



# FOCUSED

Get ready, fuel up and go for it!

Pre Workout-blend



Mixed Berry Flavor



Be Focused pre workout enhancer is the serious supplement for anyone looking for an edge to get ready and motivated to train to the next level. Its scientifically advanced ingredients can fortify you with unparalleled energy, extreme focus with increased performance to create muscle building power like never before!<sup>◊</sup> To enhance your workout, Be Focused features a specific formulation of cognitive enhancement with amino acid neurotransmitter precursors tyrosine and phenylalanine with Citicoline.<sup>◊</sup> These ingredients provide an energizing sensory experience with natural caffeine to deliver explosive energy and focus for the best workouts of your life.<sup>◊</sup>

Be Focused is designed to prepare anyone interested in improving their fitness, muscle strength and size, and/or athletic skill, whether they be young, middle aged, elderly, fit and highly trained, or untrained and unfit, but seeking to improve fitness. Two key components for supporting muscle performance, stamina, and size, are the amino acid beta-alanine, and the nitrogen containing organic acid known as creatine.<sup>◊</sup>

**Beta-alanine** plus another amino acid called histidine get linked together in skeletal muscles, heart, brain, eyes, and other high energy requiring tissues to form the dipeptide known as carnosine. Carnosine is present in meat and fish, which are the major dietary sources of beta-alanine, but it can also be produced by the liver, or consumed in dietary supplements. Beta alanine is the limiting factor in the ability of the muscles to make carnosine, because the amino acid histidine is plentiful in the tissues (such as skeletal muscle) that produce carnosine, even in vegetarians and vegans,

whose diets supply less carnosine. Supplementing beta alanine is much more efficient than supplementing carnosine itself, as carnosine is broken down into beta-alanine and histidine before reaching our muscles, and carnosine is only about 40% beta-alanine by weight. Carnosine has several critical functions in high energy requiring tissues—it functions as a buffer for the lactic acid produced by intense muscular effort, it is a potent antioxidant, scavenging free radicals produced by exercise, it chelates metal ions such as copper and iron which can strongly catalyze free radical reactions (oxidative stress), it prevents sugars from sticking to proteins and it binds aldehydes and other toxic compounds produced by muscle tissues when they are put under physical stress.<sup>◊</sup>

Research has shown that daily supplementation with beta-alanine in amounts of 3.2 grams per day (provided by 1 serving of Be Focused pre-workout, and 1 serving of Be Sustained during a workout) over a period of 10 months

increases muscle carnosine by as much as 80% above baseline, regardless of the baseline level.<sup>◊1, 2</sup> This most likely occurs also in the heart, brain and eyes, though research subjects would much prefer to have their muscle biopsied, rather than their heart, brain or eyes, so until we can determine carnosine content of tissues without biopsying them, we won't know for certain. However studies of brain and heart function under stress indicate that dietary beta-alanine supplementation does support both heart and brain function, which is almost certainly due to increased synthesis of carnosine in those tissues.<sup>◊</sup> Single doses of more than 1.6 grams of beta-alanine in most people causes a type of tingling, variously described as itching, burning, prickling, numbness, or a combination of these sensations, medically termed as 'parasthesias', which last between 15 minutes and 1-2 hours, which is why Be Focused contains 1.6 grams of beta-alanine per serving. Some people are particularly sensitive to this effect of beta-alanine, and will experience

<sup>◊</sup>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.

mild paresthesias with 1.6 grams of beta-alanine, and even with lower amounts. The mechanism that produces this symptom is not well understood, but there is some experimental evidence that it is related to opening of small pathways in nerves known as potassium ion channels, which results in increased firing of specific nerves which transmit sensation from the skin via nerves of the dorsal root ganglia to the brain. There is broad consensus in the sports medicine community, after 10 years of experience with this amino acid, that it is a harmless and self-limited phenomenon. With continued supplementation the intensity of this phenomenon tends to decrease and often disappears.

Clinical research has documented that beta-alanine supplementation of 3 grams per day for at least 2 weeks, increases muscular performance and decreases muscular fatigue during exercise, regardless of age or fitness level.<sup>3</sup> Longer periods of daily supplementation lead to higher levels of carnosine in muscles, and greater gains in strength, size, and stamina, as well as improvements in cardiovascular endurance, and improved maintenance of cognitive function despite prolonged physical exertion, which is critical in sports such as soccer and basketball. These effects of prolonged physical training while supplementing beta-alanine have been shown to provide these benefits to muscular, cardiovascular, and cognitive/neurological function that are over and above the benefits of athletic training alone. Some studies also suggest improved neurological and cognitive function associated with beta-alanine supplementation in the elderly, and are further enhanced with exercise training. Carnosine depletion appears to be associated with normal aging. Increasing carnosine stores may attenuate the normal aging process. In experiments with cultured human fibroblasts (cells that produce collagen), carnosine reduced the rate of cellular aging, which may be related to carnosine's documented ability to reduce the rate of telomere shortening in these cultured cells.<sup>4</sup>

**Creatine** acts as a partner to carnosine (which is increased by beta-alanine supplementation) in muscles, heart, and brain. Creatine is synthesized in the liver

and kidney, transported through the blood and taken up by tissues with high energy demands, such as skeletal muscle, heart, and brain. Body stores of creatine can also be increased by supplementation, and it has long been a popular supplement, particularly with strength athletes, though its benefits apply much more broadly to many different types of sport and fitness training and competition. Creatine, like beta-alanine, has also been shown to improve maintenance of muscle mass and strength in the elderly.<sup>5</sup>

Creatine functions in muscle as an intermediate carrier of phosphorus (creatine phosphate), which, during physical exertion, must be constantly re-supplied to adenosine monophosphate (AMP) and adenosine diphosphate (ADP) to produce more adenosine triphosphate (ATP), which is the major fuel for muscle function.<sup>6</sup> The breaking of the high energy phosphorus bonds in the ATP molecule is analogous to lighting a match (a process which also depends on phosphorus). When ATP supplies are depleted and there is not enough phosphorus available in the tissues to re-make ATP from AMP and ADP, the muscle, heart, or brain is no longer able to continue performing at a high level, and rest becomes imperative. In athletic endeavors, this is often referred to as 'hitting the wall'. Large amounts of creatine should not be taken by people with chronic kidney disease, because creatine is metabolized into creatinine, which requires the kidneys to eliminate it, and elevation of creatinine levels in the blood is used as a marker of renal function. Supplementing creatine in individuals with reduced renal function will increase serum creatinine levels, which can lead physicians to think that a person's kidney function has deteriorated when in fact it has not (provides a sort of 'false positive' that kidney function has decreased).

Cognitive function and energy support from phenylalanine, tyrosine, caffeine and citicholine can significantly improve the 'late in the game' ability to think clearly, strategize, and execute like never before. This cognitive support also helps maintain laser-like focus on form during strength training.<sup>7</sup> Perfect form leads to perfect muscle development, which leads to increased muscle power—and requires constant mental focus and concentration

to achieve. All athletic performance, both in training and in competition begins in the brain.

Neurotransmitters, are the biochemical compounds produced and stored in brain cells, and which are necessary to carry electrical impulses from one nerve to the other. The neurotransmitters needed for alertness, focus, and motivation are dopamine, epinephrine (also known as adrenalin, produced both by the adrenal glands and the brain), and norepinephrine. All 3 of these crucial neurotransmitters are made in the brain from the amino acids tyrosine and phenylalanine. Tyrosine is one of the eight 'essential' amino acids, meaning that they **MUST** be supplied in the diet—the body is unable to make them. All of the 14 other amino acids can be produced in the human liver from the 8 essential amino acids. Norepinephrine can be made in the body from tyrosine, and it can also be obtained from the diet, and most directly from dietary supplements, which require no digestion.

**Caffeine** is well known as a stimulating substance contained in coffee and tea as well as several other plants, and added to cola and energy drinks. Caffeine's major activity in the body is as an inhibitor of an enzyme called 'phosphodiesterase'.<sup>8</sup> Inhibiting this enzyme allows a very special substance known as cyclic AMP (cyclic adenosine monophosphate), which has been biochemically changed to have a circular rather than a linear structure. Cyclic AMP is one of the critical 'second messengers', which carries a signal from the membrane of a cell to the nucleus where it signals certain genes to become active, and others to become inactive. In the case of caffeine, increased intracellular cyclic AMP leads to a reduction in fatigue, and an increase in performance, both mental and physical.<sup>9</sup> The 125 mg of natural caffeine provided in each serving of Be Focused, is about the amount provided by 8 oz of coffee or three 6 oz cups of tea.

**Citicoline** is a remarkable compound, made famous by studies of it by neuroscientist Dr. Richard Wurtman at MIT. It modulates the production and activity of another critical neurotransmitter called acetylcholine, which is required for thinking and memory formation. It also supports formation of a phospholipid

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known as phosphatidyl choline, which is a critical component of the cell membranes of all brain cells. Citicoline is of particular value when the brain is under stress, such as a competitive game which requires endurance, power, skill, and strategy. When the body is becoming exhausted by prolonged athletic activity, cognitive skills are often lowered, and the ability to think clearly and make split-second decisions can be compromised. Preparing for such activity with Be Focused provides ample supplies of tyrosine and phenylalanine, which, together with caffeine and citicoline provide powerful motivation and cognitive support which can mean the difference between a loss and a win, for an individual or for a team.<sup>0</sup>

### **Cellular energy substrate support with citrate, malate, gluconate, and Blue Agave powder**

Citrate, provided both as citric acid and potassium citrate (which also contributes 20 mg of potassium per serving), is a key substrate for the cellular biochemistry that takes place in mitochondria, the tiny 'energy factories' of every cell, responsible for producing ATP. Malic acid, likewise enters directly into the ATP producing function of mitochondria known as the Krebs cycle, named after Sir Hans Krebs who discovered it.<sup>0</sup>

Blue Agave is the sap produced by the cactus from which Tequila is produced.

When dried, rather than fermented, it produces a sweet powder which is very low glycemic (meaning it is transformed into glucose in the blood quite slowly), to provide a smooth sustained energy source, with no spikes in insulin, which can later result in blood sugar crashes.<sup>0</sup>

Erythritol is a close cousin to the sugar alcohol we call glycerin. Glycerin is a dense sweet tasting thick liquid, which consists of 3 carbon atoms linked together, with each carbon bound to a hydroxyl group (OH, meaning an oxygen atom bound to a hydrogen atom). Erythritol is 4 carbons linked together, each bound to a hydroxyl group in its pure form it is a powder rather than the thick syrupy liquid that is pure glycerin. Both glycerin and erythritol are unique among the family of sugar alcohols, in that they are nearly 100% absorbed from the intestine. Glycerin, once absorbed from the intestine into the blood can interact with human biochemistry in a number of ways, including binding with free fatty acids to form a class of fats called Triglycerides so named, because 1 fatty acid molecule can form a bond with each of the hydroxyl (OH) groups on the 3 carbon atoms of the glycerin backbone. Erythritol, likewise is nearly 100% absorbed from the intestine, but is not metabolized for energy, nor metabolically active in human biochemistry. While erythritol circulates in blood, however, it can be absorbed into tissues where it

functions as what is called an 'osmolyte', and can contribute to keeping tissues from dehydrating and shrinking during prolonged athletic activity. Ultimately about 90% of erythritol is excreted unchanged in the urine. It is present in small quantities in a number of foods, such as mushrooms, and fermented foods such as cheeses and beer, but commercially it is produced by a specific strain of naturally occurring yeast which produce it as a product of their metabolism, and is then purified from the culture medium after removing the microbes by centrifugation. Erythritol is also produced commercially from GMO corn, but that is NOT a source that Lifeplus uses, as we avoid all products produced from GMO sources.

Be Focused is the first of a trio of products designed to support athletic training—follow it with Be Sustained for even better workout performance and finish with Be Recharged, to get maximal benefit from your efforts. With only 1 gram of usable carbohydrate, great flavor, and powerful performance, Be Focused will help you get ready to train, whether you're an elite competitive athlete, a Senior Citizen about to go for a hike, or just a brisk walk—or a 'weekend warrior' who wants to stay fit and avoid injury. It's also an important source of extremely useful nutrients even for the very elderly who want to avoid becoming frail and maintain both their physical and mental vitality.<sup>0</sup>

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#### REFERENCES:

1. (Derave W, *et al* beta-Alanine supplementation augments muscle carnosine content and attenuates fatigue during repeated isokinetic contraction bouts in trained sprinters .
  2. *J Appl Physiol* (1985). (2007) Hill CA, *et al* Influence of beta-alanine supplementation on skeletal muscle carnosine concentrations and high intensity cycling capacity. *Amino Acids* (2007).
  3. <https://jissn.biomedcentral.com/articles/10.1186/s12970-015-0090-y>
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## Supplement Facts

Serving Size / 1 Sachet (12.8 g)

Servings Per Container / 18

Amount per serving		% Daily Value
Calories		19
Total Carbohydrate	5 g	2%*
Dietary Fiber	0 g	0%*
Total Sugars	5 g	
Includes 8 g Added Sugars		10%*
Sugar Alcohol (Erythritol)	3.5 g	
Vitamin C	30 mg	33%
Vitamin B-6	9 mg	529%
Sodium	90 mg	4%

Amount per serving		% Daily Value
Potassium	90 mg	2%
Amino Acids	2800 mg	**
CarnoSyn® Beta-Alanine	1600 mg	**
L-Phenylalanine	400 mg	**
L-Tyrosine	800 mg	**
Creatine Monohydrate	3000 mg	**
Citicoline	225 mg	**
Caffeine	125 mg	**

\* Percent Daily Values are based on a 2,000 calorie diet. \*\* Daily Value not established.

INGREDIENTS: Erythritol, Creatine Monohydrate, CarnoSyn® Beta-Alanine, Natural Berry Flavors, Blue Agave (Agave tequilana F.A.C. Weber), L-Tyrosine, Sodium Gluconate, L-Phenylalanine, Steviol Glycosides, L-Malic Acid, Potassium Citrate, Citicoline, Caffeine, Sea Salt, Beet Root (Color), Silica, Citric Acid, Vitamin C (L-Ascorbic Acid), Vitamin B-6 (Pyridoxal-5-Phosphate).

PHENYLKETONURICS—CONTAINS PHENYLALANINE

US.SF2.MOD 3

As with all supplements, please consult your physician prior to taking if you are pregnant or attempting to become pregnant, breast-feeding, under a doctor's care or taking prescription medication.

Allergy Information: This product is processed in the same facility that processes products containing fish/shellfish, soy and dairy. This product was not tested on animals.

Store in a cool, dry place.

Excessive consumption may produce laxative effects.

The energy you need to help you through your workout.<sup>9</sup>

No artificial colors, artificial flavors, artificial sweeteners or preservatives.

Suitable for Vegans

Gluten Free

FOR BEST RESULTS, CONSUME 30 MINUTES BEFORE YOUR EXERCISE.

DIRECTIONS: Mix 1 Sachet (12.8 g) once per day with 8 oz (240 ml) of water or your favorite beverage. Shake well.

∅ 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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