



Creatine Monohydrate

Creatine Monohydrate is a compound that is naturally made in our bodies to supply energy to our muscles. Creatine is formed from the amino acids arginine, methionine, and glycine through an involved chemical process. Creatine is manufactured in the liver and may also be produced in the pancreas and kidneys. It is transported in the blood and taken up by muscle cells, where it is converted to creatine phosphate, also called "*phosphocreatine*." This reaction involves the enzyme creatine kinase which helps bond creatine to a high-energy phosphate group. Once the creatine is bound to a phosphate group, it is permanently stored in a cell as phosphocreatine until it is used to produce chemical energy called adenosine triphosphate (**ATP**). Once this is done, creatine can be released to spontaneously form creatinine, which is then removed from the blood via the kidneys and excreted in the urine. In order to increase athletic performance and boost lean body mass, creatine must be taken in concentrations which are not reasonably obtained from a whole food diet.

Although creatine's role in the energy production process is its most notable trait, there is evidence that creatine can stimulate muscle growth. It does this in a couple of different ways. By allowing you to perform more work as a result of additional energy, increased protein synthesis is stimulated. Secondly, when an abundance of creatine phosphate is stored in the muscle, the muscle will hold more water in its cells and become what is known as "volumized" or "super-hydrated." The more volumized a muscle is, it will promote the synthesis of protein as well as deter the breakdown of protein. Volumizing the muscle will also create an environment where an increased level of Glycogen synthesis will take place. Increased protein synthesis along with training will lead to muscle growth. There is also scientific evidence that shows supplementation with creatine causes muscle tears to repair themselves quicker.

Creatine Monohydrate Benefits:

- Helping build lean body mass, which allows greater force to be used
- Providing energy so duration of exercise or work can be lengthened
- Speeding recovery so exercise frequency can be increased
- Promoting muscle growth by stimulating protein synthesis
- Buffering lactic acid and improve exercise recovery time

Creatine Monohydrate should be taken in two phases: Loading Phase and Maintenance Phase. Creatine should be taken with a high glycemic carbohydrate source like dextrose (also known as glucose), such as grape or orange juice to load your muscles. Use 20-30 grams of creatine per day for a week (loading phase) and then cut back to 5-15 grams per day (maintenance dose). If you're like most people, you'll notice a dramatic increase in size and strength. You'll get better pumps, and your muscles will be noticeably stronger and firmer. For best results, take creatine immediately before and after workouts.

These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure or prevent any disease.
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