



**KERRY**

**Kerry Group  
Gstaad  
Presentation  
27<sup>th</sup> January  
2023**



# Kerry's Areas of Expertise | Supplements | Europe\*

## Taste & Flavour Solutions

Powder and Liquid Flavours

Flavour Modulation –  
**Kerry** Tastesense™ Sweet & Masking

## Protein Solutions

Plant Protein - **Kerry** Prodiem™ Refresh

Techno-functional  
 Protein Hydrolysates  
 - **Kerry** Hyfoama™



## ProActive Health

### Digestive Health

- Sporevia™



### Immune Health

- Wellmune® Blend



### Cognitive (Sleep/Stress)

- Sensoril®
- Eupoly-3®



### Joint Health

- Ayuflex®



### Heart Health

- Capros®
- Eupoly-3®



### Womens Health

- LC40®
- Ursolia®
- Caronositol Fertility™
- Voluntas®
- Luprenol
- Damilib



### Infant health

- LC40®
- Hereditum® Bfm26
- Eupoly-3®



\*Supplement applications only, capabilities differ for food and beverage applications

# Plant Protein Gel with Immune Benefits

A squeezable plant-based protein gel with fruit juice and citrus fruit flavors that offers science-backed immune support.

## Featured Kerry technologies

- ✓ Kerry Prodiem™ Refresh Soy  
Highly soluble and stable plant protein solution suitable for nutritional fortification in gels
- ✓ Wellmune® Blend  
A baker's yeast beta glucan combined with Zinc. Zinc contributes to the normal function of the immune system.
- ✓ Kerry Tastesense™  
Amplifying overall profile while balancing sweet taste while masking off notes often found with ingredients like natural high intensity sweeteners and proteins

## Claims

- High in protein
- Immune support  
(at 263mg of Wellmune® Blend)

## Other possible claims

- Fat free
- Low sugar
- Source of fibre
- Vegan

\*Additional Kerry technologies also included to complete concept



## Nutritional Facts (per 50g serving)

Calories	Fat	Carbs	Fiber	Sugar	Protein
124	0.2g	24g	2.2g	1.6g	6.5g



Kerry Prodiem™ Refresh

Kerry Tastesense™



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**Wellmune®**

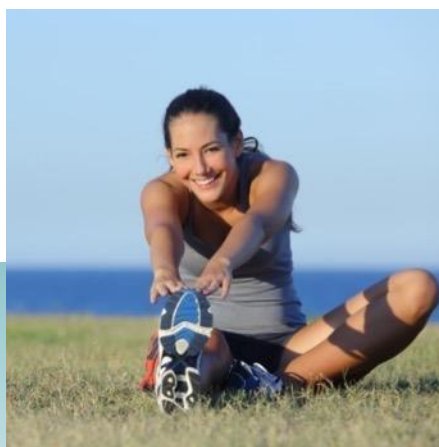


# Immune health & consumers

A healthy immune system is important to everyone, but especially for:



**Families with  
Children**



**Athletes &  
Weekend Warriors**



**Older Adults**

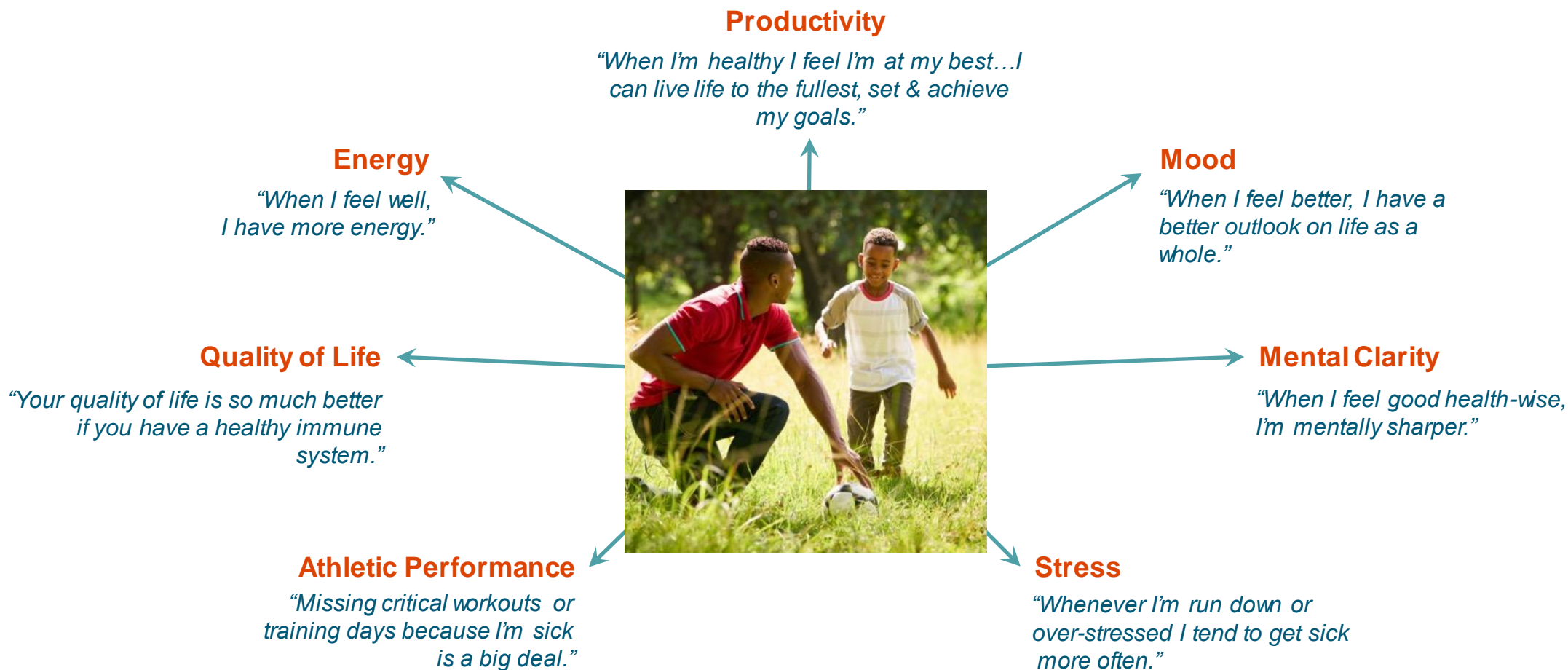


**Anyone  
Experiencing Stress**





# Immune health = the foundation of wellness







# Beta Glucans 101



# Differences in $\beta$ -glucan molecular structures

Each beta glucan source has a different structure (molecular backbone and level of branching), which affects its biological activity.

	Bacterial	linear $\beta$ -1,3-glucan (Curdlan)
	Fungal	short $\beta$ -1,6 branched $\beta$ -1,3-glucan ( <i>i.e.</i> schizophyllan) & $\beta$ -1,4 main chains with $\beta$ -1,3/1,6 branching ( <i>i.e.</i> Krestin)
	Yeast	long $\beta$ -1,6 branched $\beta$ -1,3-glucan
	Cereal	linear $\beta$ -1,3/ $\beta$ -1, 4-glucan ( <i>i.e.</i> oats, barley, rye)

———— linear  $\beta$ -1,3-glucan

|  $\beta$ -1,6 branch

————  $\beta$ -1,6 branched  $\beta$ -1,3-glucan branch

————  $\beta$ -1, 4-glucan

Just like when you refer to a maple tree (like yeast beta glucans), there are variations in those maple trees that make them different – branch numbers, placements and lengths.





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# Why Choose Wellmune<sup>®</sup>



# Wellmune formulation attributes

Wellmune formulates well with simple and complex ingredient designs.

- **Very stable.**
  - Demonstrated stability success with heat and acidic pH in foods, beverages and supplements.
- **Long Shelf Life.**
  - 5 years.
- **Analytical methods** available for testing in foods beverages and supplements **via USP/FCC.**





# Wellmune versatility in product formulation

Wellmune is ideal for a variety of product applications.



## FOODS

- Yogurt
- Sports & Nutrition Bars
- Meal Replacements
- Snacks & Granola Bars



## BEVERAGES

- Juices & Smoothies
- Enhanced Waters
- Children's Beverages
- Sports & Energy Drinks
- Nutritional Beverages
- Milk & Other Dairy Products



## SUPPLEMENTS

- Capsules & Tablets
- Gummies & Chewables
- Powdered Mixes
- Shots
- Effervescent
- Soft Gels



# Brand building with consumers

The Wellmune brand continues to grow globally. Wellmune is available in more than 400 products worldwide in a variety of functional food & beverage applications.

- Many product packages prominently feature the Wellmune brand & logo, building recognition globally.
- Branded ingredients like Wellmune provide consumers a clear point of reference when browsing shelves, delivering on transparency and building trust.
- Website and social media platforms provide opportunities to connect with and educate consumers.





# Product Case Studies



# Case Study: TB12 Immune Supplement

## Opportunity

When Tom Brady, the 3-time NFL MVP and 6-time Superbowl-winning quarterback, wanted to make his healthy way of life accessible to all—from athletes and active lifestyles to on-the-go consumers dealing with stress, he helped create the TB12™ system of personal coaching and nutrition, with a goal of helping active individuals stay active longer by providing products with multiple benefits that support immune health.

He didn't just want any immune health ingredient though. He was seeking to provide research-driven support for immune health. Wellmune provided that solution with over a dozen clinical studies showing its immune benefits in multiple demographics.

## Approach



## Impact



Protect Daily Immune Support



# Case Study: Charles & Alice Children's Fruit Pouches

## Opportunity

Parents are always looking for ways to keep their kids healthy. And kids want delicious, easy-to-consume foods that seem like a treat. Seeing a need to appeal to the demands of both parents and kids, Charles & Alice chose to include a clinically proven functional ingredient to provide the immune support parents want for their kids in a format kids love.

Because Wellmune is backed by research and has GRAS status in the U.S. and novel food approval in Europe and China, it was a logical choice for the inclusion of natural, safe and clinically proven immune health benefits.

## Approach

- Customer intimacy
- Customer & Consumer insights
- Technology uniqueness
- Speed to market
- Scientific know how
- Strong regulatory knowledge
- Best in class service level



## Impact



Fruit Friends Fruit Sauce Pouches

# Case Study: Children's Immunity Product

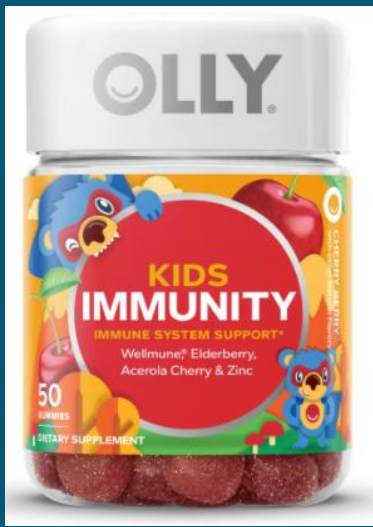
## Opportunity

Olly was looking for a science-backed immune ingredient to broaden their line of children's products.

## Approach



## Impact



Children's Immunity Gummies

# Clinical Research (summary)





# Wellmune® clinical studies

Dozens of peer-reviewed published studies on Wellmune. Health benefit studies include over 2,300 adults and children.

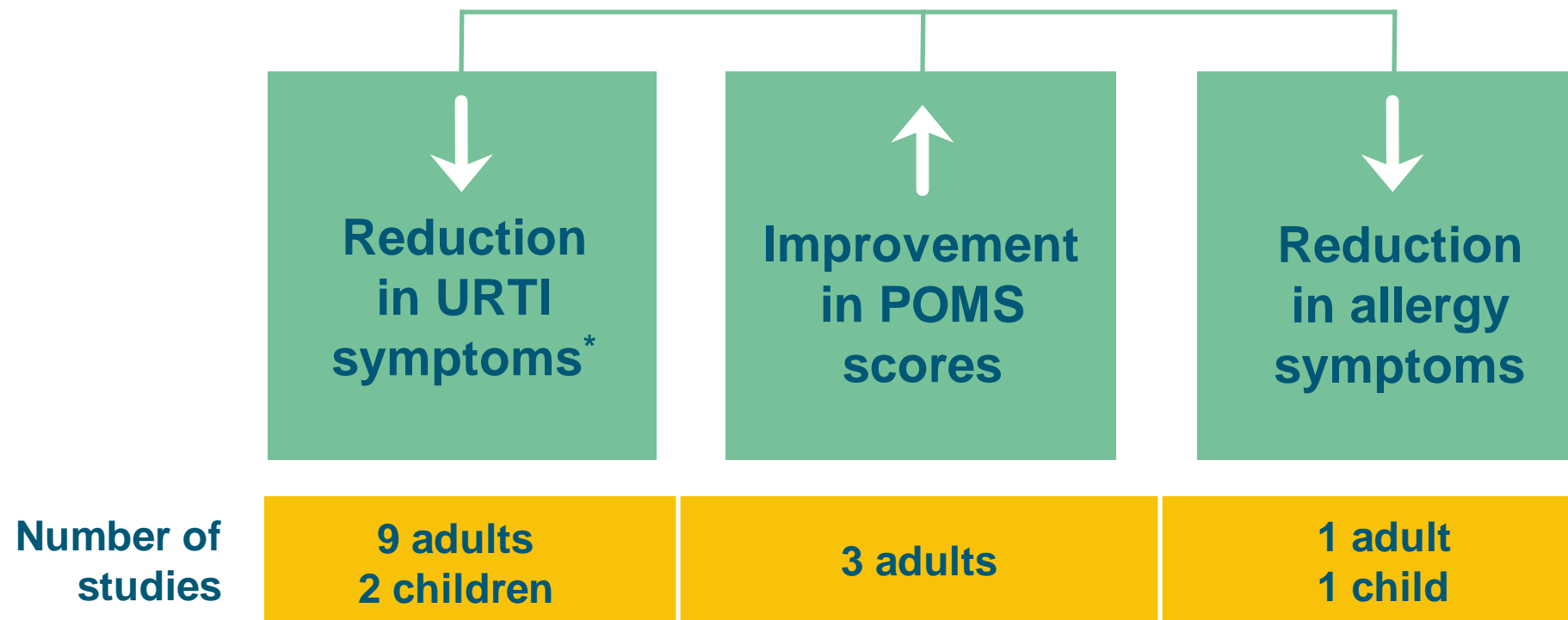
- **1,713 healthy normal adults**
  - Physical stress studies (944)
  - Psychological stress studies (372)
  - Aging population (100)
  - Other studies (297)
- **669 healthy children, ages 1-4**
  - Wellmune children’s study (156)
  - Sponsored children’s studies (513)



A recent research review published in 2020 on the role of beta glucans in immune health provides a comprehensive overview of yeast beta glucan clinical studies and highlights the depth of evidence that demonstrates Wellmune’s ability to help support the immune system.








# Wellmune<sup>®</sup> clinical studies

## Wellmune physical & psychological health benefits









URT I = Upper Respiratory Tract Infection. POMS = Profile of Mood States. \* Reduction is # subjects or days

# Wellmune<sup>®</sup> clinical results summary

Focus	Published Study	Type	Wellmune Topline Results
	<b>Texas Marathon II</b>	Physical Stress Health Effects (Beverage Matrix)	19% reduction in symptom severity vs. placebo
	<b>Exercise Stress</b>	Biomarkers	Prevented drop in immune cells post exercise
	<b>Older Adults</b>	Health Effects & Biomarkers in Older Adults	16% decrease in total URTI symptom days <sup>^</sup>
	<b>Children</b>	Health Effects in Children	2/3 fewer URTIs and fewer sick days
	<b>Texas Marathon</b>	Physical Stress Health Effects	40% reduction in URTI symptoms
	<b>Exercise Stress</b>	Biomarkers	Improved salivary IgA recovery by 32%
	<b>Allergy</b>	Allergic Rhinitis Health Effects	52% reduction in severity of allergy symptoms



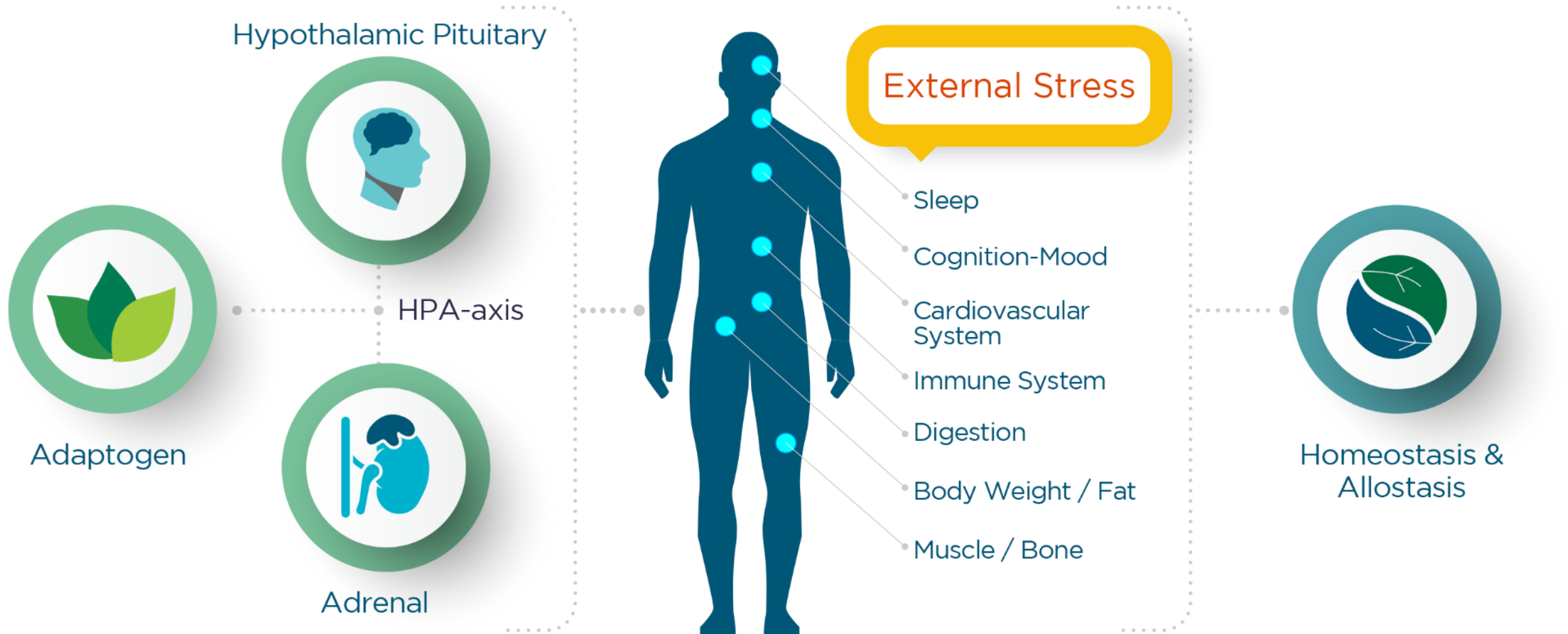
# Wellmune<sup>®</sup> clinical results summary cont'd

Focus	Published Study	Type	Wellmune Topline Results
	<b>Medical Students</b>	Physical and Lifestyle Stress	18% reduction in total days with URTI symptoms <sup>^</sup>
	<b>Lifestyle Stress, 12 Wks</b>	Lifestyle Stress Health Effects	62% reduction in URTI symptoms
	<b>Lifestyle Stress, 4 Wks</b>	Lifestyle Stress Health Effects	42% increase in vigor and 38% decrease in fatigue
	<b>California Marathon</b>	Physical Stress Health Effects	67% reduction in # of individuals reporting URTIs
	<b>Cold/Flu</b>	Health Effects in General Population	Fewer missed days of work or school
	<b>Firefighters*</b>	Physical Stress Health Effects	23% reduction in URTI symptoms <sup>^</sup>

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**S**ensoril®







# HPA-axis

Perceived danger



Hypothalamus



Corticotropin-releasing hormone (CRH)

Pituitary



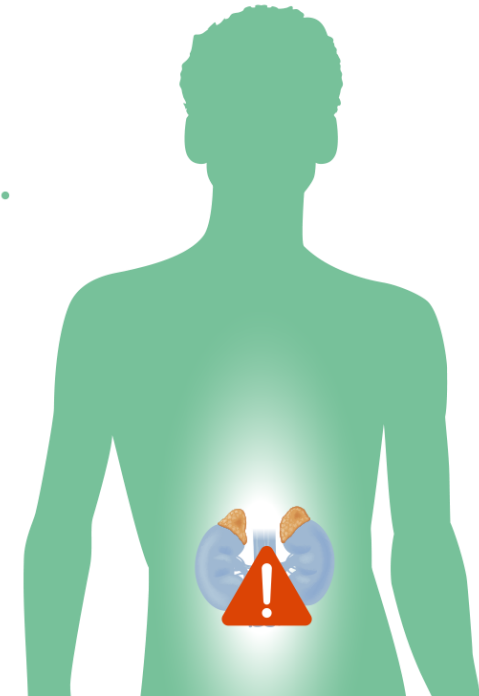
Adrenocorticotrophic hormone (ACTH)

Adrenal Glands



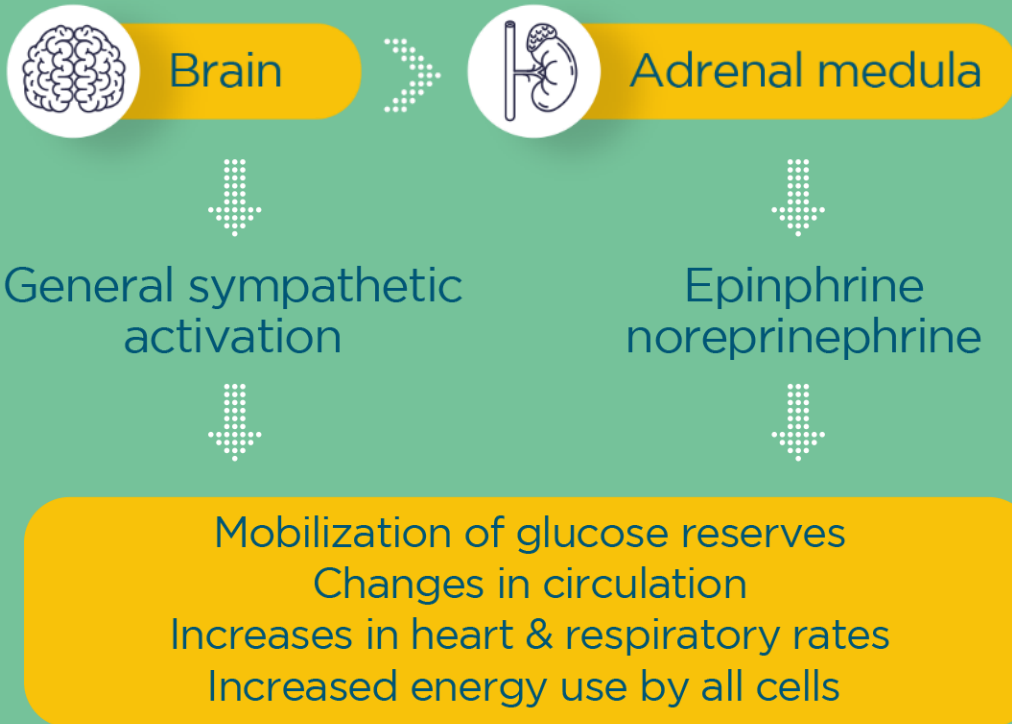
Cortisol, epinephrine, norepinephrine

Stress Response



# Alarm phase

## 'Fight or flight'



## Immediate short-term response to crises

### ACUTE STRESS RESPONSE

- ↑ cortisol “stress hormone” levels
- ↑ heart & respiratory rates
- ↑ blood pressure
- ↑ blood sugar
- ↑ metabolic rate

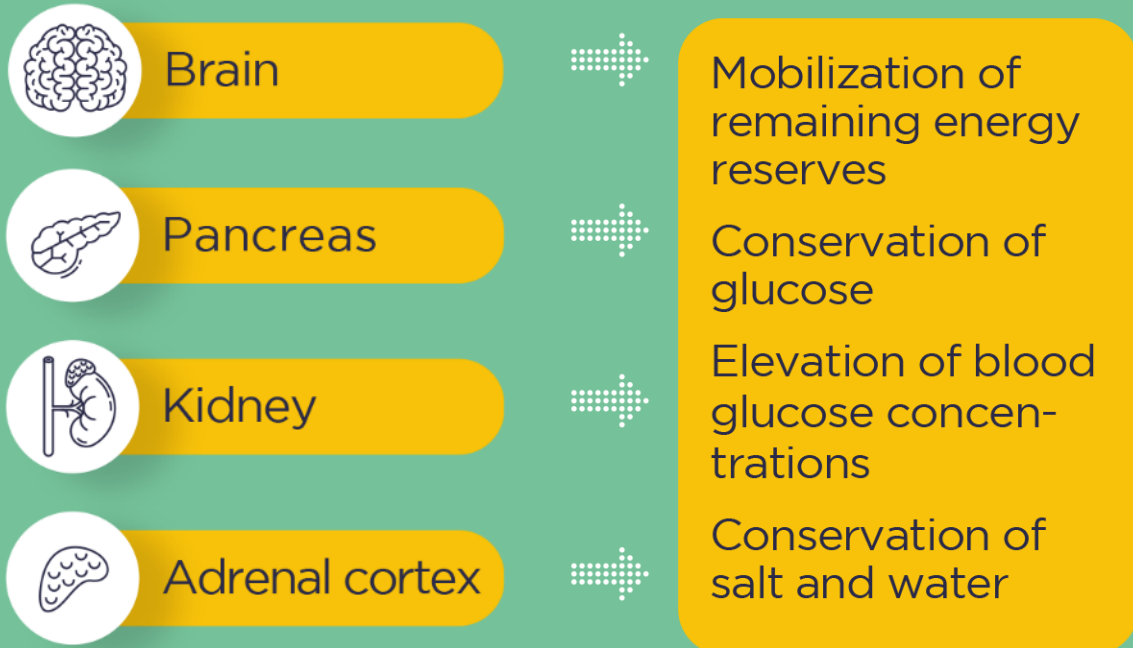
### POST STRESS

- Recover equilibrium (good health)
- Disrupted equilibrium (poor health)

Stress in excess of immediate recovery capacity can promote **chronic stress**

# Resistance phase

## Long-term Metabolic Adjustments



## Poor recovery & chronic stress

- ↑ cortisol levels
- ↑ inflammation & oxidative stress
- ↑ heart & respiratory rates
- ↑ blood pressure
- ↑ blood sugar & lipids (insulin resistance)
- ↑ intra-abdominal fat & weight
- ↓ immune function
- ↓ cognitive function
- ↓ muscle mass & bone density

**SYMPTOMS:** anxiety, depression, irritability, fatigue, forgetfulness, headaches, muscle pain, sleep loss



# Withania somnifera – Ashwagandha

“Queen of Ayurveda” & “King of Adaptogens”

Traditional use dates back 1,000s of years

*Rasayana*, or plant that promotes longevity, vitality, and happiness (rejuvenative)

- Also classified as “*bhalya*” (↑ strength) and “*vajikara*” (aphrodisiac)
- Often used for weakness associated with older age, insomnia, and conditions of “*vata dosha*” – anxiety, nervousness, poor appetite and digestion
- The plant is thought to imbibe you with the strength, vigor, and virility of a horse
- Roots, leaves, stems, and fruits bear medicinal value



The American Stress Institute ([stress.org](http://stress.org))

# Research documented effects of ashwagandha root/leaf (aqueous & solvent) extracts:

- Neuroprotection
- ↓ Oxidative stress & ↑ antioxidant defenses
- Anti-inflammatory
- Cognition (GABAergic & cholinergic signaling)
- Anti-stress/-depression
- Sleep promotion
- Hypoglycemic & hypolipidemic







# Holistic roots and leaves extract

Unique, standardized, patented composition to support cognitive health

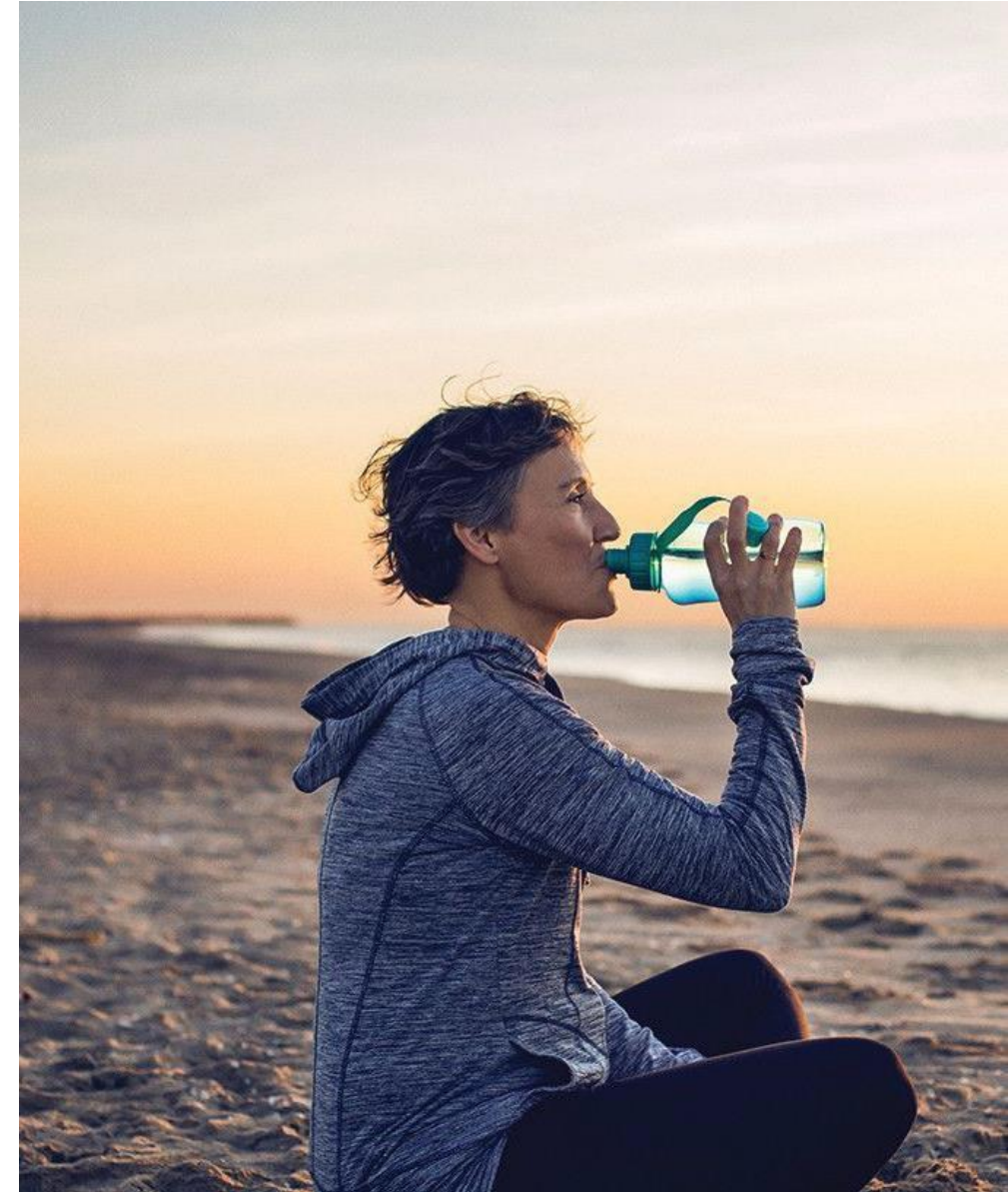
- 100% water extraction (solvent free): High ( $\geq 90\%$ ) water solubility (true water-only extract) – great for beverage applications!
- Sensoril® has excellent applications in dietary supplements, foods, beverages and pet nutrition
- Commercially available for 18+ years (quality & safety)

51%

More than a half of consumers say that they plan to improve their cognitive health in the next 12 months

47%

Almost half of consumers have become more conscious of their mental wellbeing & 22% more conscious of their sleep health as a result of Covid-19





# Sensoril® Ashwagandha Extract



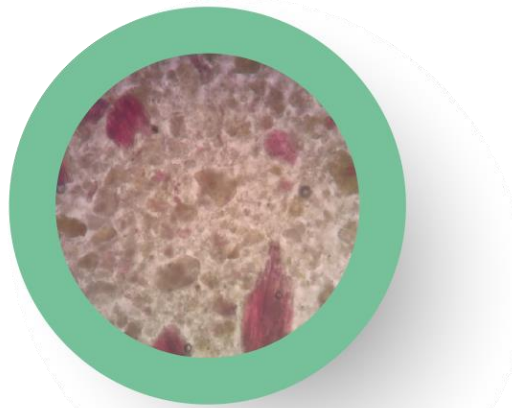
High solubility (true 100% aqueous extract) — Sensoril® is almost completely soluble in water with no presence of root fibers, making it more suitable for beverage formats, compared to other ashwagandha extracts on the market



**Sensoril®**

absence of root fibers

**95 – 96% solubility**

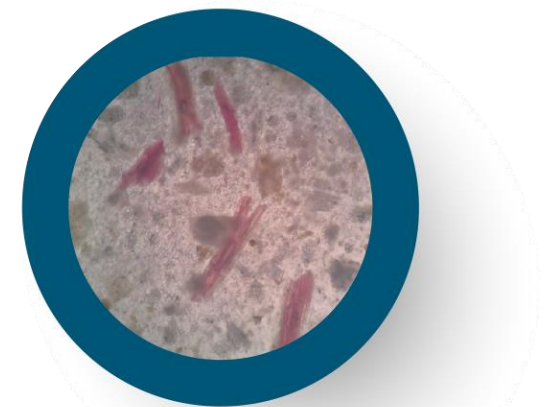


**Other Ashwagandha Extract**

ashwagandha aqueous extract

presence of root fibers

**<40% solubility**



**Powdered**

ashwagandha root

presence of root fibers

# Sensoril® Ashwagandha Extract



## Clinically demonstrated health benefits

16 Clinical Studies + Ongoing Research

### Supports:

- **Stress Tolerance**  
(Lowest Effective Dose: 125 mg/day)
- Sleep
- Energy (↓ Fatigue)
- Cognitive Performance

**STRESS**



Enhance  
focus



Improve  
sleep



Boost  
energy



Improve  
Mood

# Sensoril® Ashwaghandha Extract



## Clinical study design: Chronic Stress

Prospective, randomized, double-blind, placebo-controlled trial

**Study Population** – chronically stressed (Hamilton Anxiety Scale for stress score of 24 – 42) men and women 18 – 60 years old (average ~40 years old)

**4 Groups** (n = 98)

- Placebo (n = 15)
- 125 mg/day Sensoril® (n = 19)
- 250 mg/day Sensoril® (n = 30) – 125 mg twice daily
- 500 mg/day Sensoril® (n = 34) – 250 mg twice daily

**Treatment Duration** – 60 days

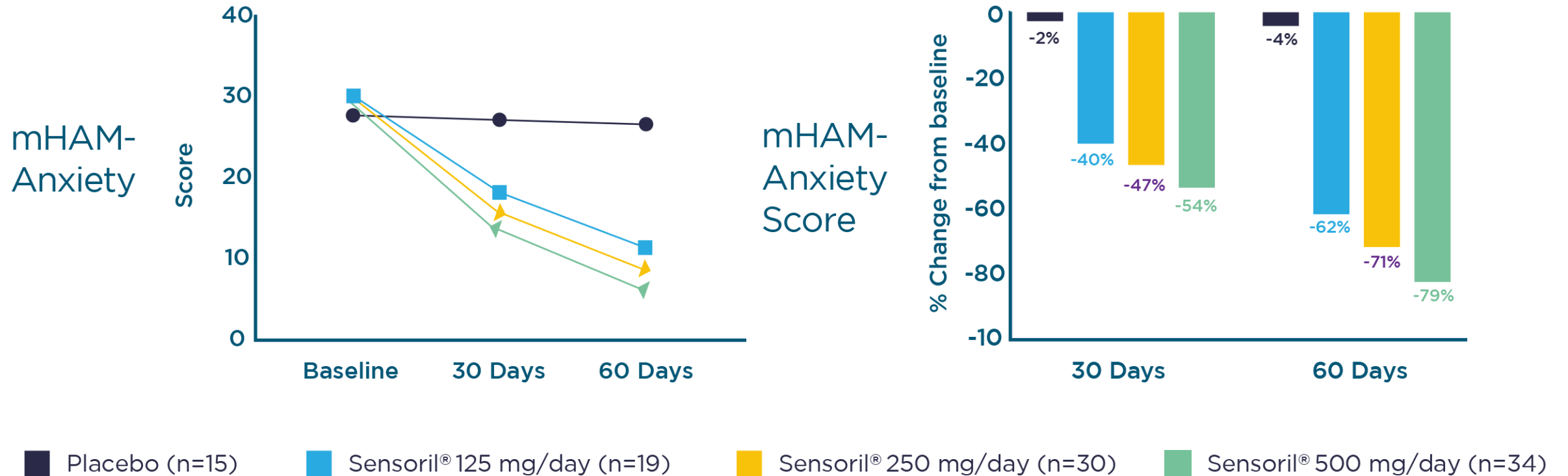
**Primary Outcome** – average score from HAM-A questionnaire to assess experiential symptoms of stress and anxiety

**Secondary Outcomes** - % change from baseline in blood concentrations of biomarkers for stress and anxiety, blood pressure and pulse rate





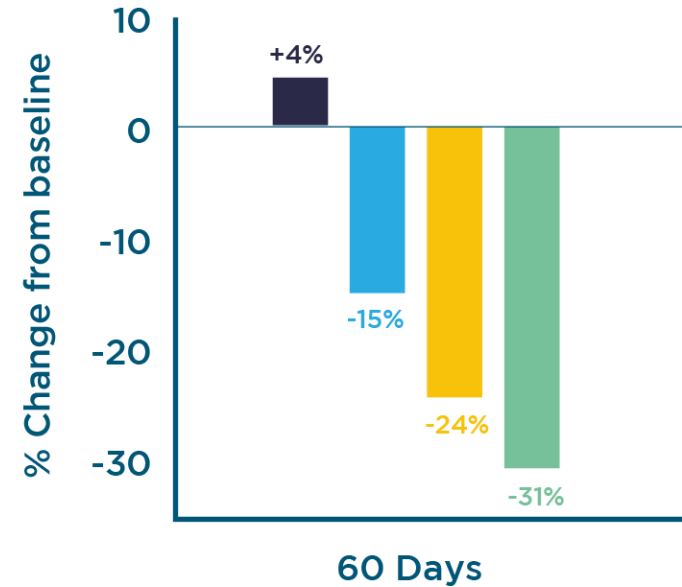
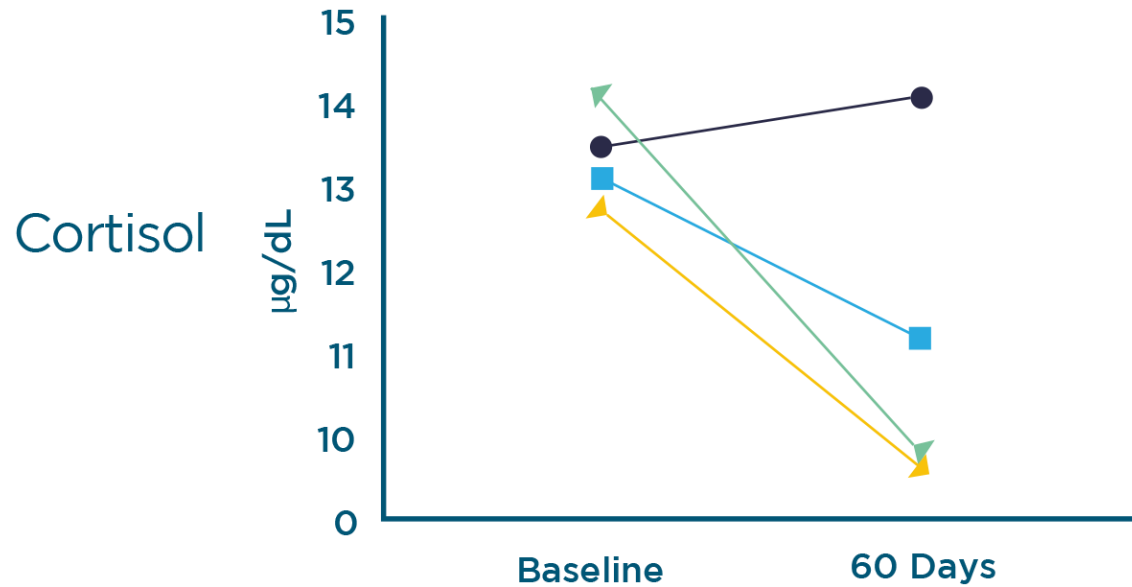
## Decreases overall stress & anxiety



These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

Adapted from Auddy et al. JANA 2008

## Decreases cortisol “the stress hormone”



Therapeutic activity of Sensoril® in chronically stressed men and women may be attributed in part to its effect on the hypothalamic-pituitary-adrenal (HPA) axis, which regulates adrenal cortisol and dehydroepiandrosterone (DHEA)/DHEA sulfate (DHEAS) production.

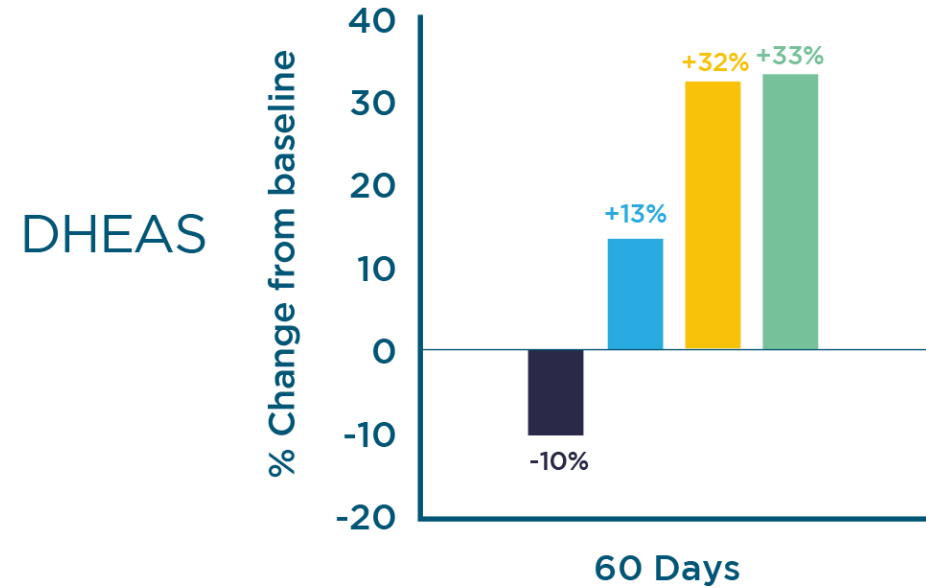
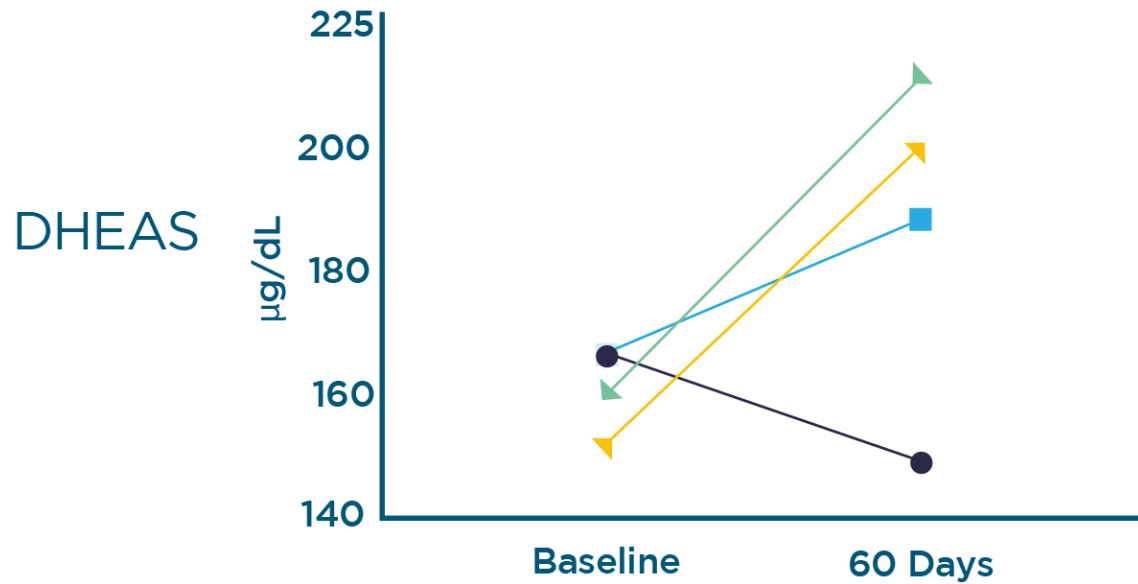
■ Placebo (n=15)

■ Sensoril® 125 mg/day (n=19)

■ Sensoril® 250 mg/day (n=30)

■ Sensoril® 500 mg/day (n=34)

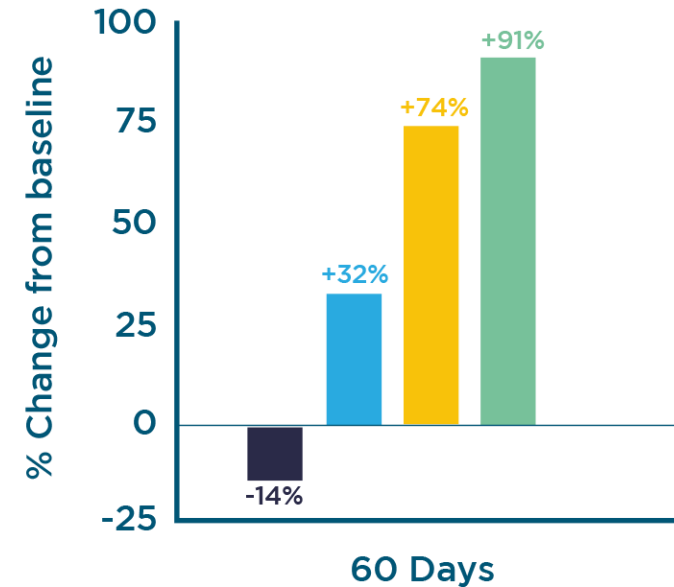
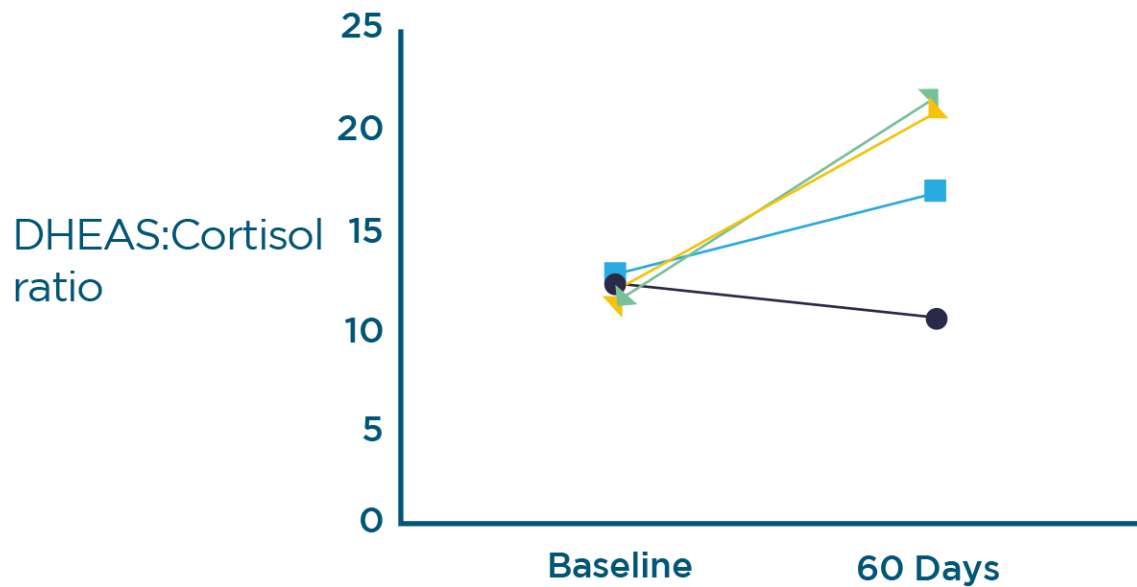
## Increases DHEAS



■ Placebo (n=15)   ■ Sensoril® 125 mg/day (n=19)   ■ Sensoril® 250 mg/day (n=30)   ■ Sensoril® 500 mg/day (n=34)



## Increases DHEAS-to-cortisol ratio (stress tolerance)



The unopposed effect of cortisol (i.e., a lower ratio of DHEAS-to-cortisol) results in greater stress-related mental or physical health risk, whereas a higher DHEAS-to-cortisol ratio has been associated with tolerance to stress or improved ability to adapt to stressors

■ Placebo (n=15)

■ Sensoril® 125 mg/day (n=19)

■ Sensoril® 250 mg/day (n=30)

■ Sensoril® 500 mg/day (n=34)

# Sensoril® Product Examples



Capsules/Tabs  
Gummies



NUTRAFOL



Powder



Beverage/  
Liquid



# Why Sensoril® vs. Competition?

- Uses leaves in addition to roots
  - Differentiation (>99% of all ashwagandha ingredients are derived from roots only)
  - Provides fuller spectrum of health promoting metabolites vs. roots only
- Lowest Clinically Substantiated Effective Daily Dose for Stress/Anxiety Reduction (Primary Positioning)
  - 125 mg = lower cost in use and more flexibility in formulation (vs. top competitor @ 600 mg)
  - Amenable to low payload delivery formats (e.g., gummies)
- True aqueous, solvent-free extract (~95 – 96% solubility in water vs. top competitor @ <40% solubility)
- Dairy allergen free (vs. top competitor; more recently developed dairy-free option not clinically substantiated)
- 1st branded ashwagandha ingredient (well-established track record of safe use)

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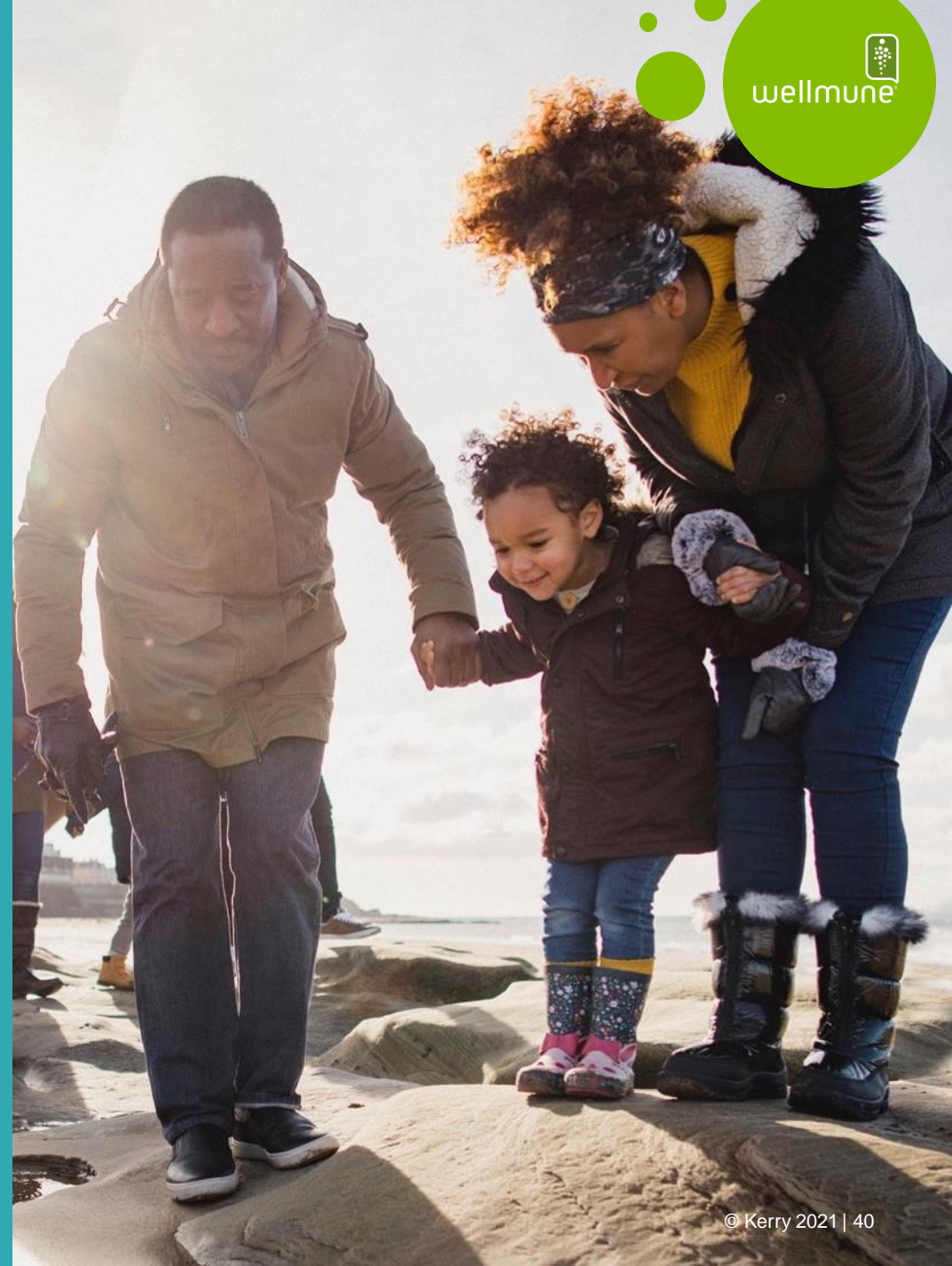
# Wellmune<sup>®</sup> Adapt





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# Wellmune<sup>®</sup> Adapt



# Immune & stress paired benefits for the win

In recent years, the **link between mental and immune health** is becoming more widely recognized by consumers, in particular the link between **stress and sleep** and how these can negatively impact their immune system.



**Immune health** was ranked the **#1** health benefit consumers seek when purchasing healthy lifestyle products.<sup>2</sup>

**71%**

of consumers say that “getting enough **sleep**” is an important way to achieve immune health.<sup>1</sup>



**3/4**

of **products** with an immune claim also featured a **brain health claim** in 2020.<sup>3</sup>



Of these brain health claims, **stress** has been the most used terminology under product description.

**3/4**



consumers agree that “being **mentally healthy** boosts the immune system”.<sup>1</sup>

# Introducing Wellmune® Adapt



**Wellmune® Adapt** is a proprietary blend that combines **Wellmune®** and **vitamin C**, for natural **immune health**, with **Sensoril®** to help the body adapt to **stress**, further supporting a healthy immune system function.

Sensoril Ashwagandha has 16 clinical studies + ongoing clinical research to support:



**Sensoril** is a patented plant based ashwagandha root and leaf extract designed to support **cognitive health** benefits. Sensoril helps the body adapt to **stress** to support healthy immune system function by reducing cortisol levels and thus promoting relaxation and balancing mood

## Sensoril is also

- Unique, standardized, high-purity, patented composition.
- 100% water extraction (solvent free): High (> 90%) water solubility (true water-only extract) - great for beverage applications.

# Immune Relax Citrus Beverage with Wellmune® Adapt

A citrus beverage designed to hydrate, relax and support immune health.

The link between **mental** and **immune health** is becoming more widely recognized by consumers, in particular the link between **stress** and sleep and how these can negatively impact their immune system.

**Wellmune Adapt** is a proprietary blend that combines **Wellmune® + Vitamin C**, for natural immune health, with **Sensoril®** Ashwagandha to help the body adapt to stress, further supporting a healthy immune system function.

## Claims

At 425mg of Wellmune® Adapt (per sachet):

- Vitamin C contributes to the normal function of the **immune system**.
- Ashwagandha has adaptogenic properties that supports **mental health and relaxation**.

## Other Claims

- 250mg Wellmune®
- 125mg Ashwagandha
- 100mg L-Theanine
- 50mg Vitamin C
- 215mg sodium
- 75mg potassium

## Featured Kerry Technologies:

### Wellmune® Adapt

A baker's yeast beta glucan combined with Vitamin C & Ashwagandha.

### Coconut Water Crystals®

### Natural Lemon Lime Type Flavor

### Tastesense™ Masking



DAYPART  
Noon



NEED STATE  
Immunity/Stress

## Supplement Facts (per 16 fl oz serving)

Calories	Fat	Carbs	Fiber	Sugar	Protein
15	0g	2g	0g	0g	0g

\*Additional Kerry technologies also included to complete concept



Kerry Tastesense™