



# Defend

Reishi Mushroom and Dark Cacao for Immune Health\*

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## Benefits\*

- May support a healthy immune response
- May help regulate normal inflammatory processes
- May support healthy white blood cell activity
- May help reduce oxidative stress
- May promote healthy cellular aging

## Highlights

- Zero grams of sugar — suitable for ketogenic diets
- Free of artificial sweeteners, flavors, or colors
- Low allergen profile, free of dairy, soy, and gluten, and non-GMO
- Suitable for vegans and vegetarians
- Only 3 g carbohydrates per serving
- Each batch has been given a Certificate of Analysis to confirm potency and purity
- Sources of environmentally sustainable harvested cacao beans
- Convenient delivery format for better patient compliance

## Dosing Guidelines

Consume 1 square of Fx Defend once per day. Increase dosage as necessary. Do not exceed two squares per day.

## Fx Chocolate® Defend

Supplement Facts		
Serving Size 1 Square (4.5 g)		
Servings Per Container 15		
Amount Per Serving		% Daily Value
Calories	15	
Total Fat	1 g	1%**
Saturated Fat	0.5 g	3%**
Total Carbohydrate	3 g	1%**
Dietary Fiber	1 g	4%**
Total Sugars	0 g	†
Includes 0 g Added Sugars 0%**		
Organic Reishi	250 mg	†
Full Spectrum Blend (GanoUltra™)		
<i>(Ganoderma lucidum, Ganoderma applanatum, and Ganoderma tsugae)</i>		
<i>(mycelium, primordia, fruiting body, and extracellular compounds)</i>		
**Percent Daily Values are based on a 2,000 calorie diet.		
†Daily Value not established.		

**Ingredients:** Cacao nibs, allulose, organic cocoa butter. Made on equipment shared with nuts and milk.

GanoUltra™ is a trademark of AMI Newco, LLC.

\*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.



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Fx Defend is a synergistic blend of dark chocolate and mushroom polysaccharides for enhanced cellular protection that supports energy and immune health.\* Fx Defend contains 250 mg of GanoUltra™ — three individually extracted strains of full-spectrum organic reishi mushrooms (*Ganoderma lucidum*, *Ganoderma applanatum*, and *Ganoderma tsugae*). GanoUltra™ is revered for sustained energy, mind, and body-balancing properties.\* The mycelium, primordia, fruiting bodies, spores, and extracellular compounds derived from the 100% organic mushrooms are included in this formula for maximum potency. Fx Defend provides more than 150 mg (60%) of immune-supportive beta-glucans (a specific type of polysaccharide) in every chocolate square. Beta-glucans are a form of soluble fiber found in edible fungi, oats, barley, and yeast that have been shown to stimulate the immune system and possess antibacterial, antiparasitic, and antiviral properties.<sup>1</sup> GanoUltra™ is made in America by the world's most respected producer of full-spectrum medicinal mushrooms, Aloha Pharmaceuticals.

Fx Chocolate® contains zero grams of sugar and is sweetened with allulose, a sweetening agent that is found naturally in jackfruit, figs, and raisins, with no bitterness or unpleasant aftertaste. The chocolate delivery system is a novel and convenient way to receive the benefits of bioactive ingredients found in nutrients and herbs, especially for individuals who are unable to swallow capsules or softgels, or for those who wish to reduce pill fatigue.

## Ingredient Highlights

**Theobroma cacao L.** (also known as the “food of the gods”) boasts a wide variety of health benefits. Cacao beans are a rich source of bioactive polyphenolic compounds (with more than 200 having been identified) including flavanols, flavan-3-ols, epicatechins, and proanthocyanidins, which have been shown to provide antioxidant properties, and perhaps is a reason to indulge in a little dark chocolate. These dark chocolates offer various health benefits such as reducing oxidative stress, supporting cardiovascular health<sup>2</sup> and blood lipid metabolism, and promoting healthy cognitive function.<sup>3</sup> The dietary polyphenols in cacao, especially flavanols, have been shown to have favorable effects on cardiometabolic health, including the support of healthy blood pressure, blood vessel function, and healthy fat ratios in the body, in human and animal studies.<sup>4,5</sup> Furthermore, cacao polyphenols were shown to support healthy intestinal inflammatory responses by promoting healthy expressions of neutrophils (a type of white blood cell), cytokines, and enzymes.<sup>3</sup>

The methylxanthines (e.g., caffeine, theobromine, theophylline), peptides, and minerals present in cacao also support its tremendous health benefits. Cacao contains micronutrients such as magnesium, copper, and selenium. These minerals are essential to human health and play a critical role as cofactors for various physiological functions such as producing cellular energy and scavenging free radicals.<sup>6</sup>

**Reishi mushroom** (*Ganoderma lucidum*), known as the “mushroom of immortality” in China, is possibly one of the most well-known of the medicinal mushrooms that possesses antimicrobial properties and may help support normal inflammatory and immune responses.<sup>7,8</sup> Reishi contains multiple bioactive constituents, including beta-glucan polysaccharides and triterpenes, that have been shown to promote Th1 immune response in vitro and in vivo by activating CD3+, CD4+, and CD8+ T cells.<sup>9,10</sup>

The beta-glucan content in reishi mushrooms acts on several immune receptors that stimulate immune cell activity, including T-cells, macrophages, neutrophils, monocytes, natural killer cells, and dendritic cells, which have modulatory effects on both the innate and adaptive branches of the immune system.<sup>7,11</sup> A small double-blind, placebo-controlled trial demonstrated that older adults with confirmed upper respiratory tract infections who supplemented with 250 mg beta-1,3/1,6 glucan per day for 90 days during the winter months had increased blood concentrations of interferon-gamma (a critical cytokine to innate and adaptive immunity) and reduced symptom duration compared to infected subjects in the placebo group.<sup>12</sup> Due to its antioxidant activity, reishi was also shown to support healthy liver function.<sup>13,14</sup>

**Allulose** is a monosaccharide epimer of fructose, formally called D-psicose, that is found naturally in figs, raisins, jackfruit, and maple syrup. It has a sweet taste — very much like regular sugar (sucrose) — and it occurs in relatively small amounts, so it is referred to as a “rare sugar.” While allulose has the taste and texture of sugar, when taken in isolation, it does not affect blood glucose or insulin. Allulose has a glycemic index of zero, which makes it an ideal sweetener for people on ketogenic or low-carbohydrate diets. Humans lack the enzymes to digest allulose, so it is absorbed in the small intestine, but it is not metabolized by the body, making it nearly calorie free. Thus, allulose has just one-tenth the calories of sucrose — only 0.4 calories/gram to be exact. Allulose is primarily excreted in the urine and has very low colonic microbial fermentability. Therefore, it has no unpleasant gastrointestinal effects common with polyols.

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The logo for Fx Chocolate, featuring the letters 'fx' in a white square followed by the word 'CHOCOLATE' in a bold, white, sans-serif font.

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