

# Muscle Matrix Powder - Pineapple

A proprietary blend of essential amino acids and arginine to build muscle mass for exercise performance and to help prevent muscle wasting in cases of surgical recovery, bed rest, and natural aging.



GMO Free

Gluten Free

Dairy Free

Soy Free

Vegan

- Contains a patented blend of essential amino acids and arginine known as Reginator®
- Reginator® has dozens of clinical studies showing its effectiveness in promoting muscle strength when combined with or without exercise
- Increases muscle synthesis by twice the capability of whey protein and increases muscle strength for those on bed rest by 800%
- Indicated for exercise performance, post-surgical recovery for those on bed rest, maintaining muscle mass in aging individuals, or those living sedentary lifestyles
- Unlike whole protein sources, this blend is safe for those with decreased kidney function
- Pineapple flavoured for increased compliance

**Muscle Matrix** by Cyto-Matrix provides nutritional support to aid in preserving and maximizing lean muscle mass in cases of moderate and vigorous activity, involuntary loss of skeletal muscle mass and strength and sedentary circumstances.

Muscles are in a constant state of cellular turnover known as catabolism and anabolism, where old and

damaged muscle fibres are broken down and replaced with new healthy fibres. A number of factors influence these processes but perhaps the two most important ones are amino acid availability and exercise, or lack thereof.

Muscle serves many important physiological functions beyond supporting physical movement, including energy metabolism and storage. Loss of lean muscle mass can be a predictor of health outcomes and is strongly associated with a greater risk of osteoporosis, falls and fractures, and overall increased mortality risk. With all of this in mind, it is vital to preserve muscle mass and prevent muscle loss as we age.

**Muscle Matrix** includes a patented blend of arginine and all nine essential amino acids (EAAs). EAAs are unique compared to other amino acids in that the human body cannot synthesize them and so they must be consumed through dietary means. An adequate amount of EAAs in a specific ratio are necessary to either match or exceed the rate of protein synthesis over the rate of protein breakdown. On the contrary, if the body does not receive adequate EAAs, it has to scavenge the required essentials from the blood, muscles, or

organs. Studies confirm that the addition of a proper EAA blend can provide a net positive muscle balance in both a rested state and, to a larger degree when combined with exercise.

The patented amino acid blend found in **Muscle Matrix** is known as Reginator®, and it comes with decades of clinical research to support its efficacy in building and maintaining muscle mass. Its research supports the ability of this specialized low-dose amino blend in helping to increase muscle synthesis by twice the capability of whey protein (often referred to as the gold standard for muscle anabolism). This application is certainly intriguing in the exercise performance and athletic space, but Reginator® also has a strong application in the context of medicine. Reginator® has been demonstrated to prevent and reverse muscle loss in individuals on bed rest. Specifically, patients recovering from hip or knee surgery showed an 800% increase in strength as measured by maximum voluntary contraction after 8 weeks of supplementation when compared to patients solely on bed rest. This improvement in strength was only increased when exercise was added to the treatment intervention.

Outside of surgical recovery and exercise performance, **Muscle Matrix** can even be beneficial in the context of a healthy aging population. It is well documented that elderly individuals have decreased food intake, likely due to some combination of decreased metabolic rate, lowered sense of taste and smell, increased satiety, digestive enzyme changes, or cognitive impairments. This only compounds the fact that the elderly have up to a 28% decreased ability to synthesize proteins and skeletal muscle begins to naturally decline as early as 45 years of age. All of this is to say that the elderly age demographic is an ideal target population for amino acid supplementation, with Reginator®

maintaining muscle strength even in the absence of exercise.

**Muscle Matrix** by Cyto-Matrix provides 3.6 grams of EEAs per scoop, including over 1.8 grams of branched-chain amino acids in a 2:1:1 ratio of leucine, valine, and isoleucine, respectively. **Muscle Matrix** is indicated for athletic recovery, exercise performance, surgery recovery, immobilization, those with reduced kidney function, and the aging population with poor dietary intake or sedentary lifestyles. Each bottle of **Muscle Matrix** contains 30 servings and is guaranteed to be vegan and free from gluten, dairy, soy, and GMOs. Pineapple flavoured for improved patient compliance.

#### Each 5.4g scoop contains

|                       |           |
|-----------------------|-----------|
| L-Leucine .....       | 1191.20mg |
| L-Lysine .....        | 497.45mg  |
| L-Valine .....        | 327.27mg  |
| L-Isoleucine .....    | 317.45mg  |
| L-Arginine .....      | 294.54mg  |
| L-Threonine .....     | 278.18mg  |
| L-Phenylalanine ..... | 199.64mg  |
| L-Methionine .....    | 98.18mg   |
| L-Histidine .....     | 49.09mg   |
| L-Tryptophan .....    | 1.96mg    |

**Reginator®**  
Building Muscle Naturally

#### Non-Medicinal Ingredients

Acacia gum, beta-carotene, citric acid, malic acid, maltodextrin, natural fruit flavour, natural pineapple flavour, sugars (stevia leaf).

### Recommended Use Claim

Source of essential amino acids involved in muscle protein synthesis. Source of branched chain amino acids, which are involved in protein synthesis. Helps promote muscle growth and function at a low dose of amino acids. Helps to maintain or increase muscle protein synthesis. Can help increase muscle protein anabolism. Assists in the building of lean muscle when combined with regular weight/resistance training and a healthy balanced diet.

### Directions of Use

Adults (19 years and older) - Mix 1 scoop in 1-2 cups of water daily. Consume on an empty stomach for maximum effect.

### Cautions and Warnings

Ask a healthcare professional prior to use if • you are pregnant • you are breastfeeding. When taking this product • ensure to drink enough fluid before, during, and after exercise. Keep out of reach of children.

### Storage Conditions

Do not use if safety seal is broken.