

A true advance in nutritional supplements, **Balanced Naturals™ Enzyme & Probiotic Formula** is an all inclusive product that contains ingredients to aid in complete digestion and subsequently improves overall health. This Enzyme & Probiotic Formula combines plant-based **enzymes**, living **probiotics** and **additional supportive ingredients** to break down food for nutrients, while combating infection, disease, inflammation, food sensitivities and much more. Windhawk has loaded this Enzyme & Probiotic Formula with quality ingredients at the concentrations recommended by research. Find out how this breakthrough in nutritional supplementation works – and the science behind it – in this helpful research summary.

### ANATOMY OF DIGESTION

Let's first begin with a quick overview of digestion. The digestive system represents the tract that runs from the opening of the mouth to the end of the colon, and everything in between. This system breaks down food for nourishment for the body and eliminates waste, toxins, and ingested harmful bacteria insuring survival and longevity. The key players in this system are enzymes and friendly bacteria.

### ENZYMES: A SHORTAGE IN MODERN TIMES

Just as vitamins and minerals are a significant part of optimal nutrition, biochemists have acknowledged the critical role enzymes play in sustaining life. Enzymes are protein molecules that enhance biological reactions and are essential for life. They assist in breaking down substances into smaller components to ease the burden of digestion, help modulate the immune response and regulate all metabolic processes. There are three types of enzymes:

1. Food enzymes – external source of enzymes found within ALL living foods to help it break down.
2. Digestive enzymes – internal source of enzymes secreted by salivary glands and pancreas to aid in the breakdown of foods.
3. Metabolic enzymes – internal source of enzymes that are required for proper and normal functioning of every organ system, not intended to be used as digestive enzymes. Researchers have identified 3,000 types of enzymes in the human body and have stated that there are many thousands more yet unidentified<sup>1</sup> that function within the 80,000 enzyme systems (metabolic activities) within the body.<sup>2</sup>

To begin, let us first understand “enzyme potential” and the importance to maintain it. You are born with the potential to produce a set number of digestive and metabolic enzymes during your lifetime that allows your body to function at optimal levels without disease and degeneration. This genetically predetermined enzyme-making potential varies from person to person; much like a predetermined balance in an inherited bank account. No matter what your bank account balance is if you continue to make withdrawals it will soon close. This concept is the same for your enzyme potential; if you continue to exhaust your potential then degeneration and disease begin to manifest as the body moves toward death.

Why do we need **Balanced Naturals™ Enzyme & Probiotic Formula** to support our enzyme potential?

To start with, the enzymes in living food which are meant to preserve our body's supply begin to be destroyed when exposed to temperatures of 118° F and are 100% destroyed at temperatures over 212° F.<sup>3</sup> This occurs during processes such as boiling, baking, grilling, steaming, frying, and many food packaging practices. Today's modern society primarily eats foods with few to no active food enzymes.

Secondly, digestive and metabolic enzyme production in our body is finite in nature. Every time you eat cooked and processed foods, you are robbing your body of enzymes. Digestive enzymes are meant to be used on rare emergency occasions when enzyme-deficient foods are eaten, not to be depleted on a daily basis with every meal. The abuse of using our digestive enzymes leads to food sensitivities and allergies such as lactose intolerance and indigestion.

Thirdly, these digestive enzyme shortages lead to the misuse of metabolic enzymes for digestion – reducing your enzyme potential. Many bodily functions are adversely affected and as a result you may experience loss of energy, lower immune response, inability to heal quickly and the onset of many diseases. Remember, enzymes are critical for life!

Dr. Edward Howell, a pioneering researcher and father of the “food enzyme concept”, found that diets deficient in enzymes cause a 30% reduction in animal life span.<sup>4</sup> He attributed this to a “stealing” process that occurs when the digestive system takes metabolic enzymes away from other organ systems in order to break down cooked food. As a result, Howell proposed that enzyme shortages are the underlying cause of premature aging and most degenerative diseases.

Dr. Howell states that “the length of life is inversely proportional to the rate of exhaustion of the enzyme potential of an organism”.<sup>5</sup> In other words, the faster you exhaust your enzyme potential, the shorter your lifespan.

Dr. Howell found that diets deficient in enzymes cause a 30% reduction in animal life span.

# Enzyme preservation is the secret to health. ~Ann Wigmore, founder of Hippocrates Institute

## BENEFITS OF ENZYMES

- **Enhances digestion of carbohydrates, fats and proteins.** Reduces indigestion and heartburn and promotes the release of nutrients from foods. 10% of the population experiences heartburn at least once a week.<sup>6</sup> Enzyme supplements aid in the digestion of carbohydrates, fats and proteins to enhance the absorption of nutrients. This helps preserve the body's dwindling enzyme supplies for use in other important functions.
- **Reduces food allergies and sensitivities.** Deficiencies in lactase, an enzyme that digests milk sugar, can lead to symptoms of bloating, gas, diarrhea and intestinal pain.
- **Improves immune function.** Research conducted by Dr. Paul Kouchakoff in 1930, revealed that eating enzyme active foods did not compromise the immune system but eating cooked foods always caused the number of white blood cells to increase, thereby creating stress.<sup>7</sup> Enzymes can strengthen many aspects of the immune system.
- **Reduces risk for obesity and circulatory diseases.** Lipase is an enzyme that specifically digests fats. It was found to be deficient in 100% of the cases of obesity studied at Tufts University, School of Medicine.<sup>8,9</sup> In another investigation, a lipase deficiency was also noted in individuals who had arteriosclerosis, high blood pressure and slow fat assimilation.<sup>10</sup>
- **Cleanses blood.** Excess fibrin can make the blood thicker and promote the formation of clots. An adequate supply of enzymes can help prevent strokes and heart attacks by "eating" the excess fibrin, cleaning out dead material in the blood and reducing the stickiness of blood cells.<sup>11</sup>
- **Reduces inflammation.** The body's first-line of defense against inflammation, enzymes decrease inflammation and reduce pain without the side effects and potential toxicity of anti-inflammatory drugs.<sup>12,13,14</sup>
- **Relieves gastrointestinal disorders such as colorectal cancer.** The second leading cause of cancer-related deaths in the United States and it is estimated that 148,610 Americans will be diagnosed in 2006.<sup>15</sup> A controlled clinical trial of 1,242 patients with colorectal cancer found that oral enzymes improved their quality of life by reducing signs and symptoms of the disease.

## THE ENZYMES WE USE

This Enzyme & Probiotic Formula replenishes food enzymes lost in the cooking or processing of foods thereby conserving your own supply. It contains 13 carefully selected plant-based enzymes designed to aid digestion and promote health, just as nature intended. You will notice that this Enzyme & Probiotic Formula does not contain digestive enzymes extracted from the pancreas of pigs, cows, or sheep. Researchers have concluded that plant-based enzymes are more stable, effective and function within a broad pH range as compared to enzymes extracted from animals.<sup>16</sup> Enzymes have a high specificity in their function so it is important to supplement your diet with a combination of different plant-based enzymes with your meals. Here's a quick look at the functions of each one.

<b>Amylase I &amp; II</b>	Breaks down carbohydrates into simple sugars
<b>Protease I, II, &amp; III</b>	Breaks down proteins into amino acids
<b>Peptizyme SP</b>	Strong caseinolytic (fibrinolytic) agent, anti-inflammatory and sputum liquefying
<b>Lipase</b>	Breaks down fats found in meats, dairy, nuts, and oils into fatty acids, decreasing both weight and cholesterol
<b>Lactase</b>	Breaks down lactose, present in dairy products
<b>Cellulase</b>	Breaks down cellulose, a plant fiber
<b>Maltase</b>	Breaks down the disaccharide maltose (two glucose molecules)
<b>Invertase (Sucrase)</b>	Breaks down sucrose into simple sugars
<b>HemiSEB</b>	Enzyme complex capable of breaking down legume sugars, helps to control gas
<b>Bromelain</b>	Breaks down a wide range of proteins, reduces pain, inflammation and fluid retention; cleanses blood

## PROBIOTICS: THE FRIENDLY BACTERIA

Not all bacteria are harmful! You rely on bacteria for optimal health. Your intestinal environment should consist of about 3.5 pounds of dominating friendly bacteria comprised of over 400 different species.<sup>17</sup> These living microorganisms are an essential part of digestion and have been shown to enhance the bioavailability of food, inhibit the growth of pathogenic bacteria, inhibit yeast infections, support immune function, and promote longevity.

Your bacterial intestinal environment has a profound effect on your ability to properly digest foods as it travels through the tract. This community of bacteria is constantly changing to produce additional enzymes needed to free up nutrients from your foods. Without friendly bacteria, the individual cells in your body would starve as the nutrients trapped in foods are eliminated through defecation. Furthermore, undigested foods create havoc within the intestines by causing discomfort from constipation, gas production, irritable bowel syndrome, Crohn's and more.

The population of friendly bacteria in the intestinal tract also services and aids your immune system. By offering a first line of defense, friendly bacteria have been shown to inhibit the growth of pathogenic bacteria, provides a protective barrier on the intestinal wall, and produces natural antibacterial substances to fight off ingested harmful bacteria. This defense is especially important for infants since their immune system is still developing. Without friendly bacteria, harmful bacterial strains such as *E. coli*, *H. pylori*, and *Salmonella* would have the opportunity to grow, produce toxins, and cast a myriad of negative effects on your health from the production of excess gas, food poisoning, allergies, intestinal inflammation to the onset of infectious diseases.

Like enzymes, the obvious question is: don't we have enough of these "good" bacteria already? The answer is that we should, but not always. The delicate relationship between "good" and "bad" bacteria in the body can be thrown out of balance by a wide range of modern-age culprits which can include the use of medications, exposure to toxins, and stress.<sup>18</sup> Whenever the "good" bacteria numbers decrease, the harmful competitors have a chance to flourish. It is imperative to replenish your supply of friendly bacteria with probiotics to defend the body against harmful bacteria that enter the body through eating, drinking, and breathing.

### MODERN-AGE CULPRITS THAT REDUCE THE GROWTH OF FRIENDLY BACTERIA:

- Use of antibiotics
- Use of medications containing steroids
- Consuming meats injected with steroids and antibiotics
- Exposure to toxic substances
- Stress, including mental, physical, athletic, and emotional stress
- Consumption of diets high in refined foods
- Consumption of carbonated beverages
- Decreased consumption of fermented foods, i.e. homemade sauerkraut

The United Nation's Food and Agriculture Organization defines probiotics as "live microorganisms administered in adequate amounts which confer a beneficial health effect on the host." Probiotics (meaning, in favor of life) are a valuable part of a healthy diet. The most common probiotics are lactic acid producing bacteria (LAB), and this Enzyme & Probiotic Formula includes five of them, including the patented strain **DDS-1 *Lactobacillus acidophilus***.

Probiotics have been a topic of interest since the turn of the 20th century. They have recently gained popularity as a nutritional supplement due to mounting evidence of their health benefits. Notably, certain LAB strains have been shown to strengthen the immune system, fight infection and create an environment in which "bad" pathogenic bacteria cannot thrive. According to the Nobel Prize winner, Elie Mitchnikoff, the dominance of friendly bacteria such as *L. acidophilus* inhibits the growth of toxin-producing bacteria that encourage disease and shorten lifespan.

An extensively studied LAB, **DDS-1 *L. acidophilus*** has been shown to have the greatest significance for digestion, nutrition and health when grown and produced as a dietary supplement. It is highly stable during manufacturing and storage, plus it has been reported to be resistant to several common antibiotics such as penicillin and streptomycin. As a result, this particular strain may help to restore the balance of "good" and "bad" bacteria during and after antibiotic therapy.

## BENEFITS OF PROBIOTICS

- **Aids digestion:** LAB produce protease and lipase enzymes as well as B-vitamins, which are also biocatalysts in food digestion, particularly folic acid and B-12.<sup>19, 20, 21, 22</sup>
- **Improves lactose intolerance:** Because LAB turn lactose into lactic acid, it can help lactose-intolerant individuals increase their tolerance while reducing the trademark gas, bloating and stomach cramps.<sup>23</sup>
- **Manufactures nutrients:** During the fermentation of foods traveling through the intestines, bacteria produce B vitamins, Vitamin K, short chain fatty acids, amino acids, and antioxidants – adding more nutritional support to the body.
- **Produces natural antibacterial like substances:** Several studies find LAB effective in the prevention and treatment of acute diarrhea caused by intestinal infections.<sup>24</sup> LAB also inhibits the pathogens responsible for urinary and vaginal infections.<sup>25</sup>
- **Lowers blood pressure and cholesterol:** Research shows that consuming milk fermented with various LAB strains can produce modest reductions in blood pressure.<sup>26</sup>
- **Reduces inflammation:** Studies suggest that LAB can prevent recurrences of inflammatory bowel disease (IBD).<sup>27</sup>
- **Prevents osteoporosis:** LAB aid in the absorption of calcium, a process that can be hindered by long-term use of antibiotics.<sup>28</sup>
- **Inhibits cancers and tumors:** DDS-1 *L. acidophilus* has been found to have anti-carcinogenic and anti-tumor properties.<sup>29, 30</sup> Also, population studies have shown that those who consume higher amounts of fermented dairy products demonstrate lower rates of colon cancer.<sup>31</sup>

## THE PROBIOTICS WE USE

This Enzyme & Probiotic Formula replenishes probiotics to balance the intestinal microflora for optimal digestive and immune support. The five strains that were selected for this Enzyme & Probiotic Formula are among the most researched species for nutritional support and the most dominant within the digestive system. Among specific benefits, each strain produces lactic acid as a by-product of their actions and therefore creates an environment that pathogenic bacteria cannot thrive in. A great probiotic supplement must have three properties: (1) must be a live active culture, (2) demonstrate stability—resistant to heat and pH, and (3) have the ability to adhere to the intestinal wall and thrive. Here's a quick view of the benefits of this Enzyme & Probiotic Formula's probiotics:

<b>DDS-1 Lactobacillus acidophilus</b>	Produces natural antibiotic and anti-viral substances, produces enzymes and vitamins, controls pH in the colon, resistant to heat and extreme conditions in the intestines, inhibits 23 toxin producing microorganisms and much more – found primarily in the colon
<b>Bifidobacterium bifidum</b>	Powerful bacteria that assist in the detoxification and suppression of pathogens – found in the large intestine, vagina, and small intestine
<b>Bacillus coagulans</b>	These spores are activated by stomach pH, resistant to heat, produce B vitamins, and produce phosphoprotein phosphate to help digest milk proteins
<b>Bifidobacterium longum</b>	Among the first to colonize in newborns and is a dominant bacterium in the digestive tract
<b>Lactobacillus plantarum</b>	Consistently wages warfare with “bad” bacteria, assists <i>L. acidophilus</i> , and has unique ability to synthesize L-lysine – nonresident bacteria

## ADDITIONAL SUPPORTIVE INGREDIENTS

To complement and enhance our powerful probiotic ingredients, we have added water extracted **fructo-oligosaccharides** (FOS), or complex sugars, from chicory root to this Enzyme & Probiotic Formula. This sugar – also referred to as a prebiotic – ferment when exposed to LAB, therefore increasing the number of friendly bacteria in the body and improving their colonization.<sup>32, 33</sup>

Finally, this Enzyme & Probiotic Formula is rounded out with three well-known minerals: **calcium, magnesium** and **manganese**. What makes them different is that we only use patented **amino acid chelated minerals**, which are superior for their bioavailability. No matter how many milligrams of a mineral the product contains, if the nutrient is not available for use by the body tissue, then the product is worthless. Our premium minerals ensure maximal availability for metabolic use by the body.

Our magnesium also stands out for another reason. We've chosen to use the patented compound **magnesium glycyl glutamine** (MGG), which is the only stabilized glutamine product on the market. Glutamine is the most abundant free amino acid in circulation and is the primary fuel for rapidly dividing cells, as found in the intestinal lining. Glutamine (as L-glutamine) in powdered formulas is known to be unstable and decomposes in the digestive tract; thereby producing toxic byproducts.<sup>34</sup> Studies show that MGG, the glutamine form found in this Enzyme & Probiotic Formula, remains stable in solution and is readily taken in by the mucosal cell.<sup>35</sup> As a result, Enzyme & Probiotic Formula offers consumers the additional benefits of glutamine, an amino acid that supports the mucosal lining of the intestinal tract, prevents intestinal hyperpermeability and bacteria translocation, and plays an essential role in muscle growth and repair which can be of special interest to athletes and those under stress.<sup>36</sup>

**100% FREE OF MAGNESIUM STEARATE.**  
Used in the manufacturing of many supplements on the market today, magnesium stearate can reduce the absorption of nutrients within the product and can suppress your immune system.

But let's not overshadow magnesium itself. A staggering 70% of the US population receives less than the recommended daily amount of this mineral.<sup>37</sup> Furthermore, magnesium deficiency has been linked to a host of conditions including diabetes, hypertension, cardiac arrhythmia, heart attack and atherosclerosis, or the hardening of the arteries. Increasing your intake can help to promote cardiovascular health and prevent insulin resistance.

Finally, the absence of zinc and copper from our product is not an oversight. Research shows these heavy metals can interfere with enzyme activity<sup>38</sup>, so unlike other supplements, we have removed them to ensure this Enzyme & Probiotic Formula's superior efficacy.

## READ THE LABEL: WHY ENZYME & PROBIOTIC FORMULA IS THE BEST ON THE MARKET

Enzyme product labels list either activity units or milligrams, and the difference is significant. When you buy a product that only lists the weight in milligrams, you have no guarantee of the potency. Who cares if you buy 1000mg of enzymes if they are all inactive, or dead? The same issue exists with probiotics, which can be listed as colony forming units (CFU) or milligrams. At Windhawk, we always list the activity units and CFU. It's one easy way to separate the good products from the bad.

Combining the far-reaching benefits of enzymes, probiotics and minerals with over 18 premium ingredients, Windhawk™ Balanced Naturals™ Enzyme & Probiotic Formula is the most potent pro-digestion product on the market. Competitors do not come close to our 44,687 active units of enzymes and 5 billion CFU of probiotics per capsule. In an age of cooked and processed foods and over prescribed

antibiotics, this is a product that every single person needs to preserve his/her enzyme supplies, maintain a balance of “good” and “bad” bacteria and bolster his/her ability to fight disease, infection and inflammation.

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- <sup>3</sup> Howell, 18.
- <sup>4</sup> Howell, 28.
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