



TETRA MEDICAL SOLUTIONS (Pty) Ltd

- The Natural Alternative -

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Creatine & added Minerals

Blueberry flavoured

Overview

Creatine is a compound that comes from three amino acids. Creatine is found mostly in your body's muscles as well as in the brain. Most people get creatine through seafood and red meat — though at levels far below those found in synthetically made creatine supplements. The body's liver, pancreas and kidneys also can make about 1 gram of creatine per day.

Your body stores creatine as phosphocreatine primarily in your muscles, where it's used for energy. As a result, people take creatine orally to improve athletic performance and increase muscle mass. People also use oral creatine to treat certain brain disorders, neuromuscular conditions, congestive heart failure and other conditions.

Benefits of Creatine:

Creatine is a natural supplement often used to improve athletic performance. It may also boost brain function, fight certain neurological diseases, and accelerate muscle growth.

- **Helps muscle cells produce more energy**

Creatine supplements increase your muscles' phosphocreatine stores. Phosphocreatine aids the formation of adenosine triphosphate (ATP), the key molecule your cells use for energy and all basic life functions. During exercise, ATP is broken down to produce energy. The rate of ATP resynthesis limits your ability to continually perform at maximum intensity, as you use ATP faster than you reproduce it. Creatine supplements increase your phosphocreatine stores, allowing you to produce more ATP energy to fuel your muscles during high-intensity exercise. This is the primary mechanism behind creatine's performance-enhancing effects.

- **Supports many other functions in muscles**

Creatine is a popular and effective supplement for adding muscle mass. It can alter numerous cellular pathways that lead to new muscle growth. For example, it boosts the formation of proteins that can increase the size of muscle fibers.

It can also raise levels of insulin-like growth factor 1 (IGF-1), a hormone that promotes increases in muscle mass. What's more, creatine supplements can increase the water content of your muscles. This is known as cell volumization and can quickly increase muscle size.

Additionally, some research indicates that creatine decreases levels of myostatin, a molecule responsible for stunting muscle growth. Reducing myostatin can help you build muscle faster.

- **Improves high-intensity exercise performance**

Creatine's direct role in ATP production means it can drastically improve high-intensity exercise performance. Creatine improves numerous factors, including: strength, ballistic power, sprint ability, muscle endurance, resistance to fatigue, muscle mass, recovery, brain performance.

Unlike supplements that have been shown to primarily impact advanced athletes, creatine has been shown to provide benefits regardless of a person's fitness level. One review found that it improves high-intensity exercise performance by up to 15%.

- **May fight neurological diseases**

A key factor in several neurological diseases is a reduction of phosphocreatine in your brain. Since creatine can increase these levels, it may help reduce or slow disease progression. The restoration of phosphocreatine helped maintain daily function and reduced cell death by around 25%. Research suggests that taking creatine supplements may treat other diseases too, including:

- Parkinson's disease
- Alzheimer's disease
- Ischemic stroke
- Epilepsy
- Brain or spinal cord injuries

Creatine has also shown benefits against amyotrophic lateral sclerosis (ALS), a disease that affects the motor neurons that are essential for movement. It improved motor function, reduced muscle loss, and extended survival rate by 17%.

Although more studies are needed in humans, some researchers believe that creatine supplements can serve as a defence against neurological diseases when used alongside conventional medicines.

- **May lower blood sugar levels and fight diabetes**

Research suggests that creatine supplements may lower blood sugar levels by increasing the function of glucose transporter type 4 (GLUT-4), a molecule that brings blood sugar into your muscles. Short-term blood sugar response to a meal is an important marker of diabetes risk. The faster your body clears sugar from the blood, the better.

- **Can improve brain function**

Creatine plays an important role in brain health and function. Research demonstrates that your brain requires a significant amount of ATP when performing difficult tasks.

Supplements can increase phosphocreatine stores in your brain to help it produce more ATP. Creatine may also aid brain function by increasing dopamine levels and mitochondrial function. For older individuals, supplementing with creatine for 2 weeks significantly improved memory and recall ability. Creatine may boost brain function, protect against neurological diseases, and reduce age-related loss of muscle and strength. Some health professionals report that collagen supplements can treat leaky gut syndrome, also called intestinal permeability.

- **May reduce fatigue and tiredness**

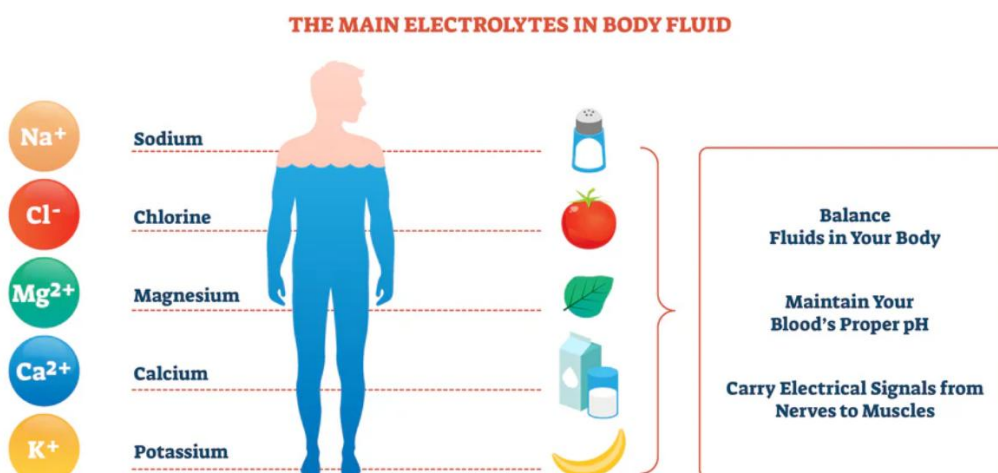
Creatine supplements may also reduce fatigue and tiredness.

In a 6-month study in people with traumatic brain injury, those who supplemented with creatine experienced a 50% reduction in dizziness, compared with those who did not supplement. Furthermore, only 10% of patients in the supplement group experienced fatigue, compared with 80% in the control group.

Another study determined that creatine led to reduced fatigue and increased energy levels during sleep deprivation. Creatine also reduced fatigue in athletes taking a cycling test and has been used to decrease fatigue when exercising in high heat.

Creatine with added minerals (electrolytes):

Electrolytes such as sodium, potassium, and magnesium are transporters used to aid in the absorption and utilization of creatine by the body.



Creatine and various electrolytes potentially increase the absorption of creatine, increase transport into the muscle, and increase performance

It is evident from past research that electrolytes further improve creatine uptake and the ergogenic effects associated with exercise.

- Potassium is involved in maintaining the balance of fluids inside and outside the cells, which can affect the uptake of creatine into the muscles.
- Sodium helps to regulate the osmotic pressure in the cells, which can also impact creatine uptake.

In addition, creatine transport into cells is mediated via transporter proteins, which operate in an electrogenic fashion, requiring sodium and chlorine ions.

Essentially, the sodium-creatine cotransporter makes use of the free energy of the sodium concentration gradient and also of the inside-negative membrane potential.

Research indicates that the sodium-creatine transporter is not near equilibrium of max capacity and therefore is a potential site for the control of intracellular creatine content.

Additional benefits of Creatine with Electrolytes:

- **Enhanced Hydration:**

Creatine supplementation can increase water uptake into muscle cells, but electrolytes like sodium and potassium are crucial for fluid balance and absorption. By combining creatine with electrolytes, you can support optimal hydration, preventing dehydration during intense workouts.

- **Improved Muscle Function and Performance:**

Creatine increases the body's phosphocreatine stores, which are essential for producing ATP (energy) during high-intensity exercise. Electrolytes, on the other hand, play a vital role in muscle contractions and nerve function. The combination of creatine and electrolytes can lead to increased strength, power, and endurance, allowing for more effective workouts and improved athletic performance.

- **Faster Recovery:**

Electrolytes help reduce post-workout fatigue and cramping, while creatine supports muscle repair and recovery. This combination can help athletes bounce back quicker from intense training sessions and reduce the risk of muscle soreness.

- **Potential for Cognitive Benefits:**

Some research suggests that creatine supplementation may also have cognitive benefits, potentially improving focus and mental clarity, especially when combined with electrolyte support.

Dosage Information:

Mix 10g (1 Scoop) with 300ml water in a shaker. Do not store mixed product, consume immediately.

Warning:

- If you are on chronic medication, speak to your physician about taking Creatine supplements.
- Keep out of reach of children.

Disclaimer:

Creatine with added Minerals is a natural food supplement therefore no medical claims are made or inferred, no claims regarding ameliorating, curing or positively affecting any medical conditions. The above content provided for informational purposes based on information and studies undertaken by numerous progressive and leading Creatine supplement manufacturers worldwide.

Storage:

Store in a cool dry environment below 25°C. Keep away from direct sunlight.

Label:

DOSAGE AND DIRECTIONS FOR USE:
Mix 10g (1 scoop) with 300ml water in shaker.
Do not store mixed product, consume immediately.

CAUTION:
No medical claims made*
Pregnant women should consult a doctor
Keep out of reach of children
* This unregistered medicine has not been evaluated by the SAHPRA for its quality, safety or intended use. Health supplements are intended to only complement health or supplement the diet.

STORAGE INSTRUCTIONS:
Store in cool dry environment below 25°C
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MANUFACTURED FOR:
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Creatine

+ ADDED MINERALS

Strength - Power - Hydration

Blueberry flavoured

300g

Creatine with added minerals		
SERVING SIZE: 10g (1 scoop)		
COMPOSITION:		
EACH SERVING CONTAINS:	QUANTITY:	
Creatine	5000 mg	
Sodium	353.00 mg	
Chloride	545.00 mg	
Potassium	399.81 mg	
Magnesium	100 mg	

Nutritional Information:	per 100g	per 10g
Energy (kJ)	204,20	20,40
Protein (g)	<0,1	<0,1
Fat (g)	<0,1	<0,1
Carbohydrates (g)	12,16	1,22
of which Sugar (g)	<0,1	<0,1
Fiber (g)	<0,1	<0,1

List of ingredients: Creatine monohydrate, Corn Syrup solids, Magnesium Bisglycinate, Sodium chloride, Potassium citrate, Citric acid, Non-nutritive sweetener (E955), Artificial Flavours, Stabilizers (E466;E415;E416), Colourant (E133)