

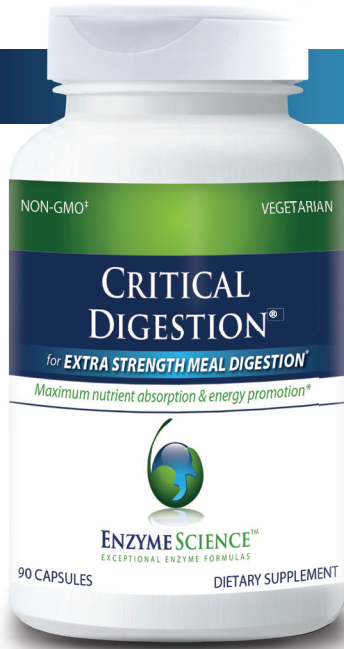


**ENZYME SCIENCE™**  
EXCEPTIONAL FORMULAS

# CRITICAL DIGESTION®

for **EXTRA STRENGTH MEAL DIGESTION\***

*Maximum nutrient absorption & energy promotion\**



**Occasional constipation, gas, bloating and indigestion are common functional gastrointestinal complaints.**

Of all adults, 30-40% experience symptoms of occasional indigestion and abdominal discomfort.<sup>1</sup> Research demonstrated that when individuals supplemented the diet with a combination of digestive enzymes, a significant reduction in abdominal discomfort and bloating was observed.<sup>\*2</sup> Studies have also concluded that digestive enzyme and probiotic supplementation offers a great promise in overall digestive health.<sup>3</sup>

## THE DIGESTIVE PROCESS

The digestive system utilizes enzymes produced by the body to break down macronutrients (protein, fat, and carbohydrates) into molecules small enough for our body to absorb and use for metabolism of energy, growth, and cell repair.<sup>4</sup> Bacteria in our GI tract, referred to as gut flora or microbiome, also plays a role in digestion and nutrient absorption.

In addition to being produced by the body, digestive enzymes can be consumed from raw foods such as fruits and vegetables, and dietary supplements. With a decline in the natural production of enzymes that comes with ageing, in combination with the western diet, adequate digestive enzymes required for complete meal digestion are not always readily available. A deficiency can slow down the digestive process necessary to move food through the GI tract. When the body lacks these enzymes for efficient digestion, food can remain undigested or partially digested in the stomach. The slow transit of food through the GI tract can cause symptoms of abdominal discomfort, occasional constipation and less nutrients being absorbed.<sup>5</sup> Discomfort arises when carbohydrates are fermented by bacteria in the colon which produce gas.

## DIGESTIVE ENZYMES MECHANISM OF ACTION

Critical Digestion® provides a maximum potency of the three main categories of enzymes (proteases, lipases, amylases) to support proper protein, fat, and carbohydrate digestion.\* Considering enzymes cleave very specific bonds on a single substrate, a multitude of high potency protease, carbohydrase and cellulase enzymes are included to promote superior meal digestion.\* The proteolytic enzyme dipeptidyl peptidase IV (DPP-IV) has demonstrated the ability of breaking down moderate amounts of gluten (wheat protein) and casein (dairy protein).<sup>\*3,6</sup> Carbohydrates are most commonly consumed as polysaccharides (starch, fiber or cellulose) or disaccharides (lactose, sucrose, or galactose). Carbohydrase enzymes alpha galactosidase, lactase, glucoamylase, beta glucanase, invertase, maltase and xylanase all play a significant role in digesting various carbohydrates into sugars to provide fuel to the body's cells.

Lactase has been known to significantly reduce the onset of occasional bloating, gas, and abdominal discomfort by providing efficient lactose digestion.<sup>\*7</sup> Undigested complex carbohydrates also cause digestive discomforts like gas and bloating. Randomized, placebo-controlled trials have shown that alpha-galactosidase breaks down carbohydrates

## SUPPLEMENT FACTS

Amylase Thera-blend™	23,000 DU
Protease Thera-blend™	75,000 HUT
ATPro™ Blend	78 mg
<i>Magnesium Citrate, CoQ10, Phytase, ATP</i>	
Glucoamylase	50 AGU
DPP-IV	250 DPPU
Lipase Thera-blend™	4,000 FIP
Alpha Galactosidase	500 GalU
Pectinase	150 Endo-PGU
Cellulase Thera-blend™	1,500 CU
Lactase	900 ALU
Beta Glucanase	25 BGU
Xylanase	1,000 XU
Maltase	200 DP*
Probiotic Blend	1 Billion CFU
<i>DE111 Bacillus subtilis, Lactobacillus paracasei, L. plantarum, L. gasseri, L. rhamnosus, L. casei, L. acidophilus DDS-1, L. bulgaricus</i>	
Invertase	535 SU
Hemicellulase	50 HCU

### OTHER INGREDIENTS:

100% Vegetarian Capsule (cellulose, water)

**CONTAINS NO:** dairy, egg, preservatives, salt, sucrose, soy, wheat, yeast, nuts, corn, gluten, casein, potato, artificial colors or flavors.

### RECOMMENDED DOSAGE:

Take 1 capsule per meal with the first bite of food. More may be taken as recommended by your healthcare practitioner.

**OUR QUALITY**



GLUTEN FREE



DAIRY FREE



SOY FREE



NO FILLERS

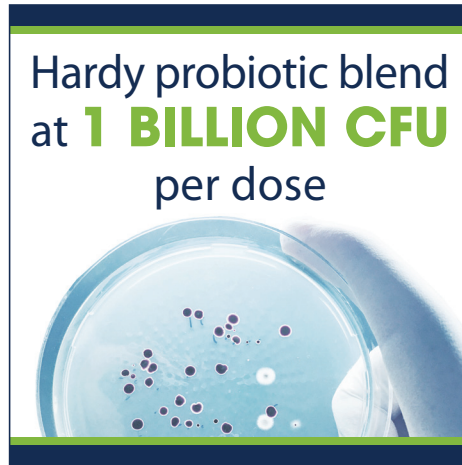
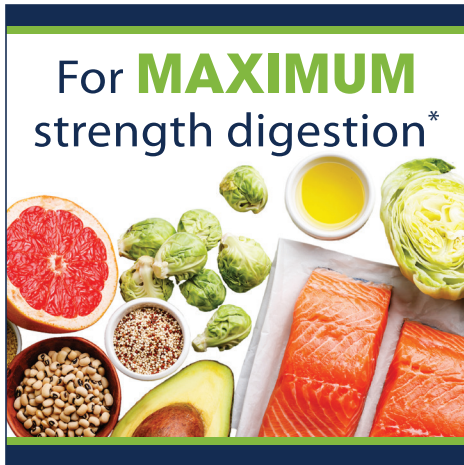


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into easily digestible sugars to reduce gas production and related abdominal symptoms in adults.\*<sup>10,11,12</sup> One class of enzyme our body does not produce is cellulase. Critical Digestion® features cellulase, pectinase and hemicellulase enzymes for digesting molecules in plant cell walls thus making plant nutrients easily accessible for utilization.

Enzyme Science® formulates with unique protease, amylase, cellulase and lipase Thera-blend® enzymes that are scientifically designed to provide optimal solutions for digestive health and wellness.\* While individual enzymes work within a specific pH, Thera-blend enzymes remain active across a broad pH range allowing greater interactions with substrates to promote superior digestion.\*

## PROBIOTICS & ATPro™ BLEND

The gut microbiome houses roughly 40 trillion bacterial cells and each strain plays a different role in digestion and overall health.<sup>8</sup> Increased levels of methane and hydrogen byproducts of microbes contribute to gas and abdominal discomfort.<sup>9</sup> Scientific literature has suggested probiotic supplementation may balance and restore the gut microbiome to its optimal state and alleviate these discomforts.\*<sup>7</sup> Critical Digestion utilizes 1 billion CFU's of a shelf stable multi-strain blend of lactic acid bacteria and

*Bacillus subtilis* featuring DE111 which has demonstrated to improve GI symptoms and bowel habits.\*

Metabolic reactions utilize nutrients to produce ATP, adenosine triphosphate, the body's energy source. ATP is used to power energy-requiring cellular or enzymatic reactions and is vital for muscle contraction during digestion. Phosphate, required for ATP synthesis, is released from phytic acid found in foods by the enzymatic action of phytase. Coenzyme Q10 is fundamental in ATP production and ATP must bind to magnesium to be biologically active.<sup>13,14</sup> Replenishing ATP and supporting ATP production thru the actions of CoQ10, magnesium citrate and phytase from ATPro™ further encourages digestive health.\*

## CRITICAL DIGESTION® ACHIEVING OPTIMAL HEALTH

In optimal health, the body is supplied with sufficient enzymes for completely digesting foods which, in turn, supply the body with valuable nutrients necessary for health and wellness. Critical Digestion® is an unparalleled formula that provides powerful enzyme blends to break down a variety of foods for maximum digestion, nutrient absorption and energy promotion.\* Enzyme supplementation provides maximum support for moderate to intense digestive distress.\*

## REFERENCES

- <sup>1</sup> H.B. El-Serag, N.J. Talley. (2004) *Alimentary Pharmacology and Therapeutics*. 19(6):643-54.
- <sup>2</sup> Sender, R., Fuchs, S., Milo, R. (2016). *PLOS*. 14(8): e1002533.
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- <sup>7</sup> DiPalma, J.A., Collins, M.S. *Journal of Clinical Gastroenterology*. 11(3), 290-3.
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\*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.