ZTEC FXDR 02/2



Dream

Calming Melatonin-infused
Dark Cacao for Sleep Support*





By Dr. David M. Brady, ND, DC, CCN, DACBN, IFMCP, FACN and Caitlin Higgins, MS, CND, LDN

Benefits*

- · Helps promote restful sleep, especially during aging
- Encourages feelings of relaxation
- Helps support a positive mental outlook and balanced mood
- May promote mental and emotional calm
- May support healthy immune function
- · May promote antioxidant status

Highlights

- 3 mg of melatonin and 100 mg of 5-hydroxytryptophan (5-HTP) per serving
- 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 one square of Fx Chocolate® Dream 30-60 minutes before bedtime. Do not exceed the recommended dose.

Fx Chocolate® Dream

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 Adde	d Sugars	0%*
5-HTP	100 mg	†
(5-Hydroxytryptophan)		
Melatonin	3 mg	1

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

Warning: Not recommended for use by pregnant or lactating women, or by those taking SSRI or MAOI medications.

Fx Chocolate® Dream is a synergistic combination of 3 mg of melatonin and 100 mg of 5-HTP per serving to promote the brain's ability to naturally relax and rest.* Melatonin is a hormone that is naturally produced by the pineal gland in the brain to regulate sleep by controlling the body's circadian rhythms. With the inclusion of 5-HTP, Fx Dream may help support the body's natural serotonin and melatonin production.* The 5-HTP works alongside melatonin to promote healthy neurotransmitter function that supports our body's ability to regulate stress levels, maintain proper serotonin levels, support overall relaxation and rest, and promote healthy immune function.*

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, and 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 (more than 200 have been identified) including flavonols, flavan-3-ols, epicatechins, and their proanthocyanidin oligomers, which have been shown to provide antioxidant properties, and perhaps a reason to indulge a little in dark chocolate. Dark chocolate may offer various health benefits such as reducing oxidative stress, supporting cardiovascular health1 and blood lipid metabolism, and promoting healthy cognitive function.² Cacao's dietary polyphenols, especially flavonols, are shown in human and animal studies to have favorable effects on cardiometabolic health including supporting healthy blood pressure, blood vessel function, and healthy fat ratios in the body.^{3,4} Furthermore, cacao polyphenols were shown to support healthy intestinal inflammatory responses by promoting healthy expressions of neutrophils, cytokines, and enzymes.²

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.⁵

Melatonin is a multifunctional neuroendocrine hormone whose main role lies in its involvement in the control of the circadian biological rhythms. Melatonin mediates the body's response to variations of natural light availability from indoor/outdoor exposure or to the change of seasons (winter to summer). The visual perception of darkness tells the brain to make melatonin so the body can prepare for sleep mode. The production of melatonin should peak at night and is instrumental for maintaining quality sleep patterns.

Melatonin production declines significantly with age, often causing sleep difficulties associated with aging. 6-9 Sleep disorders affect between 50 and 70 million Americans and are associated with numerous health conditions, such as heart disease, hypertension, stroke, and diabetes. 10 Evidence from meta-analyses and systematic reviews suggest that melatonin has positive effects on sleep quality by reducing sleep onset latency and increasing total sleep time in individuals with primary and secondary sleep disorders. 11-13 Exogenous melatonin has also been shown to promote improved sleep quality for postmenopausal women with sleep disturbances. 14

In addition to its circadian roles, melatonin has been shown to play a preventative role in age-related oxidative stress; it is considered a broad-spectrum antioxidant due to its amphiphilic ability to easily diffuse into all cellular and intracellular compartments and cross the blood-brain barrier, as well as not requiring a

specific binding site or receptor for its hydroxyl radical scavenging effects.
⁹ Melatonin has also demonstrated the ability to stimulate the immune system, acting as either a pro- or anti-inflammatory regulator, depending on the context.
⁷ Melatonin has been shown to activate sirtuin 1 (SIRT1), upregulate Nrf2 , downregulate nuclear factor kappa B (NK- κ B), and release the anti-inflammatory cytokines interleukin 4 (IL-4) and IL-10.
⁷

5-HTP (5-hydroxytryptophan) works in conjunction with melatonin, as a precursor to the serotonin biosynthesis, which can further support endogenous melatonin production during the night to help facilitate staying asleep. In the brain, serotonin works to inhibit excitatory neurotransmission and modulate wakefulness, attention, affective behavior (anxiety and depression), sexual behavior, appetite, thermoregulation, motor tone, migraine, emesis, nociception, and aggression.¹⁵ Insufficient serotonin can contribute to a lack of melatonin and cause insomnia; therefore, 5-HTP can help promote a balanced sleep/wake cycle by maintaining adequate levels of serotonin.¹⁶

Allulose is a monosaccharide epimer of fructose, formally called D-psicose, that is found naturally in certain fruits and in 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. Humans lack the enzymes to digest allulose, so it is largely excreted in the urine and has very low colonic microbial fermentability. Therefore, it has no unpleasant gastrointestinal effects common with polyols.

Conditions for Which Melatonin is Not Recommended

- Autoimmune conditions such as lupus or arthritis because the immune stimulatory effect of melatonin may exacerbate the action of certain types of lymphocytes or B-cells involved in the pathological course of these diseases
- Immune-related cancers such as lymphoma and leukemia
- Pregnancy, lactation, or during times when fertility is desired

Interactions With Drug Therapy

Melatonin may not be suitable to administer along with MAO inhibitors and corticosteroid therapy.