



Knockout Nutrition

Knockout Nutrition

Fierce 850g

Price: \$85.00



Formulated To Increase Endurance And Pre-Workout Strength Levels!

Fierce was specifically formulated to increase endurance and pre-workout strength levels assisting the user to lift more weight and exercise for prolonged periods without feeling fatigued. Let's run through the list of ingredients in Fierce and see how each and every one contributes to an overall ergogenic and endurance-enhancing effect. The proprietary formula consists of 5 individual categories each of them designed to work in tandem with one another.

Cell Hydration Matrix

Of all the ingredients seen in Fierce, creatine in its various forms is perhaps the most familiar to supplement users. Numerous studies have shown the creatine consumption leads to increased strength and athletic performance. There are several theories about how creatine works. The original theory, and perhaps still the most widely accepted, is that oral creatine supplementation increases total creatine and creatine phosphate (CrP) in human skeletal muscle. An increased muscle CrP concentration increases its availability for ATP synthesis. This additional ATP can be used by the muscle to perform work.

Studies have also shown that creatine supplementation increases the glycogen content of skeletal muscle along with an increase in myosin heavy chain synthesis (Nelson et al. 2001). The increases in lean body mass associated with creatine use may be a result of creatine's ability to elevate insulin like growth factor 1 (IGF-1) in muscle tissue (Deldicque et al 2005).

Why do we see Malate combined with creatine in the formulation? Malate is an intermediate in the so-called Tricarboxylic Acid Cycle (TCA). While being processed in the TCA, each kind of major fuel is converted to acetyl groups, which are handled by attachment to a particular coenzyme known as coenzyme A. Ultimately ATP is produced from another compound, NADH, generated by the TCA. Malate is dehydrogenated in the TCA cycle to oxaloacetate, the concentration of which is one of the most critical controls of the rate of aerobic ATP production. During prolonged aerobic activity, and in patients suffering from malate deficiency, malate becomes depleted and the TCA is unable to produce ATP fast enough to meet the demands of working muscle.

Creatine-Ethyl-Ester is a synthetic analog of the popular supplement creatine. The main difference between the two compounds is that the carboxylic acid group of creatine was molecularly modified through the attachment of an ester linkage. In doing this, we are able to create an organic compound that possesses both increased water solubility and enhanced muscle partitioning effects over ordinary creatine monohydrate. Once in the body, regular creatine monohydrate rapidly loses its water molecule yielding the byproduct 'creatinine.' Even though a natural by-product of creatine metabolism, creatinine possesses numerous undesirable side effects to the athlete. It was therefore significant to discover that treating the creatine with Ethyl alcohol and hydrogen chloride not only removed the undesirable water molecule from creatine, but also yielded a pure creatine- Ethyl-ester compound that is completely devoid of both water and creatinine.

Once in the gastrointestinal tract the Creatine-Ethyl-ester is rapidly hydrolyzed to pure creatine by the esterase enzyme yielding an immediate ATP substrate without any stomach discomfort or bloat. ATP (adenosine triphosphate/ or three phosphates attached to adenosine, which is a nucleoside) is the necessary energy molecule that fuels muscular contractions by donating one phosphate group as cellular energy.

Nitro NO

One of the major controlling factors in the expansion and contraction of blood vessels is nitric oxide (NO). In the body NO is produced from the amino acid arginine. When exposed to NO, blood vessels dilate, allowing for increased blood flow due to the vessel's increased cross-sectional area. Working muscles require a copious blood supply to deliver nutrients and carry away waste products. Since arginine is the direct precursor to NO, Bodybuilders have supplemented with arginine-based compounds to increase NO production. This leads to the sought-after "pump" associated with muscle blood vessels engorged with blood. Arginine alpha-ketoglutarate (AKG) is reportedly better absorbed than arginine, and has a more sustained effect on NO production. AKG itself has been used extensively for nutritional support in various health areas and in the post surgery setting.

Ornithine alpha-ketoglutarate (OKG) is added to Fierce as a secondary route to raise plasma arginine levels and subsequently NO in the body. OKG is documented to work parallel with AKG to also raise levels of glutamine, polyamines, growth hormone and insulin. In turn, these elevations prevent catabolic muscle wasting that usually follows post workout. As a note, OKG is often used in clinical settings as a first aid medicine to carry away muscle waste products in burn victims. It is also documented to help re-grow skin and muscle tissue.

Creatine Assimilator

Glycocyamine (GAA) and Guanidinopropionic Acid (GPA) have been added to Fierce to mimic the

actions of insulin in that they lower blood glucose in animal studies (Meglasson et al 1993). This appears to be the result of increased expression of GLUT-4, a major glucose transporter (Ren 1993). GAA is also converted in the liver into creatine, adding to plasma creatine levels outside that of Dicreatine-Malate and Creatine-Ethyl-Ester (see above). Because of the insulin mimetic/ creatine transport effects of glycoyamine and GPA, taking these along with Dicreatine-Malate and Creatine-Ethyl-Ester is superior to simply taking more creatine by virtue of secondary and third biochemical pathways.

Betaine Anhydrous has been well characterized as an agent capable of lowering levels of homocysteine in the body. Betaine lowers plasma homocysteine up to 20% in normal humans (Olthof et al 2005). One interesting study looked at the effects of betaine on both trained and untrained animals. In the untrained group betaine lowered plasma lactate levels post-exercise significantly, implying that betaine should allow for a faster recovery from exercise. For your information, muscle fatigue is believed to be due to, at least in part, lactic acid buildup. In other studies, betaine increased muscle area and decreased fat thickness.

Duralast Matrix

Glucuronolactone is a naturally occurring chemical compound produced by the metabolization of glucose in the human liver. It has received some public notoriety due to its inclusion in energy type drinks like Red Bull. Some of its positive attributes have been linked to acting as a stimulant, and helping in memory retention and concentration. Glucuronolactone is also a direct precursor to Taurine therefore aiding in improved mental performance and reaction time. In clinical settings, Glucuronolactone was found to reduce sleepiness with sleep related driving incidents. (Reyner et al 2002)

L-Aspartic acid is a non-essential amino acid, synthesized from glutamate or otherwise derived from protein. Its chief mechanism is believed to be involved in the repair of DNA and assisting carbohydrate metabolism. It is a carrier molecule for the transport of magnesium & potassium in and out of living cells. L-Aspartic acid is also a major excitatory transmitter in your brain making it useful especially to those involved in reaction type sports such as basketball, football etc. Just like Malic acid, aspartic acid is an intermediate in the TCA cycle (see above) and thus extremely useful in removing ammonia from the body. Last but not least, in human studies, L-Aspartic acid has been shown to halt fatigue after strenuous exercise thus increasing endurance levels.

b-Alanine is a direct precursor to Carnosine. Carnosine is extremely effective in buffering hydrogen ions, which are generally elevated in exercising athletes. Under normal exercising conditions, hydrogen ions rise in response to energy production resulting in a subsequent fall of muscle PH. With low intra-muscular PH levels athletes often times get fatigued resulting in sub-par performance. The extent to which Carnosine can delay fatigue (acidosis) is correlated to its content in muscle tissue. (Tallon et al 2004-2005) In essence, the addition of b-Alanine (and subsequently Carnosine) in Fierce is related to its effects on preventing your muscles from becoming too acidic during times of stress. Since Carnosine works alongside creatine (which is considered a phosphate donor) in buffering the intra-muscular system from becoming too acidic it makes perfect sense to stack the two together. Simply stated, b-Alanine makes creatine work better through a second and independent pathway.

Neuro Coognitizing Substrates

Taurine was included for its antioxidant properties and may be responsible for the cytoprotective effect that is reported throughout the literature. Dawson et.al 2002 subjected animals to 90 minutes of strenuous downhill running after which muscle tissue damage was assessed. The taurine supplemented group not only showed less extensive tissue damage, but running performance as assessed by a subjective rating scale was improved. Exercise has been shown to deplete the muscle content of taurine. In light of its ergogenic actions, this warrants taurine supplementation during exercise. A similar experiment in young men showed equal

results: After exhaustive exercise, the taurine group exhibited less cellular damage and enhanced performance (Zhang et al 2004). Quoting from the study,

"Significant increases were also found in VO₂max, exercise time to exhaustion and maximal workload in test with taurine supplementation ($p < 0.05$). After supplementation, the change in taurine concentration showed positive correlations with the changes in exercise time to exhaustion and maximal workload. The results suggest that taurine may attenuate exercise-induced DNA damage and enhance the capacity of exercise due to its cellular protective properties."

What is even more exciting is that Taurine works extremely well with glucuronolactone (see above) in aiding mental performance, clarity and reaction time.

N-Acetyl-L-Glutamine (NAG) is known to form a protective layer over the lining of the stomach. It accomplishes this by activating a chemical action that serves as an anti-acid buffer while suppressing the secretion of pepsin, a protein-digesting enzyme produced in the stomach.

More recent clinical research indicates that NAG has psycho-stimulant properties while improving memory. Chemically speaking, N-Acetyl-L-Glutamine is the acetylated version of the most abundant amino acid found in skeletal muscle tissue, which is glutamine. NAG is more stable in water and metabolically efficient at delivering glutamine's biological effects over conventional Glutamine or Glutamine Peptides. As a glutamine donor it supports the immune system. (Haussinger et al 2001).

Tyrosine is a nonessential amino acid synthesized in the body from phenylalanine. It is an important nutritional ingredient and chief factor in the biosynthesis of the brain neurotransmitters epinephrine, norepinephrine, and dopamine. As such, Tyrosine is a precursor for the neurotransmitters that are responsible for transmitting nerve impulses. Tyrosine is also considered an antioxidant, reacting with free radicals that can cause damage to cells.

Caffeine is our last and final ingredient which is known as a competitive inhibitor of the enzyme cAMP-PDE, thus converting cyclic AMP in cells to its noncyclic form, allowing cAMP to build up. Cyclic AMP participates in the messaging cascade produced by cells in response to stimulation by epinephrine, so by blocking its removal caffeine intensifies and prolongs the effects of the neurotransmitters epinephrine and norepinephrine.

The metabolites of caffeine contribute to caffeine's overall powerful effects. Theobromine which is considered a vasodilator increases the amount of oxygen and nutrient flow to the brain and muscles. Theophylline, the second of the three main metabolites, acts as a smooth muscle relaxant that chiefly affects the bronchioles and acts as a chronotrope and inotrope thus increasing heart rate and efficiency. The third metabolic derivative, paraxanthine, is responsible for an increase in the fat burning process, which releases glycerol and fatty acids into the blood to be used as a source of fuel by the muscles (Dews et al. 1984).

Serving Size: 17 Grams

Servings Per Container: 50

Amount Per Serving:

Cell Hydration Matrix 4g

Dicreatine-Malate, Creatine-Malate, Creatine-Ethyl-Ester HCl

Neuro-Coognitizing Substrates 3.8g

L-Taurine, N-Acetyl-L-Glutamine, L-Tyrosine & Caffeine Anhydros

Creatine Assimilator 2.5g

Betaine Anhydrous & Glycocyamine, Guanidinopropionic Acid (3-GPA)

Duralast Matrix

Glucronolactone & L-Aspartic Acid, b-Alanine

Nitro NO

L-Arginine-Alpha-Ketogluarate & L-Ornithine Alpha-Ketoglutarate

Other Ingredients:

Citric acid, calcium silicate, natural and artificial flavors, aspartame, acesulfame-k, fd&c colors red no. 40 and yellow no.6.

Directions: Take 1 scoop and mix into 12oz of cold water 30 minutes before your workout and/or immediately upon awakening.

[Vendor Information](#)

Customer Reviews: There are yet no reviews for this product.

Please log in to write a review.