Evidence-based ingredients and synergistic combinations to deliver targeted benefits.

-  **Proven Ingredients**
Clinically studied ingredients for specific health outcomes
-  **Synergistic Formulation**
Multi-ingredient synergy for enhanced efficacy
-  **Bioavailability Optimization**
Advanced forms for better absorption and utilization
-  **Safety & Purity**
Rigorous testing for contaminants, allergens, and heavy metals



2. ADVANCED TECHNOLOGY

Next-gen technology solutions to deliver clarity, stability, and superior sensory.

-  **Filtration & Clarification**
Microfiltration, nanofiltration, membrane technologies
-  **Encapsulation & Protection**
Protect sensitive actives, mask off-notes, enhance stability
-  **Natural Flavor & Taste Tech**
Modulation, masking, and taste enhancement systems
-  **Stabilization Systems**
pH control, chelation, antioxidants, shelf-life extension
-  **Clean Label Processing**
HPP, UV-C, aseptic, low-temp technologies



3. CONSUMER-CENTRIC DESIGN

Great products when they fit seamlessly into real consumer lives.

-  **Taste & Experience First**
Light, refreshing, and delicious every day
-  **Lifestyle & Usage Occasions**
On-the-go, at work, pre/post workout, between meals
-  **Packaging Innovation**
Sustainable, convenient, beautiful, and functional
-  **Transparency & Storytelling**
Clear communication, trust through truth
-  **Personalization & Customization**
Solutions tailored to individual needs and goals



5. PLATFORM OUTCOMES

-  **Proven Benefits**
Science-backed health outcomes
-  **Crystal Clarity**
Visually clear, sensory superior
-  **Stable & Safe**
Shelf-stable, trusted quality
-  **Loved by Consumers**
Great taste, repeat purchase
-  **Profitable Growth**
Differentiated & scalable
-  **Rapid Innovation**
Agile development & co-creation

6. SUSTAINABILITY AT THE CORE

-  **Clean Label & Natural**
Simple, recognizable, responsible
-  **Sustainable Packaging**
Recyclable, lightweight, innovative
-  **Resource Efficiency**
Energy & water conscious processes
-  **Better for People & Planet**
Healthier choices, positive impact

“Clarity is just the beginning.
Our platform enablers make benefits real,
experiences delightful, and outcomes measurable.”

SCIENCE BUILDS TRUST.
TECHNOLOGY DELIVERS. DESIGN CREATES CHOICE.



Our integrated platform enablers turn ideas into clear, functional beverages that consumers trust, love, and choose—every day.

WHY CLEAR PROTEIN?

Consumers want protein without the heaviness.



CLEAR PROTEIN

The new evolution of protein:
light, refreshing and made for modern lifestyles.

TRADITIONAL PROTEIN SHAKE



Thick texture



Milky appearance



High satiety



Often perceived as
"bodybuilder products"



Limited drinking
occasions



VS

CONSUMER SHIFT

FROM
**HEAVY
NUTRITION**

↓

TO
**LIFESTYLE
NUTRITION**

CLEAR PROTEIN WATER



Light & refreshing



Transparent appearance



Low calorie



Convenient hydration



Multiple consumption
occasions



KEY GROWTH DRIVERS



1
ACTIVE
LIFESTYLE



2
WEIGHT
MANAGEMENT



3
HEALTHY
AGING



4
SPORTS
RECOVERY



5
EVERYDAY
PROTEIN INTAKE

MARKET OPPORTUNITY



PROTEIN

+



HYDRATION

+



WELLNESS

=



CLEAR PROTEIN
= Protein + Hydration
+ Wellness

KEY TAKEAWAY

“ Clear Protein is transforming protein from a niche sports product into a **mainstream wellness beverage**. ”



LIGHTER. CLEANER. SMARTER.

| CLEAR PROTEIN IS THE FUTURE OF PROTEIN.

CLEAR WHEY vs PLANT PROTEIN

Two powerful paths. One clear choice.

Both clear whey and clear plant proteins deliver unique benefits. Understanding their differences helps brands create the right solution for every consumer.



CLEAR WHEY PROTEIN



COMPLETE PROTEIN

All essential amino acids including high leucine



FAST ABSORPTION

Quick digestion and rapid amino acid delivery



IDEAL FOR SPORTS

Supports muscle building, performance & recovery



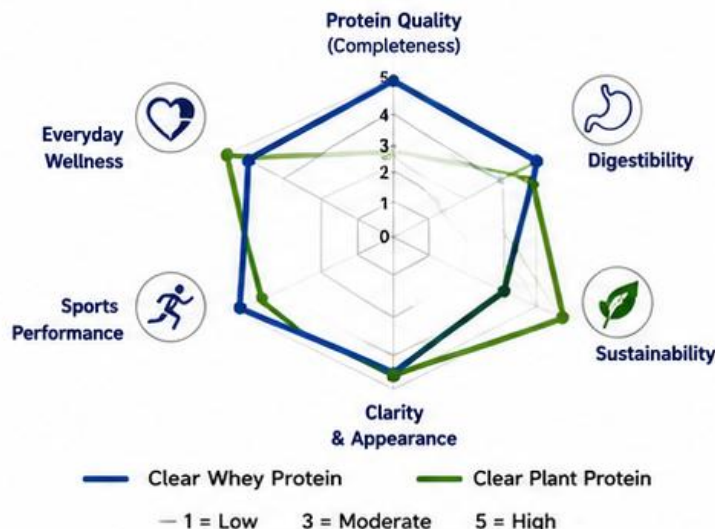
HIGH LEUCINE CONTENT

Supports muscle protein synthesis



KEY COMPARISON

VS



“

Different sources.

Same mission:

Deliver high-quality protein in a light, refreshing format.



CLEAR PLANT PROTEIN



PLANT-BASED

Made from pea, rice, soy, fava, pumpkin, and more



SUSTAINABLE & ETHICAL

Lower environmental impact and animal-free



EVERYDAY WELLNESS

Great for general health, weight management & lifestyle



EASY TO DIGEST*

Gentle on the stomach for many consumers

*Depends on source, formulation & individual tolerance

BEST APPLICATIONS

WHEY BEST FOR



Sports Nutrition



Post-Workout Recovery



High Performance Lifestyle



Weight Management



General Health & Wellness



Plant-Based Lifestyle

PLANT BEST FOR

WHICH ONE IS RIGHT FOR YOU?

NEED RAPID RECOVERY & HIGH PERFORMANCE?



CHOOSE WHEY

OR

PREFER PLANT-BASED & EVERYDAY WELLNESS?



CHOOSE PLANT

OR

WANT THE BEST OF BOTH WORLDS?



CHOOSE HYBRID BLEND

KEY INSIGHT



THERE IS NO SINGLE WINNER.

Whey and plant proteins serve different needs—and together, they create a more inclusive, sustainable future for clear beverages.



INNOVATION

Better taste, better function, better for you.



TECHNOLOGY

Advanced processing delivers clarity, stability and taste.



CHOICE

More options for more consumers, every day.



GROWTH

Expanding market with limitless opportunities.

DIAAS – PROTEIN QUALITY MATTERS

Not all proteins are created equal.

DIAAS (Digestible Indispensable Amino Acid Score) is the most accurate way to evaluate protein quality based on true digestibility and amino acid availability.

WHAT IS DIAAS?



DIAAS
(Digestible Indispensable
Amino Acid Score)

is the ratio of the digestible amount of each indispensable amino acid in 1 g of test protein to the requirement for that amino acid in adults (mg/g protein), expressed as a percentage.



Focuses on digestibility
Measures amino acids absorbed at the end of the small intestine.

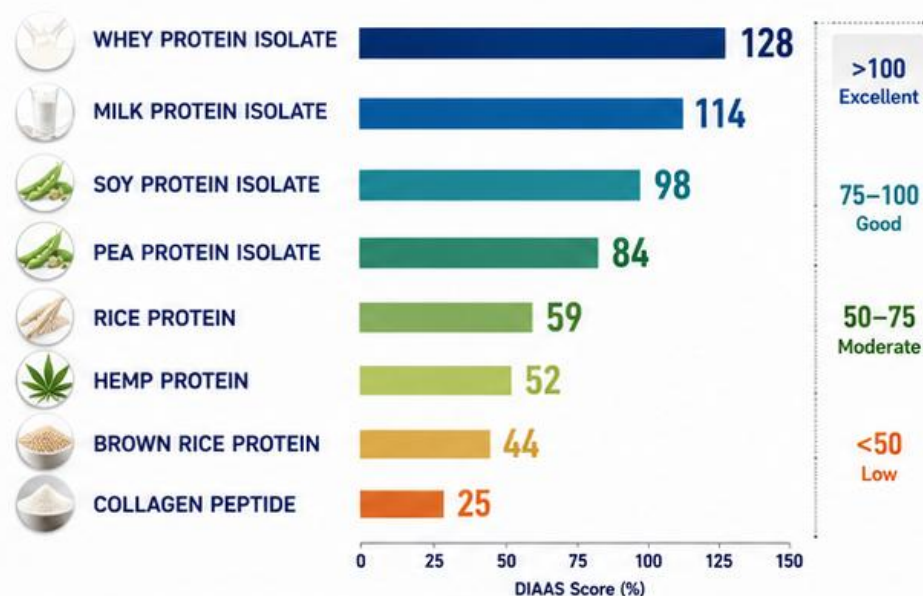


Considers individual amino acids
Scores based on the lowest indispensable amino acid.



Applies to all proteins
Animal, plant, novel & alternative protein sources.

DIAAS SCORE COMPARISON OF COMMON PROTEIN SOURCES (Adults, %)



Source: FAO/WHO/UNU Expert Consultation, 2013 (DIAAS Method)
Zheng et al., Food & Function, 2016; Updated from recent literature.



DIAAS is the gold standard for measuring protein quality because it reflects **TRUE DIGESTIBILITY** at the end of the small intestine.



Protein



Digestion



Absorption
(End of Small Intestine)



Utilization

WHY PROTEIN QUALITY MATTERS



MUSCLE MAINTENANCE

Higher quality protein supports more muscle protein synthesis.



IMMUNE FUNCTION

Better amino acid availability supports immune health.



BONE HEALTH

Essential amino acids support bone matrix and strength.



WEIGHT MANAGEMENT

High-quality protein increases satiety and preserves lean mass.



HEALTHY AGING

Adequate, quality protein helps maintain function and quality of life.

DIAAS vs PDCAAS

DIAAS (Digestible Indispensable Amino Acid Score)

- ✓ Based on ileal digestibility (end of small intestine)
- ✓ Uses true amino acid digestibility
- ✓ Applicable to all life stages
- ✓ More accurate and up-to-date

VS

PDCAAS (Protein Digestibility Corrected Amino Acid Score)

- ✓ Based on fecal digestibility (end of large intestine)
- ✓ Uses total tract digestibility
- ✓ Developed for children
- ✓ May overestimate protein quality

★ **KEY TAKEAWAY**



Protein quality is more than just the amount of protein.
IT'S ABOUT HOW MUCH YOUR BODY CAN USE.

Clear protein beverages should prioritize high-DIAAS proteins to deliver maximum nutritional value in every refreshing sip.

IMPLICATION FOR CLEAR PROTEIN BEVERAGES



Choose high-DIAAS protein sources



Optimize formulations for complete amino acid profile



Enhance digestibility for better absorption and efficacy



Deliver more functional benefits per serving



Meet consumer expectations for effective, science-backed protein solutions



HIGH DIAAS = HIGHER BIOAVAILABILITY = BETTER RESULTS



THE RIGHT PROTEIN. THE RIGHT QUALITY. THE CLEAR CHOICE.



PROTEIN QUALITY MATTERS

It's not just how much protein, it's how well your body can use it.

High-quality, highly digestible proteins with a complete amino acid profile deliver superior nutrition, better results and greater consumer trust.



QUALITY PROTEIN =
BETTER DIGESTION,
BETTER ABSORPTION,
BETTER OUTCOMES.



1. WHAT IS PROTEIN QUALITY?



COMPLETE AMINO ACID PROFILE

Contains all essential amino acids in the right amounts.



HIGH DIGESTIBILITY

Easily broken down and absorbed by the body.



HIGH UTILIZATION

Efficiently used for muscle building, repair and overall health.

2. QUALITY MAKES THE DIFFERENCE

LOW QUALITY PROTEIN



- ✗ Incomplete amino acid profile
- ✗ Poor absorption & low digestibility
- ✗ Lower muscle protein synthesis
- ✗ More waste (urea nitrogen) & lower bioavailability
- ✗ Limited health benefits

VS

HIGH QUALITY PROTEIN



- ✓ Complete amino acid profile
- ✓ Better absorption & high digestibility
- ✓ Higher muscle protein synthesis
- ✓ Better nitrogen retention & bioavailability
- ✓ Superior health benefits

3. WHAT CONSUMERS ARE LOOKING FOR



REAL RESULTS

Visible benefits in performance, body composition and overall wellness.



CLEAN & TRANSPARENT

High-quality sources with clean labels and no unnecessary ingredients.



EASY ON THE BODY

Light, easy to digest, and suitable for everyday consumption.



TRUSTED BRANDS

Science-backed quality they can rely on every time.

4. QUALITY DRIVES BETTER OUTCOMES



MORE MUSCLE
& STRENGTH



STRONGER
IMMUNE SYSTEM



FASTER RECOVERY
& PERFORMANCE



HEALTHY AGING
& LONGEVITY

5. KEY FACTS



Higher digestibility leads to greater amino acid absorption.



Higher DIAAS correlates with higher muscle protein synthesis and better outcomes.



Consumers are willing to pay more for high-quality, effective protein.



Premium quality creates stronger brand trust and loyalty.

6. IMPLICATION FOR CLEAR PROTEIN BEVERAGES



CHOOSE HIGH
QUALITY
SOURCES



MAXIMIZE
DIGESTIBILITY
& ABSORPTION



DELIVER COMPLETE
AMINO ACID
NUTRITION



CREATE SUPERIOR
TASTE, TEXTURE
& CLARITY



MEET CONSUMER
EXPECTATIONS &
DRIVE LOYALTY



QUALITY PROTEIN. REAL BENEFITS. LASTING IMPACT.



BEYOND CLARITY, BEYOND EXPECTATIONS. DELIVER NUTRITION THAT TRULY WORKS.

FORMULATION CHALLENGES IN CLEAR PROTEIN

Delivering clarity, taste and nutrition in perfect balance is not easy.

Clear protein beverages must overcome multiple formulation hurdles to achieve great taste, complete nutrition, and long-term stability.

“Formulating clear protein is more than removing cloudiness—it’s about creating an exceptional experience.”



KEY FORMULATION CHALLENGES



1. PROTEIN SOLUBILITY

Achieving high protein content without haze, precipitation or sedimentation.



2. CLARITY & STABILITY

Maintaining crystal-clear appearance during processing and shelf life under various conditions.



3. TASTE & AFTERTASTE

Masking bitterness or off-notes from proteins, sweeteners and functional ingredients.



4. FUNCTIONAL PERFORMANCE

Delivering benefits such as hydration, electrolytes, and bioactives without compromising clarity or taste.



5. SHELF-LIFE & PROCESSING

Ensuring stability through heat treatment, carbonation, and extended shelf life.



6. COST & SCALABILITY

Balancing cost of high-quality ingredients and scalable manufacturing while maintaining quality.

WHY IT'S COMPLEX



Proteins are naturally large molecules that can cause cloudiness.



Heat, pH, minerals and processing can affect stability.



Flavor, sweetness and acidity must be perfectly balanced.



Functionality and nutrition must be delivered together.



Each ingredient interaction can impact the system.

CRITICAL SUCCESS FACTORS



RIGHT PROTEIN SOURCE

- Highly soluble proteins
- Excellent amino acid profile



ADVANCED FORMULATION

- Ingredient synergy
- Optimal pH & ionic balance



TASTE ENGINEERING

- Natural flavors & sweetness
- Bitterness management



PROCESS EXCELLENCE

- Low-temp processing
- Filtration & stability control



RIGOROUS TESTING

- Stability under real conditions
- Sensory & consumer validation

IMPACT OF SOLVING FORMULATION CHALLENGES



SUPERIOR PRODUCT EXPERIENCE

Clear, refreshing, great-tasting and easy to drink.



STRONGER CONSUMER TRUST

High-quality, safe, and effective products consumers can rely on.



BRAND DIFFERENTIATION

Stand out in a crowded market with innovative, premium offerings.



SUSTAINABLE GROWTH

Drive repeat purchase, loyalty and long-term success.

KEY TAKEAWAY



Formulation is where science meets art.

Overcoming these challenges is the key to creating clear protein beverages that are not only beautiful to look at, but truly deliver on nutrition and wellness.

WHAT CONSUMERS EXPECT



CLEAR & REFRESHING



GREAT TASTE



HIGH QUALITY PROTEIN



FUNCTIONAL BENEFITS



SAFE & TRUSTED



BEHIND EVERY GREAT CLEAR PROTEIN BEVERAGE IS A SMART, SCIENTIFIC FORMULATION.

FROM CHALLENGE TO CLARITY. FROM SCIENCE TO SUCCESS.

PROTEIN BLENDING STRATEGY

The right blend. The right balance. The right benefits.

Smart protein blending combines the strengths of different protein sources to deliver optimal functionality, superior nutrition, and exceptional sensory properties in clear protein beverages.

“ No single protein is perfect. But the right blend can be powerful. Synergy creates performance. ”



WHY BLEND PROTEINS?



COMPLETE AMINO ACID PROFILE

Combine proteins to complement amino acid profiles for better nutritional quality.



ENHANCED FUNCTIONALITY

Improve solubility, stability, emulsification, and viscosity control.



BETTER TASTE & MOUTHFEEL

Mask off-notes and achieve a clean, light taste with smooth mouthfeel.



COST & SUSTAINABILITY ADVANTAGE

Optimize cost and support sustainable protein sourcing.

PROTEIN SOURCES: STRENGTH & CONSIDERATION

Protein Source	Strengths	Considerations
 Whey Protein Isolate (WPI)	• High leucine, BCAA • Excellent digestibility • Superior solubility & clarity	• Higher cost • Dairy source
 Pea Protein Isolate	• Plant-based • Good solubility • Allergen friendly	• Lower methionine • Beany notes
 Rice Protein Isolate	• Hypoallergenic • Easy to digest • Light flavor	• Low lysine • Lower functionality
 Soy Protein Isolate	• Complete protein • Good functionality • Cost-effective	• Beany flavor • Allergen (soy)
 Collagen Peptides	• Excellent solubility • Good for skin, joint, gut • Neutral taste	• Low tryptophan • Not a complete protein

EXAMPLE BLENDING APPROACH

Target: Clear, refreshing, 20g protein beverage



NUTRITIONAL SYNERGY

Combining complementary amino acids improves overall protein quality (DIAAS) and supports muscle, recovery and wellness.

KEY FORMULATION CONSIDERATIONS



SOLUBILITY & CLARITY

Select highly soluble proteins and optimize pH & ionic strength.



TASTE MASKING

Use sweeteners, natural flavors, and bitterness modulators.



STABILITY SYSTEM

Optimize heat stability, pH, and storage stability.



PROCESS COMPATIBILITY

Ensure proteins perform well with HPP, filtration, and bottling.

PROTEIN BLENDING MATRIX: FIND YOUR OPTIMAL COMBINATION

Goal		Recommended Blend					Key Benefits
	MAXIMUM NUTRITION	WPI	+	Pea	+	Rice	Complete amino acids, high DIAAS, excellent muscle support
	BEST TASTE & CLARITY	WPI	+	Rice	+	Collagen	Light taste, high clarity, smooth mouthfeel
	PLANT-BASED SOLUTION	Pea	+	Rice	+	Soy	100% plant-based, sustainable & allergen-friendly
	COST OPTIMIZATION	Soy	+	Pea	+	Rice	Balanced cost, good functionality, broad availability



FORMULATOR'S CHECKLIST

- ✓ Define product positioning & target consumers
- ✓ Select protein sources based on functionality & cost
- ✓ Optimize blend ratio for nutrition & performance
- ✓ Evaluate solubility, clarity, stability & taste
- ✓ Validate with DIAAS, sensory & shelf-life testing
- ✓ Scale up with consistent quality & supply

KEY TAKEAWAY



The power of blending unlocks the potential of every protein.

A smart blend delivers complete nutrition, outstanding sensory, and winning performance in every clear protein beverage.



SMART BLEND



SUPERIOR NUTRITION



GREAT TASTE



FUNCTIONAL & STABLE



SUSTAINABLE CHOICE



CONSUMER TRUST

GUT-KIDNEY AXIS & METABOLIC BURDEN

A Hidden Connection. A Powerful Opportunity.

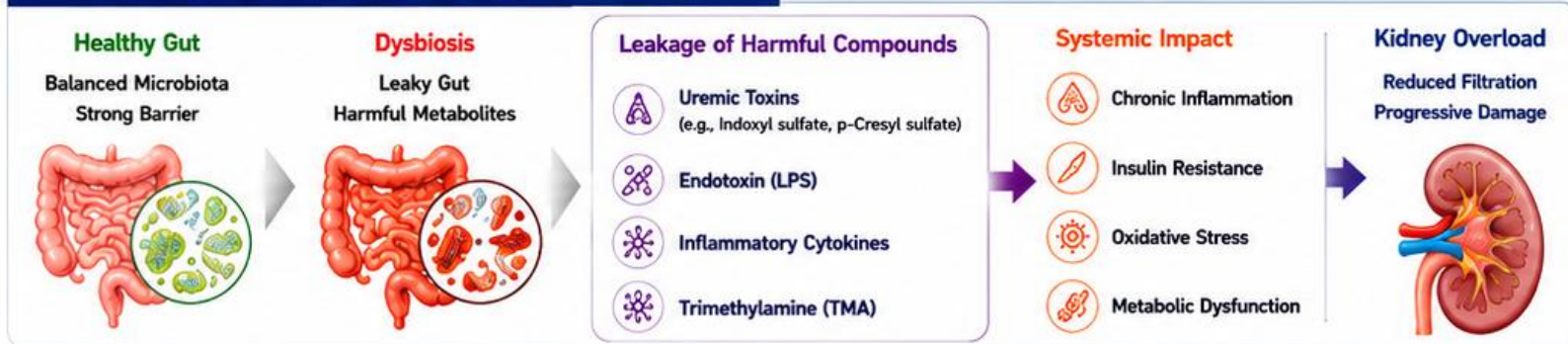
An imbalanced gut can increase metabolic burden and put extra stress on the kidneys.

Clear protein beverages can help restore balance, reduce burden, and support long-term wellness.

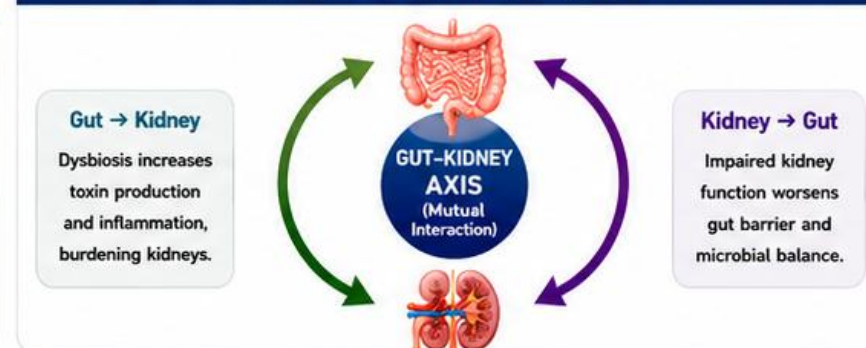
“ When the gut is imbalanced, the kidneys pay the price. Support your gut. Protect your kidneys. Power your metabolism. ”



1. GUT IMBALANCE DRIVES METABOLIC BURDEN



2. GUT-KIDNEY AXIS: THE TWO-WAY STREET



3. METABOLIC BURDEN: SIGNS YOU SHOULDN'T IGNORE



4. HOW CLEAR PROTEIN BEVERAGES HELP



5. KEY NUTRIENTS THAT MAKE A DIFFERENCE



KEY TAKEAWAY

A HEALTHY GUT LIGHTENS THE LOAD ON YOUR KIDNEYS.

Clear protein beverages help restore gut balance, reduce metabolic burden, and protect kidney health for a better, healthier you.



WHY CLEAR BEVERAGES ARE DIFFICULT

Delivering clarity while achieving great taste, nutrition and stability is a complex balancing act.

Unlike opaque beverages, clear protein drinks leave no room to hide imperfections. Every ingredient, process and interaction matters.

“Clarity is unforgiving. It reveals everything—formulation, process, and sourcing.”



7 KEY REASONS CLEAR BEVERAGES ARE HARD TO PERFECT

1 PROTEIN SOLUBILITY



Most proteins are difficult to dissolve at high levels without causing haze, precipitation or sedimentation.

Key Challenge

Achieving high protein content with crystal-clear appearance.

2 HEAT, pH & ION SENSITIVITY



Proteins are sensitive to heat, pH changes and mineral content, which can cause instability and turbidity.

Key Challenge

Maintaining stability across processing and shelf life.

3 OFF-NOTES & AFTERTASTE



Protein hydrolysates or isolates can bring bitterness, astringency or beany notes that are easily detected in clear formats.

Key Challenge

Masking off-notes without adding opacity or sugar.

4 FLAVOR & SWEETNESS BALANCE



Clear beverages require a delicate balance—too much flavor or sweetener can cause flavor clash or lingering aftertaste.

Key Challenge

Delivering a clean, refreshing taste with the right balance.

5 FUNCTIONAL INGREDIENT INTERACTIONS



Vitamins, minerals, acids, electrolytes and bioactives can interact with proteins or each other, impacting clarity and stability.

Key Challenge

Ensuring ingredient compatibility in a complex system.

6 PROCESSING CONSTRAINTS



High heat, shear, or improper filtration can denature proteins or introduce microbubbles that cause haze over time.

Key Challenge

Optimizing process to protect protein structure and clarity.

7 SHELF-LIFE STABILITY



Over time, proteins can aggregate, flavors can degrade, and color or clarity can change due to chemical or physical reactions.

Key Challenge

Delivering long-term clarity and quality.

WHAT CAN GO WRONG?



HAZE / CLOUDINESS

Poor solubility or aggregation.



PRECIPITATION / SEDIMENTATION

Instability from pH, heat or mineral interaction.



BITTERNESS / ASTRINGENCY

Unpleasant taste and aftertaste.



COLOR CHANGE

Ingredient reactions or oxidation.



FOAMING / AERATION

Introduced air leads to turbidity.



SHORT SHELF LIFE

Loss of clarity, taste and nutrition over time.



THE RESULT IF NOT DONE RIGHT



POOR VISUAL APPEAL



POOR TASTE EXPERIENCE



LOW CONSUMER TRUST



REDUCED REPEAT PURCHASE



LIMITED MARKET SUCCESS



MAKING A GREAT CLEAR BEVERAGE REQUIRES SCIENCE, EXPERIENCE AND PRECISION AT EVERY STEP.

KEY TAKEAWAY



Clear protein beverages are among the most challenging to formulate. Overcoming these challenges is the key to delivering a clear, clean, nutritious and great-tasting experience.



SCIENCE MATTERS



DETAILS MATTER



PROCESS MATTERS



STABILITY MATTERS



CONSUMER TRUST MATTERS



BEHIND EVERY GREAT CLEAR PROTEIN BEVERAGE IS EXPERTISE, INNOVATION AND RELENTLESS ATTENTION TO DETAIL.

CHALLENGING TO CREATE. WORTH IT TO GET RIGHT.

CLARITY TECHNOLOGY TOOLBOX

Science. Precision. Innovation. Every Step Matters.

Our integrated technology toolbox addresses every challenge behind crystal-clear, great-tasting, nutritious and stable clear protein beverages.

“ Clarity is engineered, not accidental. The right technologies. Applied with precision. Delivering excellence. ”



THE CLARITY TECHNOLOGY TOOLBOX

1 PROTEIN SELECTION & PURIFICATION



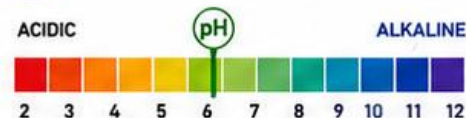
- Select highly soluble, low off-note proteins
- Advanced purification to remove impurities
- High protein content with natural clarity

2 FILTRATION TECHNOLOGIES



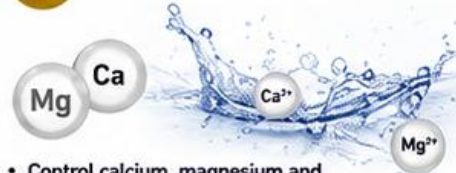
- Remove haze, microbes and impurities
- Optimize pore size for maximum clarity and minimal protein loss

3 pH OPTIMIZATION



- Protein remains stable and soluble at optimal pH
- Minimize aggregation and precipitation
- Enhance taste and stability

4 MINERAL MANAGEMENT



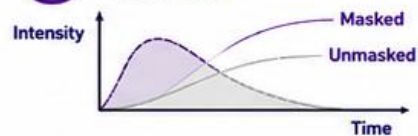
- Control calcium, magnesium and trace minerals
- Prevent haze and precipitation
- Improve stability and mouthfeel

5 ENCAPSULATION TECHNOLOGY



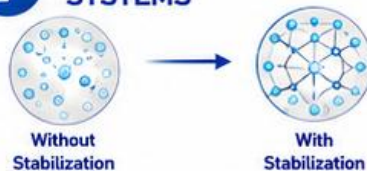
- Encapsulate sensitive nutrients, flavors and bioactives
- Protect from interaction and degradation
- Enable clarity with functionality

6 FLAVOR MASKING SYSTEMS



- Mask bitterness, astringency & off-notes
- Use natural flavors, sweeteners, and modulators
- Deliver clean, refreshing taste

7 STABILIZATION SYSTEMS



- Hydrocolloids & natural stabilizers
- Prevent aggregation and separation
- Maintain clarity and smooth mouthfeel

8 HPP / ASEPTIC PROCESSING



- High Pressure Processing (HPP) for microbiological safety
- Aseptic processing & sterile filling
- Preserve nutrients, taste and clarity

9 SHELF-LIFE ENHANCEMENT



- Prevent protein aggregation over time
- Control pH, minerals, oxygen & light
- Ensure long-term clarity and quality

10 AI-DRIVEN FORMULATION DESIGN



- Predict ingredient interactions & stability
- Optimize formulations faster
- Data-driven innovation for superior clear protein beverages

KEY TAKEAWAY



CLARITY IS THE RESULT OF SMART TECHNOLOGY + PRECISE EXECUTION.

Our end-to-end technology toolbox ensures that every ingredient, every process and every step works in harmony to deliver crystal-clear perfection.



CRYSTAL CLEAR APPEARANCE



GREAT TASTE
NO OFF-NOTES



NUTRITION PRESERVED



LONG SHELF-LIFE & STABILITY



TRUST & SATISFACTION EVERY TIME



SCIENCE BEHIND CLARITY.

TECHNOLOGY DELIVERS POSSIBILITY.

INNOVATION CREATES THE FUTURE.

BEYOND CLARITY. BEYOND EXPECTATIONS.



TASTE ARCHITECTURE

Designing the perfect balance of great taste and wellness.

Our Taste Architecture approach brings science and creativity together to deliver clean, refreshing flavor, mask off-notes, and leave a delightful aftertaste that drives consumer acceptance.

“Great taste is not a bonus.
It's the bridge between
science and consumer
acceptance.”



1. AMINO ACID



Build a pleasant taste foundation and mouthfeel.

- Enhance umami & savoriness
- Improve mouthfeel & body
- Mask bitterness & astringency
- Support overall taste harmony

Key Amino Acids

L-Leucine | L-Valine | L-Glutamine
Glycine | L-Arginine | L-Lysine

2. FLAVOR



Create signature flavor and sensory appeal.

- Deliver natural & refreshing notes
- Enhance top notes and aroma
- Provide flavor complexity
- Support brand differentiation

Flavor Sources



Citrus



Fruit



Botanical



Herbal

3. ACID SYSTEM



Bring brightness, balance and refreshment.

- Provide tartness & brightness
- Balance sweetness & bitterness
- Enhance flavor release
- Support product stability

Common Acid System



Citric Acid



Malic Acid



Lactic Acid



Phosphoric Acid

4. TASTE MODULATION



Refine and perfect every sensory detail.

- Mask off-notes (bitterness, astringency, beany, metallic)
- Round and smooth mouthfeel
- Extend sweetness & aftertaste
- Deliver clean, lingering finish

Taste Modulation Tools



Sweeteners



Bitterness Blockers



Mouthfeel Enhancers



Flavor Modulators

= CONSUMER ACCEPTANCE



**Great Taste.
Stronger Connection.
Repeat Purchase.**

When taste is right,
consumers choose, trust,
and come back.

THE TASTE EXPERIENCE JOURNEY



1. LOOK

Clear, appealing
and refreshing
visual.



2. AROMA

Pleasant, natural
and inviting
aroma.



3. TASTE

Balanced, clean
taste with no
off-notes.



4. MOUTHFEEL

Smooth, light
and satisfying
mouthfeel.



5. AFTERTASTE

Clean, refreshing
and pleasant
finish.

KEY SUCCESS FACTORS



SCIENCE-BASED

Data-driven
formulation and
sensory science.



PRECISION BALANCE

The right amount
of each element
matters.



HIGH QUALITY

Premium ingredients
ensure better taste
and stability.



CONSUMER INSIGHT

Continuous testing
and feedback drive
better acceptance.

KEY TAKEAWAY



Taste Architecture is the science and art of balancing Amino Acid, Flavor, Acid System and flavor of clear protein beverages that consumers love and choose.



BALANCED TASTE



MASK OFF-NOTES



REFRESHING FINISH



CONSUMER ACCEPTANCE



BRAND LOYALTY

GREAT SCIENCE BUILDS THE FOUNDATION.

SMART TASTE BUILDS THE CONNECTION.

CONSUMER ACCEPTANCE DRIVES THE FUTURE.

BEYOND CLARITY, BEYOND EXPECTATIONS.



FLAVOR OXIDATION MANAGEMENT

Protecting freshness. Preserving taste. Delivering delight.

Flavor compounds in clear beverages are highly susceptible to oxidation, which can lead to off-notes, color changes, and loss of freshness.

A multi-barrier approach is essential to protect flavor integrity from production to consumption.

“Oxidation is invisible. Its impact is not. Protect what matters. Deliver the taste consumers love.”



1. RISKS: WHAT CAUSES FLAVOR OXIDATION?

O₂

OXYGEN



- Dissolved oxygen accelerates oxidation of flavor compounds
- Enters during mixing, filling, and headspace



LIGHT



- UV and visible light trigger photo-oxidation of sensitive flavors
- Causes off-notes and color changes



HEAT



- High temperature speeds up chemical reactions
- Causes degradation and loss of freshness

Me

METALS



- Trace metals catalyze oxidation reactions
- Common from water, raw materials, and equipment

2. SOLUTIONS: MULTI-BARRIER PROTECTION

ANTIOXIDANTS

Scavenge free radicals and slow oxidation



- Vitamin C (Ascorbic Acid)
- Vitamin E (Tocopherols)
- Rosemary Extract
- Green Tea Extract
- Natural Polyphenols

Delay oxidation
Preserve flavor freshness

CHELATION

Bind metal ions and inhibit catalysts



- EDTA, DTPA
- Citric Acid
- Phytic Acid
- Natural Chelators

Sequester metals
Stop oxidation at the source

PACKAGING

Protect from oxygen, light and heat



- Oxygen barrier bottles
- Light-blocking materials
- Nitrogen flushing
- Airtight sealing

Create a protective shield
from the outside in

3. THE RESULT: FLAVOR INTEGRITY DELIVERED



Science-backed protection.
Better taste. Greater trust. Stronger brand.

EXAMPLES OF OXIDATION-SENSITIVE FLAVOR COMPOUNDS



CITRUS TERPENES
(Limonene)



ESTERS
(Ethyl Butyrate)



ALDEHYDES
(Vanillin)



GREEN & HERBAL
NOTES



BERRY
ANTHOCYANINS



TROPICAL
LACTONES



TEA
POLYPHENOLS

BEST PRACTICES ACROSS THE PROCESS



CONTROL DISSOLVED
OXYGEN



USE ANTIOXIDANTS
& CHELATORS



OPTIMIZE PACKAGING
& HEADSPACE



CONTROL TEMPERATURE
EXPOSURE



MONITOR & TEST
REGULARLY

KEY
TAKEAWAY



Flavor oxidation is a major threat to taste and quality. Managing oxygen, light, heat and metals with the right solutions ensures fresh, stable, and great-tasting clear beverages that consumers love—every time.



PRESERVE FLAVOR
INTEGRITY



EXTEND SHELF-LIFE
NATURALLY



IMPROVE CONSUMER
EXPERIENCE



BUILD BRAND TRUST
& LOYALTY



DRIVE MARKET
DIFFERENTIATION



PROTECT FLAVOR.

PRESERVE FRESHNESS.

DELIVER DELIGHT.

SMART PROTECTION. SUPERIOR TASTE.

BEYOND CLARITY. BEYOND EXPECTATIONS.



PACKAGING & SHELF-LIFE

Protect what's inside. Deliver quality over time.

Clear protein beverages are sensitive to oxygen, light, heat and time. Smart packaging choices combined with stability strategies are essential to maintain freshness, taste, nutrition and safety—until the last sip.

“Great packaging protects more than a product—it protects the promise of quality.”



1. KEY FACTORS THAT IMPACT SHELF-LIFE

O₂ OXYGEN BARRIER Oxygen accelerates oxidation of flavors, lipids, vitamins and amino acids.  • Causes off-notes and rancidity • Degrades color, aroma and nutrients • Promotes microbial growth	LIGHT PROTECTION UV and visible light trigger photo-oxidation of flavors and sensitive nutrients.  • Fades color and clarity • Breaks down vitamins and bioactives • Alters flavor profile	STABILITY Physical, chemical and microbial stability are critical to prevent quality loss over time.  • Protein aggregation & precipitation • pH shifts and phase separation • Microbial growth and spoilage
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2. SMART PACKAGING SOLUTIONS

PET BOTTLE (High Barrier)  Lightweight, shatter-resistant, recyclable with advanced barrier coatings.	TINTED PET BOTTLE  Blocks UV light, protects flavor and sensitive nutrients.	ALUMINUM BOTTLE  Excellent barrier to light and oxygen, premium look, 100% recyclable.	CARTON (Aseptic)  Multi-layer barrier, protects from light and oxygen; ideal for aseptic filling.	POUCH (High Barrier)  Lightweight, portable, high barrier, lower carbon footprint for on-the-go.
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3. SHELF-LIFE ENHANCEMENT STRATEGIES

 ANTIOXIDANTS • Natural & synthetic antioxidants • Scavenge free radicals • Protect flavor & nutrients	 CHELATION • Bind pro-oxidant metal ions • Inhibit oxidation • Improve stability	 pH & FORMULATION OPTIMIZATION • Optimal pH for protein stability • Balanced formulation for clarity and taste	 FILTRATION & MICROBIAL CONTROL • Remove microbes and impurities • Extend shelf-life safely	 COLD CHAIN & TEMPERATURE CONTROL • Minimize heat exposure • Preserve quality during storage & transport	 STABILITY TESTING & MONITORING • Accelerated & real-time stability testing • Continuous quality monitoring
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4. SHELF-LIFE IMPACT: WHAT YOU GAIN

 LONGER SHELF-LIFE Reduce waste, increase distribution flexibility	 CONSISTENT QUALITY TO LAST SIP Same great taste, clarity and nutrition every time	 HIGHER CONSUMER SATISFACTION Build trust and encourage repeat purchase	 STRONG BRAND REPUTATION Deliver on promises of quality and reliability	 BETTER BUSINESS PERFORMANCE Lower returns, higher loyalty, sustainable growth
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KEY TAKEAWAY



Packaging is part of the product.

By controlling oxygen, light and stability factors with the right packaging and strategies, we extend shelf-life and deliver a consistently great experience.

TOP PRIORITY: OXYGEN CONTROL + LIGHT PROTECTION + STABILITY ASSURANCE



PROTECT FLAVOR



PRESERVE NUTRITION



EXTEND SHELF-LIFE



DELIGHT CONSUMERS



SMART PACKAGING. STRONGER PROTECTION.

LONGER SHELF-LIFE. BETTER EXPERIENCE.

BEYOND CLARITY. BEYOND EXPECTATIONS.



INNOVATION KPI DASHBOARD

Measuring what matters. Driving continuous innovation.

Our KPI framework tracks performance across the 5 critical dimensions that define successful clear protein beverages—from lab to consumer.

“What gets measured, gets improved.
Data drives innovation.
Innovation creates impact.”



1. CLARITY

Visual perfection that builds trust

KEY KPI

% TRANSMITTANCE (T600)

≥ 95%

ADDITIONAL METRICS

HAZE (NTU) ≤ 1.0

VISIBLE PARTICLES (>10 µm/mL) ≤ 50

TARGET

Crystal-clear appearance throughout shelf-life

2. TASTE

Great taste that keeps consumers coming back

KEY KPI

OVERALL TASTE SCORE (9-POINT HEDONIC)

≥ 7.5/9

ADDITIONAL METRICS

OFF-NOTE INTENSITY (0-9) ≤ 2.0

FLAVOR INTENSITY (0-9) 6.0 – 8.0

TARGET

Pleasant, refreshing taste with minimal off-notes

3. FUNCTIONALITY

Deliver protein & nutrients effectively

KEY KPI

PROTEIN QUALITY SCORE (DIAAS)

≥ 100%

ADDITIONAL METRICS

PROTEIN CONTENT (LABEL CLAIM) ≥ 100%

AMINO ACID SCORE ≥ 100%

DIGESTIBILITY (%) ≥ 90%

TARGET

High-quality protein delivery with optimal bioavailability

4. SHELF-LIFE

Stable quality from first to last sip

KEY KPI

QUALITY RETENTION @ END OF SHELF-LIFE

≥ 90%

ADDITIONAL METRICS

MICROBIAL STABILITY (CFU/mL) PASS

OXIDATION (PV) (meq O₂/kg) ≤ 5.0

pH STABILITY (ΔpH) ≤ 0.2

TARGET

Maintain quality, safety and taste throughout shelf-life

5. CONSUMER ACCEPTANCE

Win hearts. Build loyalty. Drive repeat purchase.

KEY KPI

OVERALL LIKING SCORE (9-POINT HEDONIC)

≥ 7.0/9

ADDITIONAL METRICS

PURCHASE INTENT (5-POINT SCALE) ≥ 4.0

REPEAT PURCHASE RATE (%) ≥ 40%

NET PROMOTER SCORE (NPS) ≥ 30

TARGET

High acceptance and strong repeat purchase

INNOVATION AT A GLANCE

CLARITY

TASTE

FUNCTIONALITY

SHELF-LIFE

CONSUMER ACCEPTANCE

95%

7.8/9

102%

92%

7.4/9

OVERALL INNOVATION SCORE

★★★★★

4.6 / 5.0

Exceeding expectations. Delivering impact.

FUTURE FORMATS

New formats. New experiences. New opportunities.

Innovation in format expands how clear beverages fit into daily life—delivering convenience, functionality and delight in every sip, bite and serve.

“ The future of clear beverages lies in formats that adapt to lifestyles and elevate wellness. ”



1. RTD (READY-TO-DRINK)

Drink it. Anywhere. Anytime.

Crystal clear. Light. Refreshing. Functional.

- Convenience & portability
- High protein & low sugar
- Electrolytes & hydration
- Targeted functional benefits (gut health, beauty, metabolic support)
- Perfect for active & on-the-go lifestyles

EXAMPLES

Post-workout recovery
 Everyday wellness
 Morning routine
 Travel & commute

2. CLEAR GEL

Spoonable clarity. Satisfying & light.

A new way to enjoy protein and nutrients in a refreshing gel experience.

- Low calorie, high satisfaction
- Easy digestion & good mouthfeel
- Protein, collagen & beauty benefits
- Fortified with vitamins, minerals and functional actives
- Great for snack, dessert or meal balance

EXAMPLES

Beauty from within
 Protein snack
 Dessert alternative
 Nighttime nutrition

3. HYDROGEL

Science in every bite. Sustained. Smart.

3D hydrogel matrix for controlled release and enhanced functionality.

- Controlled release of actives
- Support gut health & microbiome
- Enhanced bioavailability
- Satiety & metabolism support
- Advanced format for next-gen wellness

EXAMPLES

Microbiome support
 Vitamins & mineral delivery
 Metabolic health
 Cognitive support

4. POWDER BEVERAGE

Mix. Go. Your clear choice.

Lightweight. Customizable. Functional. Sustainable.

- Easy to mix & customize
- Longer shelf-life & lower carbon footprint
- High protein, low sugar
- Adaptable to multiple benefits
- Ideal for travel, storage & e-commerce

EXAMPLES

Daily nutrition
 Travel pack
 Workplace wellness
 Home use

CROSS-FORMAT BENEFITS

Crystal clarity you can trust
 Great taste with no compromise
 Functional nutrition that works
 Clean label & transparency
 Sustainable & responsible
 Science-backed performance
 Built for the future of wellness

KEY TAKEAWAY

The future of clear beverages is format innovation. More ways to enjoy. More benefits to unlock. More lives to elevate.

Fits every lifestyle
 Delivers real benefits
 Creates meaningful connections
 Drives brand differentiation

FUTURE INGREDIENTS

The Next Generation of Functional Ingredients for Clear Wellness Beverages

From nutrition delivery → to biological performance.

Future clear beverages will combine advanced functional ingredients that support gut health, metabolic resilience, longevity, cognitive function, and personalized wellness.

“ Advanced ingredients.
Better science.
Stronger impact.
Clearer benefits. ”



1 POSTBIOTICS The Next Evolution Beyond Probiotics

Bioactive compounds produced during microbial fermentation

- Short-chain fatty acids (SCFAs)
- Peptides
- Cell wall components
- Exopolysaccharides
- Metabolites

KEY BENEFITS

- ✓ Gut Barrier Support
- ✓ Immune Modulation
- ✓ Metabolic Health
- ✓ Improved Stability
- ✓ Suitable for Clear Beverages

WHY IMPORTANT?

- Unlike probiotics:
- ✓ No viability concerns
 - ✓ Heat stable
 - ✓ Shelf stable
 - ✓ Easy to formulate

2 PRECISION STRAINS Targeted Microbiome Solutions

Next-generation beneficial microbes selected for specific health outcomes



METABOLIC HEALTH

- Akkermansia muciniphila
- Bifidobacterium adolescentis



GUT HEALTH

- Bifidobacterium longum
- Lactobacillus plantarum



MENTAL WELLNESS

- Bifidobacterium infantis
- Lactobacillus rhamnosus



HEALTHY AGING

- Faecalibacterium prausnitzii



FERMENTED INGREDIENTS Natural Bioavailability Enhancement

Fermentation transforms ingredients into more bioactive forms.



FERMENTED PLANT PROTEIN

- ↑ Digestibility
- ↑ Solubility
- ↓ Bitterness



FERMENTED BOTANICALS

- ↑ Polyphenol bioavailability



FERMENTED AMINO ACIDS

- ↑ Absorption
- ↑ Functional efficacy



FERMENTED FIBERS

- ↑ Prebiotic effects



AMINO ACID SYSTEMS Precision Functional Nutrition

Instead of single amino acids, future products will use targeted amino acid systems.



MUSCLE RECOVERY

- Leucine
- Isoleucine
- Valine (BCAAs)



HEALTHY AGING

- Leucine
- Lysine
- Arginine



GUT INTEGRITY

- Glutamine
- Threonine
- Glycine



COGNITIVE PERFORMANCE

- Tyrosine
- Tryptophan
- Taurine



BRANDED FUNCTIONAL SYSTEMS Science-Backed Ingredient Platforms

Future premium products will increasingly rely on branded ingredients with clinical evidence.



GUT HEALTH

PreforPro®
CoreBiome®
EpiCor®



METABOLIC HEALTH

InSea2®
Morosil®



COGNITIVE HEALTH

Cognizin®
Sharp-PS®



BEAUTY FROM WITHIN

Verisol®
BioCell Collagen®



INNOVATION CONVERGENCE



+



+



+



+



=



NEXT-GENERATION CLEAR WELLNESS BEVERAGES

Personalized • Evidence-Based • Functional • Premium



KEY TAKEAWAY

The future of clear beverages will be defined not by what consumers can see—
but by what advanced ingredients can do inside the body.



From clear appearance → to clear biological benefits.



PERSONALIZED CLEAR BEVERAGE

FUTURE VISION: THE RIGHT FORMULA. FOR THE RIGHT PERSON. AT THE RIGHT TIME.

The future of hydration is not one-size-fits-all. By combining science, technology and personal insights, we create clear beverages that are precisely designed for **YOU**.

“ Personalization turns nutrition into relevance. Relevance drives results. Results build lifelong loyalty. ”



HYDRATION BY



LIFESTYLE

Work, travel, stress, sleep, dietary preference and more



AGE

Kids, adults, active agers, senior wellness



ACTIVITY

Daily movement, training intensity, recovery needs



BIOMARKERS

Lab data, microbiome, metabolites, genetics, hormones and more

THE PERSONALIZATION JOURNEY



1. ASSESS

Collect personal data & health insights



2. ANALYZE

AI & data science identify needs and opportunities



3. FORMULATE

Precisely matched formula for hydration, nutrition and function



4. DELIVER

Your personalized clear beverage, ready to enjoy



5. TRACK & ADAPT

Continuous monitoring and optimization for better outcomes



YOU



Right ingredients
Right dose



Right time
Right format



= Better hydration
Better health
Better you

EXAMPLES OF PERSONALIZED CLEAR BEVERAGE SOLUTIONS

ACTIVE PERFORMER High Energy & Recovery



- Electrolytes
- BCAAs
- Creatine
- Citrulline
- Taurine

Supports performance, endurance & recovery

FOCUS PROFESSIONAL Cognitive & Mental Clarity



- L-Theanine
- Tyrosine
- B Vitamins
- Omega-3
- Magnesium

Supports focus, mood & productivity

GUT BALANCE Digestive & Immune Support



- Postbiotics
- Prebiotics
- Zinc
- Vitamin D
- Glutamine

Supports gut health, immunity & comfort

AGING WELL Longevity & Vitality



- Collagen Peptides
- NMN
- Antioxidants
- CoQ10
- Vitamin C

Supports cellular health, vitality & healthy aging

KEY BENEFITS



MADE FOR YOU

Tailored to your biology and lifestyle



MAXIMIZED BENEFITS

Right nutrients in the right amount



SMART & SAFE

Science-backed and continuously optimized



FLEXIBLE & ADAPTIVE

Evolves with your goals and health changes



SUSTAINABLE WELLNESS

Long-term results, not short-term trends

POWERED BY INNOVATION



AI & DATA SCIENCE



BIOMARKER ANALYTICS



MICROBIOME INSIGHTS



PRECISION NUTRITION



OUR VISION: EMPOWER EVERY PERSON WITH THEIR PERFECT HYDRATION.

PERSONALIZED TODAY.

HEALTHIER TOMORROW.

BETTER EVERY DAY.



KEY TAKEAWAYS

From a Visual Trend to a Science-Driven Wellness Platform

“Great beverages are clear in appearance—and even clearer in purpose and impact.”



1

CLEAR IS MORE THAN APPEARANCE



Clarity is not just aesthetics.

Today's consumers associate clear beverages with:

- ✓ Clean label
- ✓ Transparency
- ✓ Premium quality
- ✓ Better-for-you choices
- ✓ Modern wellness



CLEAR = TRUST + SIMPLICITY + FUNCTION

2

WELLNESS MUST BE EVIDENCE-BASED



Functional claims require scientific validation.

Future winning products will be supported by:

- ✓ Clinical studies
- ✓ Biomarker evidence
- ✓ Mechanistic understanding
- ✓ Human intervention trials
- ✓ Personalized data



SCIENCE CREATES CREDIBILITY

3

PROTEIN QUALITY MATTERS

Not all proteins deliver the same value. Success depends on:



DIGESTIBILITY

- DIAAS
- Bioavailability



AMINO ACID PROFILE

- Essential amino acids
- Leucine threshold



FUNCTIONALITY

- Solubility
- Stability
- Sensory quality



OUTCOME

- Muscle health
- Satiety
- Recovery
- Performance



PROTEIN QUALITY = CONSUMER OUTCOME

4

FUTURE = PERSONALIZATION

One beverage will not fit everyone. Future hydration systems will be designed according to:



LIFESTYLE

Work • Travel
Exercise • Sleep



AGE

Young Adult • Active Adult
Healthy Aging



ACTIVITY

Recovery • Performance
Mental Focus



BIOMARKERS

Microbiome • Metabolomics
Clinical Data



RIGHT INGREDIENT. RIGHT PERSON. RIGHT TIME.

THE FUTURE FORMULA



CLARITY

+



GREAT TASTE

+



HIGH-QUALITY
PROTEIN

+



SCIENCE-BACKED
FUNCTIONALITY

+



PERSONALIZATION

=



NEXT-
GENERATION
WELLNESS
BEVERAGES

MARKET EVOLUTION

PAST



Hydration



PRESENT



Functional
Hydration



FUTURE



Personalized
Wellness Ecosystems

FINAL MESSAGE



“The future of clear beverages is not about making products look better. It is about helping people live better.”



KEY TAKEAWAY



Clear Appearance
Builds Trust



Clear Science
Creates Credibility



Clear Benefits
Improve Lives



Clear Future
Drives Impact

LET'S BUILD A CLEARER FUTURE.
TOGETHER.

Our Total Solution for Research and Innovation

Integrated Platforms | Advanced Science | Expert Team | Comprehensive Solutions



Decoding Flavor, Delivering Innovation

Integrated Platform for
Flavor Research and Innovation

- Key Flavor Identification & Profiling
- Aroma-Taste Identification & Sensory Evaluation
- Prototype Creation & Formulation
- Customized Aroma Kit Development
- Comprehensive Flavor Database & Mapping



- Supporting Foods, Beverages, Ingredients, and Diverse Materials
- State-of-the-Art Flavor and Fragrance Preparation and Analysis
- Comprehensive Flavor Database
- Expert Team
- Rapid Flavor Analysis Platform



Precision Science for Pet Health

An Integrated Platform for Pet
Product Development, Analytical
Testing, and Innovation



One platform that supports the complete development cycle of pet products—from ingredient discovery and formulation to scientific validation and analytical testing.

Our Integrated Workflow



Turning Science into Better Health for Pets



Precision Insights for Better Health

An Integrated Precision Nutrition
Analytics Platform for Preventive
and Personalized Health



Delivering accurate biomarker and metabolite intelligence to enable personalized wellness, gut health optimization, metabolic health monitoring, and proactive disease prevention.

Multi-Omics Services

- Metabolomics
- Gut Microbiome
- Nutrition Profiling
- Biomarker Discovery
- AI-assisted Data Interpretation

Key Applications

- Gut Health
- Metabolic Health
- Weight Management
- Personalized Nutrition
- Disease Risk Reduction

Serving Multiple Industries



Food & Beverage



Health & Nutrition



Cosmetics



Pharmaceuticals



Pet Food



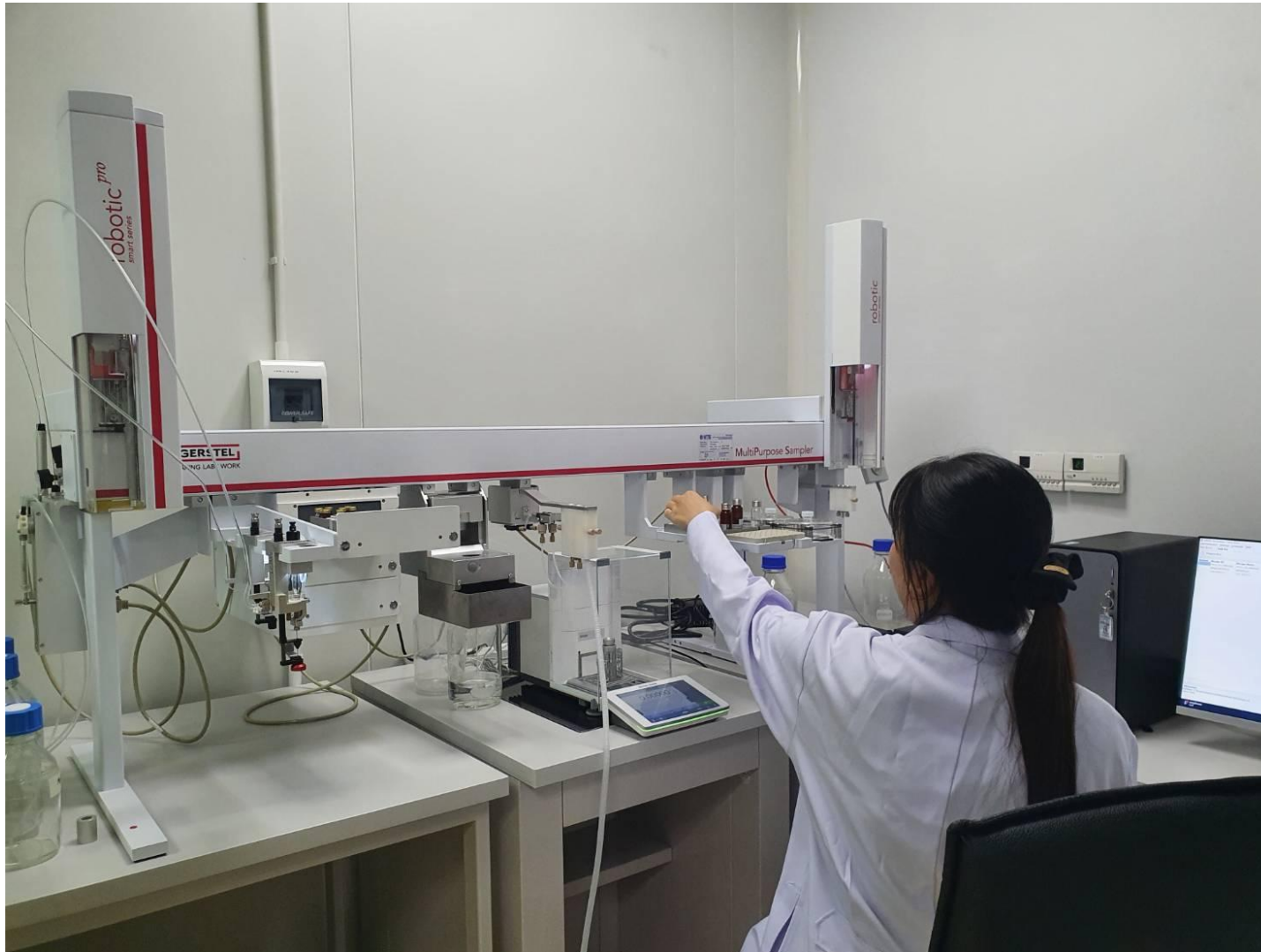
Animal Health



Others

Science-Driven • Innovation-Focused • Better Science, Better Products, Better Lives for All

Sensomics-Based Expert System to Real-world Mango Flavors



Okrung mango



**Nam dok mai
mango**



**Mahachanok
mango**



Precision Insights for Better Health

แพลตฟอร์มบริการวิเคราะห์ทดสอบด้านโภชนาการแม่นยำ
เพื่อการดูแลสุขภาพเชิงป้องกันและเฉพาะบุคคล



Data. Science. Precision. Better Health.



Biomarkers



Gut Microbiome



Metabolomics



Precision Nutrition



Preventive Health

บริการหลักของ PxSERP



1. PRECISION METABOLOMICS

เมแทบอลิโอมิกส์แบบแม่นยำ

วิเคราะห์สารเมแทบอลิโอมิกส์เชิงลึกเพื่อประเมินสถานะสุขภาพ
การทำงานของระบบต่าง ๆ และความเสี่ยงต่อโรค



2. PRECISION GUT HEALTH

สุขภาพลำไส้แบบแม่นยำ

วิเคราะห์องค์ประกอบจุลินทรีย์และเมแทบอลิโอมิกส์ในลำไส้
เพื่อประเมินสุขภาพทางเดินอาหารและสมดุลของไมโครไบโอม



3. PRECISION NUTRITION

โภชนาการเฉพาะบุคคล

ประเมินสารชีวโมเลกุลที่เกี่ยวข้องกับภาวะโภชนาการ
เพื่อปรับสูตรอาหารและอาหารเสริมเฉพาะบุคคล



4. PRECISION HEALTH

สุขภาพเฉพาะบุคคล

วิเคราะห์ตัวบ่งชี้ทางชีวภาพเพื่อประเมินภาวะสุขภาพ
ความเสี่ยงของโรค และการตอบสนองต่อการรักษา



5. DISCOVERY & INNOVATION

การค้นพบชีวเครื่องหมายและนวัตกรรม

ค้นหาชีวเครื่องหมายใหม่และพัฒนางานวิจัยด้วยเทคโนโลยี Multi-omics และ AI



6. BIOMARKERS

สารบ่งชี้ทางชีวภาพ

ค้นหาและตรวจวัด Biomarkers ที่สะท้อนภาวะสุขภาพ ความเสี่ยงโรค
และการตอบสนองต่อการรักษา เพื่อสนับสนุน Precision Medicine และ Preventive Healthcare

ตัวอย่างที่รับวิเคราะห์



เลือด



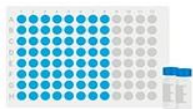
ปัสสาวะ



อุจจาระ



ลำไส้ใหญ่จำลอง
(In Vitro Model)



PRECISION BIOMARKER PANELS Comprehensive Biomarkers for Personalized Health Solutions



GLUCOSE & ENERGY METABOLISM

- Glucose, Lactate, Pyruvate
- Citrate, Succinate, Malate
- ATP/ADP Ratio
- NAD⁺/NADH Ratio

Key Benefit

ประเมินสมดุลพลังงานและ
ความเสี่ยงต่อเบาหวาน
และภาวะดื้ออินซูลิน



CARDIOMETABOLIC HEALTH

- ApoB, ApoA1, Lp(a)
- Ceramides
- Acylcarnitines
- Free Fatty Acids (FFA)
- Oxylipins
- TMAO

Key Benefit

ประเมินความเสี่ยงโรคหัวใจ
และหลอดเลือด และภาวะ
เมตาบอลิกซินเดรอม



METABOLIC HEALTH

- BCAA (Leu, Ile, Val)
- Aromatic Amino Acids
- Glutamine, Alanine
- HOMA-IR Markers
- C-Peptide

Key Benefit

ประเมินการทำงานของอินซูลิน
ความเสี่ยงเบาหวานชนิดที่ 2
และกลุ่มเบาหวานอีก



GUT HEALTH

- Gut Microbiome (16S / WGS)
- SCFAs (Acetate, Propionate, Butyrate)
- Indole-3-propionic acid
- TMAO
- Zonulin, Calprotectin

Key Benefit

ประเมินสุขภาพลำไส้
การอักเสบในลำไส้ และความ
สมดุลของจุลินทรีย์



LIVER HEALTH

- Bile Acids (Primary & Secondary)
- Choline, Betaine
- Acylcarnitines
- Glutamate, Glycine

Key Benefit

ประเมินภาวะไขมันพอกตับ
การทำงานของตับ และความเสี่ยง
ต่อโรคตับเรื้อรัง



INFLAMMATION & OXIDATIVE STRESS

- Glutathione (GSH/GSSG)
- Kynurenine / Tryptophan Ratio
- Oxylipins (Prostaglandins, Leukotrienes)
- 8-OHdG, F2-Isoprostanes

Key Benefit

ประเมินการอักเสบเรื้อรัง
ความเครียดออกซิเดชัน และ
ความเสี่ยงโรคเรื้อรัง



STRESS & NEUROENDOCRINE HEALTH

- Cortisol (Saliva / Urine)
- Serotonin, Tryptophan
- Melatonin Metabolites (6-Sulfatoxymelatonin)
- DHEA-S

Key Benefit

ประเมินความเครียด คุณภาพ
การนอนหลับ และสมดุลของ
ระบบประสาท-ฮอโมน



NUTRITION STATUS

- Vitamin D (25-OH D)
- Vitamin B12, Folate
- Omega-3 Index
- Iron, Zinc, Selenium
- Polyphenol Metabolites

Key Benefit

ประเมินภาวะโภชนาการและ
ระดับสารอาหารสำคัญที่ส่งผล
ต่อสุขภาพ



WEIGHT MANAGEMENT & APPETITE CONTROL

- Leptin, Adiponectin
- Ghrelin
- VIP (Vasoactive Intestinal Peptide)
- Carnitine

Key Benefit

ประเมินการควบคุมน้ำหนัก
ความหิว-อิ่ม และการเผาผลาญ
พลังงาน



HEALTHY AGING & LONGEVITY

- NAD⁺ Metabolites
- Urolithin A
- Spermidine
- Ceramides
- Mitochondrial Metabolites

Key Benefit

ประเมินความเสี่ยงของเซลล์
การทำงานของไมโทคอนเดรีย
และศักยภาพการมีอายุยืน



tiny-TIMsg: Simulated stomach and small intestine



Adaptable to various conditions

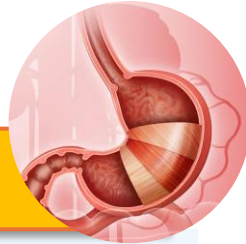
- - Single-chamber stomach organisms (humans and animals)
- - Age groups: children, adults, and the elderly
- - Type of food
- - Fasting/feeding state



Simulates realistic conditions in the stomach and intestines

- - pH variations over time and different parts of the digestive tract
- - Realistic secretion and composition of digestive fluids
- - Mixing and movement of the test substances
- - Temperature control and oxygen levels
- - Release of bioavailable substances derived from the digestion of the test substances from the small intestine

Applications



- ✓ • Assess digestibility/stability effectiveness

- ✓ Proteins: PDCAAS, DIAAS

- ✓ Capsules, encapsulated active substances

- ✓ Prebiotic products

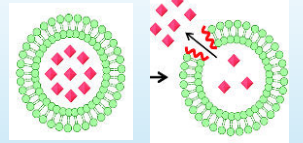
- ✓ Glycemic index (GI) assessment

- ✓ Bioaccessibility assessment of nutrients, bioactive substances, or drugs

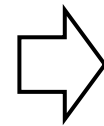
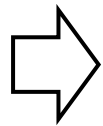
- ✓ Evaluate the potential of probiotic products: survival and pathogen resistance

- ✓ Assess interactions between the test substances with food, drugs, toxins, or allergens

- ✓ Develop functional foods, animal feed, nutraceuticals, and pharmaceuticals



TlNyTiM (Stomach + Small Intestine)



TIM-2: Simulated large intestine

Adaptable to various conditions

Microbiota

- Human, animal,
- healthy/diseased,
- meat-eater/vegetarian

SIEM (Standardized ileum effluent medium)

- with or without other fibers

Test formats

72h Repeated dosing: simulating continuous product intake for several days

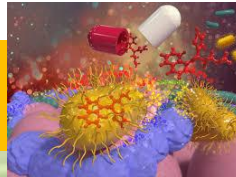
24h Colon transit: simulating product transit through different parts of the large intestine

Simulating the actual conditions in the large intestine

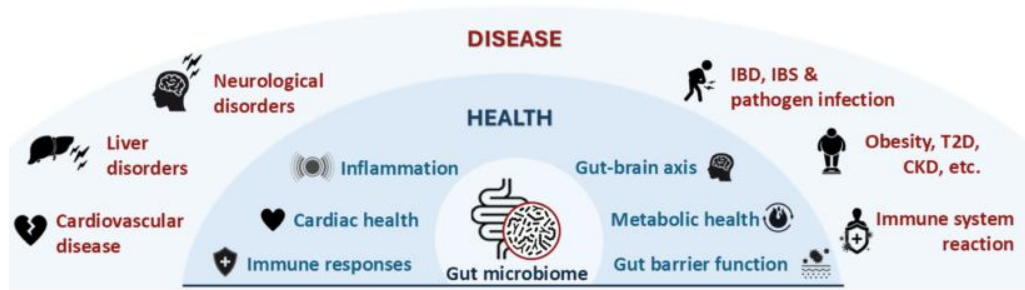
- The complex gut microbiota consists of various species of microorganisms that are ready to engage in activities.
- Controlling pH, temperature, and anaerobic conditions, mixing, and intestinal peristalsis allows for maintaining the real conditions that gut microorganisms inhabit continuously.

Applications

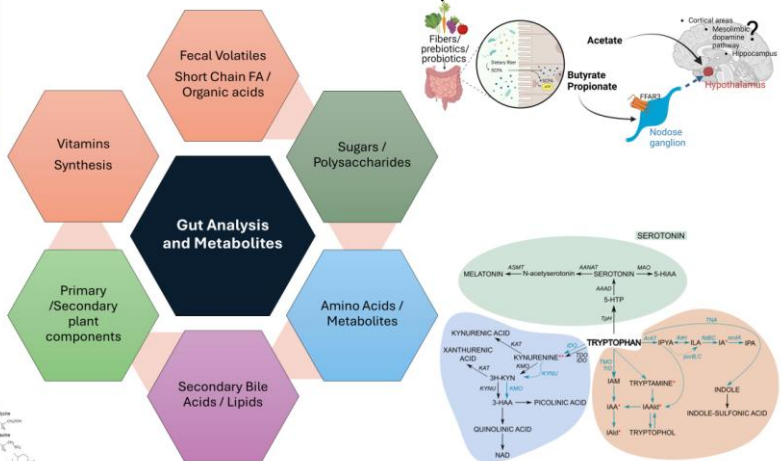
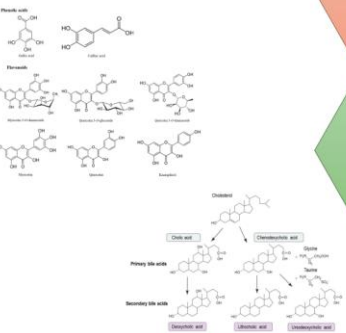
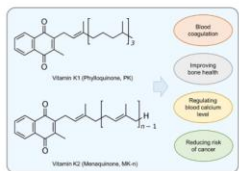
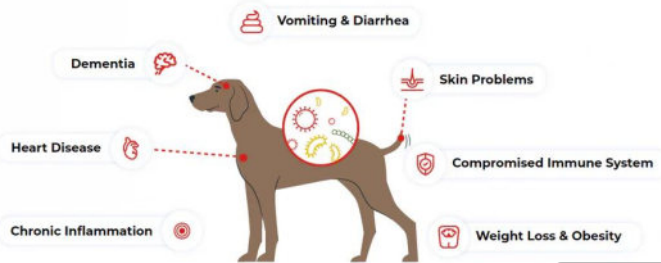
- ✓ Assessing the potential of probiotic, prebiotic, and synbiotic products:
- ✓ - Promoting the production of beneficial metabolites
- ✓ - Adjusting the gut microbiota population
- ✓ - Inhibiting pathogens
- ✓ - Evaluating the release of drugs and active substances in the large intestine
- ✓ - Transformation of drugs, active substances, and toxins from interactions with gut microorganisms



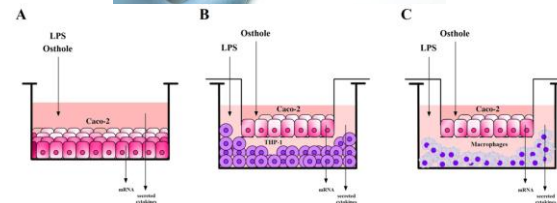
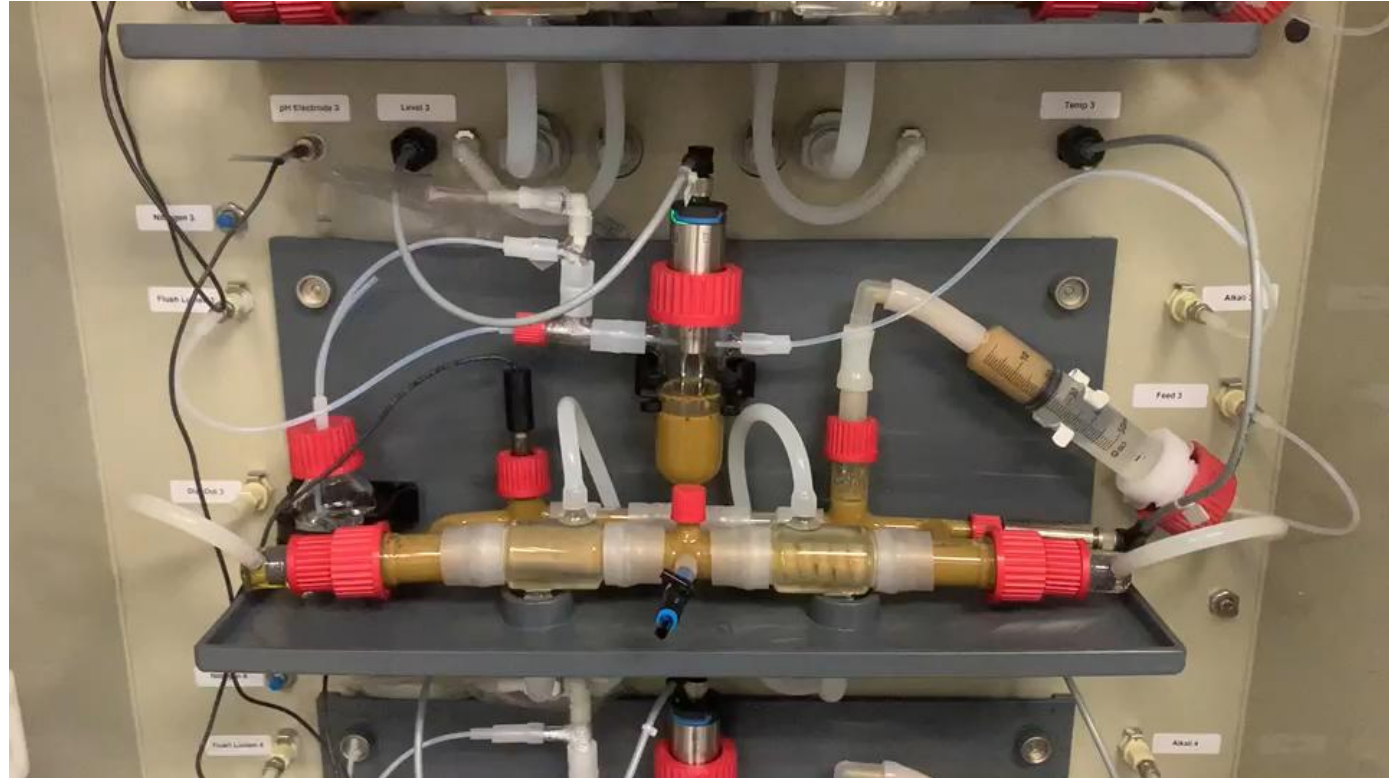
TiM-2 (Large Intestine)



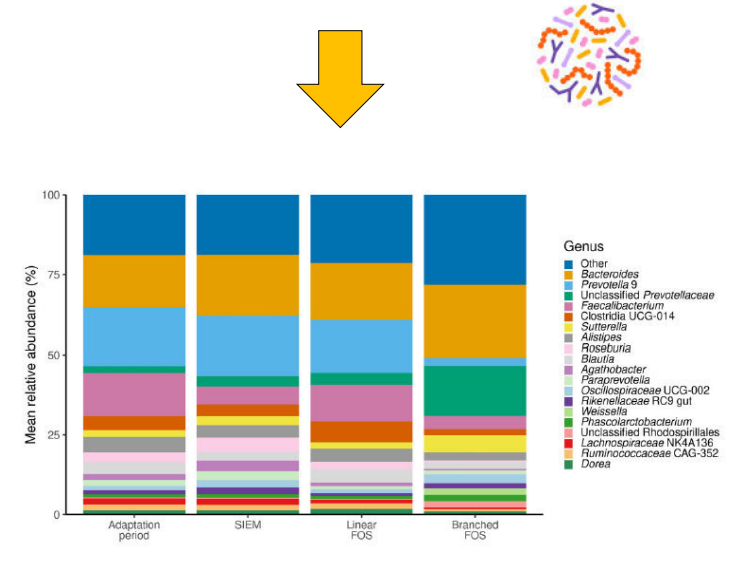
Symptoms of Gut Microbiome Imbalance



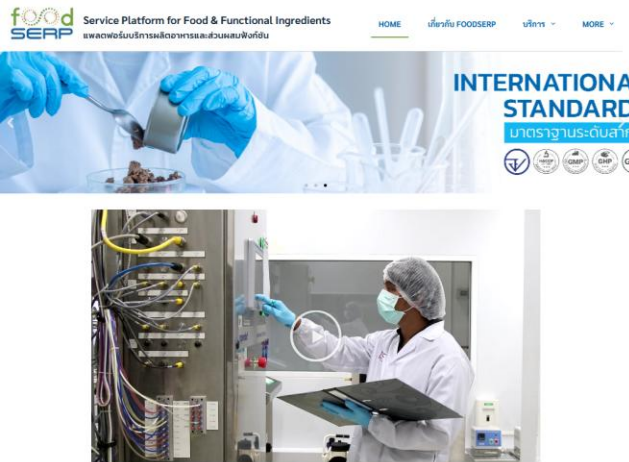
MetaboSERP®



Microbiome-host interactions



Gut Microbiome



Service for Target Product Groups

Functional Ingredients

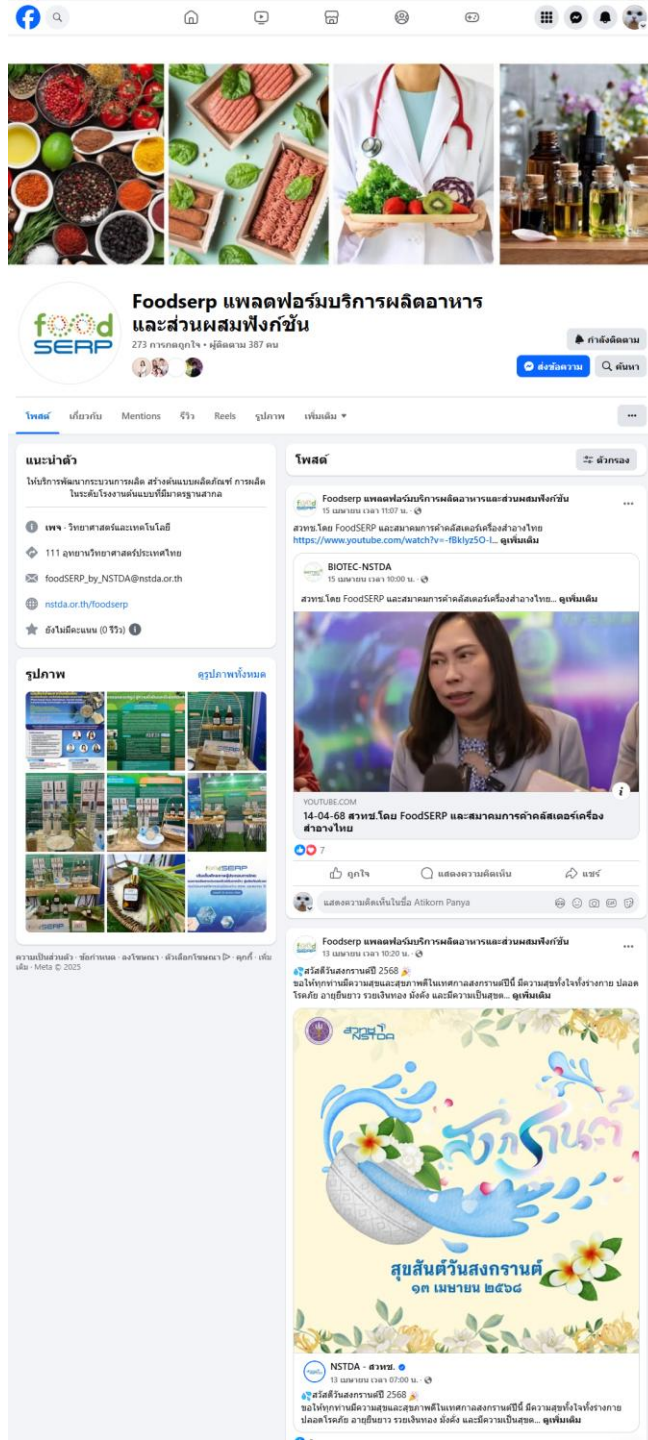
- PROBIOTICS
- PREBIOTICS
- POSTBIOTICS
- STARTER CULTURE
- FOOD ENZYME
- PEPTIDES

Alternative Proteins

- PLANT-BASED PROTEIN
- MICROBIAL-BASED PROTEIN
- CULTURED MEAT

Food for specific groups

- FOOD FOR ELDERLY
- MEDICAL FOOD
- FOOD AND DRINK
- FOR ENERGY AND BEAUTY



Thank You For Your Attention

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