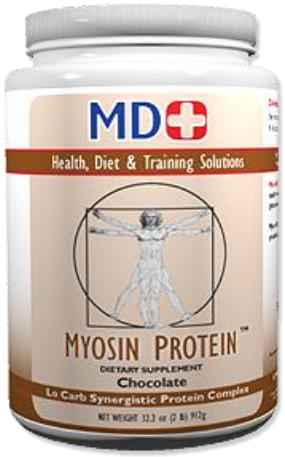
MD Myosin Protein

Advanced Anabolic, Anti-Catabolic, LoCarb, Synergistic Protein Formulation



Myosin Protein **is the most advanced, synergistic blend of the highest quality protein powders, peptides and amino acids on the market today. It contains the precise amino acid mix to maximize protein synthesis, decrease muscle breakdown and enhance athletic performance. Myosin Protein, unlike whey protein and the other one dimensional proteins on the market today, provides you with both short and long-term amino acid spikes as well as long term increased serum amino acid levels, and keeps you in an anabolic fat burning state for several hours.**

https://metabolicdiet.com/product/myosin-protein-chocolate/
https://metabolicdiet.com/product/myosin-protein-vanilla/

Myosin Protein - updated October 10, 2021, by Mauro Di Pasquale, B.Sc. (Hons), M.D.

Introduction

My original reason for formulating Myosin Protein was to produce an effective night time protein; one that not only decreases muscle catabolism that occurs when we sleep, but also increases protein synthesis and muscle mass, while at the same time burning off body fat.

While my thoughts on using fast and slow milk proteins and amino acids blends to enhance body composition and performance dates back to over 50 years ago, recent studies have found that ingestion of just one or two on the ingredients in Myosin Protein, whey and casein, when used during exercise and before bed improves lean mass, strength and power.[1]

As such, Myosin Protein is unlike any other protein on the market today and by far the most effective full spectrum nighttime protein and amino acid supplement ever made. The amino acid array provided by the proprietary blend of proteins, peptides and amino acids in Myosin Protein is unique and has been scientifically shown to maximize lean body mass and improve recovery.[2,3] Better late than never, even though the studies still don't have the complete picture which is the basis of my Myosin Protein formulations.

On the other hand, while it's the best nighttime protein available, the same features that make it such an exceptional nighttime protein also make it the best daytime protein on the market, since unlike all

the other proteins out there, Myosin Protein covers you and your protein needs over the long term instead of just a few hours.

Myosin Protein, with its combination of fast and slow proteins and peptides, is specially engineered to provide several anabolic amino acid peak bursts that result in an immediate and several intermediate marked increases in serum amino acids and subsequently protein synthesis. A long term steady increase in serum amino acid levels that lasts for several hours and has been shown to have marked anticatabolic effects.

As we've seen, although these various proteins are mixed together, the body treats the mix of proteins as if each protein was taken separately. Thus, these proteins, even when taken together, maintain their different (fast, intermediate and slow) absorption rates. (Boirie Y, et al 1997).

Myosin Protein contains a variety of the highest quality protein powder to make use of the special characteristics of each and thus enhancing their overall effect while at the same time eliminating their relative disadvantages. Because of the gentle processes used to isolate the various proteins, the formula maintains the beneficial immune, hormonal and other effects of the undenatured whey, casein, milk (containing colostrum), egg and soy proteins.

The combination of whey, casein, milk, egg and soy proteins provides an optimal amino acid array that maximizes the anabolic effects of dietary proteins. For example, while whey protein increases protein synthesis better than casein in the short term, it is not as good at preventing muscle catabolism.

There is also a synergistic effect from the types and amount of proteins in Myosin Protein. For example, while whey contains the highest levels of branched chain amino acids, egg protein contains the highest levels of alanine, methionine, phenylalanine, and valine, and soy provides more glutamine and arginine than any other protein.

While soy protein has been maligned as being an inferior protein and containing counterproductive phytoestrogens (compounds that bind to the estrogen receptor and may enhance or decrease the effects of endogenous estrogens), such is not the case when soy is blended with other proteins, as some studies have shown when combined with whey protein synthesis and post exercise recovery improved over whey alone.

Also, during low calorie dieting, soy has been shown to be more effective than casein in reducing muscle catabolism. As well, soy isolates, which contain none of the questionable phytoestrogens found in the less expensive soy proteins, can increase both TSH and thyroid hormone levels and thus increase both the metabolic rate and fat oxidation.

Since Myosin Protein was engineered to increase protein synthesis with fast and intermittent spikes of blood amino acids, and to decrease protein/muscle breakdown with a sustained low-level increase in blood amino acids, it's ideal as a nighttime protein, and results in marked anabolic and anticatabolic effects, especially when used in combination with GHboost and TestoBoost (all three make up my **NitAbol** combo). The use of NitAbol truly allows you to build muscle and lose bodyfat while you sleep.

The bottom line is that Myosin Protein Complex is the most advanced, synergistic blend of the highest quality proteins, peptides and amino acids on the market today, bar none. It contains an optimized amino acid mix that maximizes protein synthesis and muscle mass, decreases muscle breakdown

and increases fat oxidation. As well, Myosin Protein provides your body with an increased immune response to combat overtraining and maximize the anabolic and fat burning effects of exercise.

And the same complex of proteins found in Myosin Protein is also in my **MRP LoCarb**, helping to make it the best post training supplement and best meal replacement on the market today.

Myosin Protein Post Exercise

Myosin Protein, although a superior night time protein, is also perfect for day time use. For example, for those looking to lose body fat while at the same time maintaining or even increasing body fat, it can be taken within an hour or so after training and then continued every three to four hours thereafter, which along with keeping carb levels low, will extend the anabolic and fat burning effects of exercise.

As mentioned, the complex of proteins found in Myosin Protein is also in MRP LoCarb, which in turn is part of **Max-PTN**, the post exercise nutrition and hormonal combo that maximizes the anabolic and fat burning effects of exercise and enhances recovery.

Nutritional Panels for Myosin Protein Chocolate and Myosin Protein Vanilla

Myosin Protein™ Chocolate

III VERSION

8 04361 17003 3

Net Weight 32.2 oz. (912 grams)

Supplement Facts:

Serving Size - 2 Level Scoops (38 grams)
Number of Servings: 24

	Amount Per Serving	% DailyValue
Calories	**150**	
Calories from Fat	**9**	
Total Fat	1 gram	2%
Saturated Fat	0	
Cholesterol	8 mg	2%
Sodium	100 mg	4%
Potassium	200 mg	5%
Total Carbohydrates	2 grams	1%
Dietary Fiber	Less than 1 gram	
Sugar	Less than 1 gram	
Protein (Whole and Hydrolyzed Proteins plus Peptides and Amino Acids)	33 grams	

Calcium 10% Phosphorus 10% Magnesium 4%

Ingredients: Protein Blend (Micellar casein, ion exchange whey protein isolate, milk protein isolate, egg albumin, hydrolyzed casein and whey isolates (mixture of single amino acids, di- tri- and polypeptides), whey protein concentrate, and soy protein isolate), Glutamine peptides (from casein), BCAAs (ratio 3:1:1 L-leucine, isoleucine, valine), LArginine, L-Glycine, L-Alanine, Bovine Colostrum, Organic Cacao Powder, Natural Flavors, Organic nonGMO Stevia Powder.

* Daily values are based on a 2000 calorie diet

Myosin Protein™ Vanilla

III VERSION

8 04361 18004 9

Net Weight 32.2 oz. (912 grams)

Supplement Facts:

Serving Size - 2 Level Scoops (38 grams)
Number of Servings: 24

	Amount Per Serving	% DailyValue
Calories	**150**	
Calories from Fat	**9**	
Total Fat	1 gram	2%
Saturated Fat	0	
Cholesterol	8 mg	2%
Sodium	100 mg	4%
Potassium	200 mg	5%
Total Carbohydrates	2 grams	1%
Dietary Fiber	Less than 1 gram	
Sugar	Less than 1 gram	
Protein (Whole Protein plus Peptides and Amino Acids)	33 grams	

Calcium 10% Phosphorus 10% Magnesium 4%

Ingredients: Protein Blend (Micellar casein, ion exchange whey protein isolate, milk protein isolate, egg albumin, hydrolyzed casein and whey protein isolates (mixture of single amino acids, di- tri- and polypeptides), whey protein concentrate, and soy protein isolate), Glutamine peptides (from casein), BCAAs (ratio 3:1:1 L-leucine, isoleucine, valine), L-Arginine, L-Glycine, L-Alanine, Bovine Colostrum, Organic Vanilla Bean Powder, Natural Flavors, Organic non-GMO Stevia Powder.

* Daily values are based on a 2000 calorie diet

Slow and Fast Dietary Proteins
Proteins Are Not All the Same

We all know that there are differences in carbohydrate - high glycemic, low glycemic, simple sugars, starches, etc. And we know that different carbohydrates are absorbed in the gut and appear in the blood at different rates depending on various factors. For example, simple sugars are absorbed more quickly than more complex ones, the rate of absorption of the latter depending on how quickly the complex sugars especially in the form of starches, can be broken down and subsequently absorbed.

The rate of absorption, and its subsequent effects on insulin levels, makes up the basis for the glycemic index of not only foods but whole meals since the presence of protein and fat with the carbohydrates usually slows down the absorption over the whole digestive process. Fast and slow carbohydrates have different metabolic effects on the hormones and on various metabolic processes.

The combination of whey, casein, milk, egg and soy proteins provides an optimal amino acid array that maximizes the anabolic effects of dietary proteins. For example, while whey protein increases protein synthesis better than casein in the short term, it is not as good at preventing muscle catabolism. A recent study found that egg white protein (the source of egg albumin present in Myosin Protein) promotes muscle development independently of the leucine content.[4]

There is also a synergistic effect from the types and amount of proteins in Myosin Protein. For example, while whey contains the highest levels of branched chain amino acids, egg protein contains the highest levels of alanine, methionine, phenylalanine, and valine, and soy provides more glutamine and arginine than any other protein.

While soy protein has been maligned as being an inferior protein and containing counterproductive phytoestrogens (compounds that bind to the estrogen receptor and may enhance or decrease the effects of endogenous estrogens), such is not the case when soy is blended with other proteins, as some studies have shown when combined with whey protein synthesis and post exercise recovery improved over whey alone.

Also, during low calorie dieting, soy has been shown to be more effective than casein in reducing muscle catabolism. As well, soy isolates, which contain none of the questionable phytoestrogens found in the less expensive soy proteins, can increase both TSH and thyroid hormone levels and thus increase both the metabolic rate and fat oxidation.

Now we also have slow (for example casein) and fast (for example whey and soy) dietary proteins. The speed of absorption of dietary amino acids by the gut varies according to the type of ingested dietary protein and the presence of other macronutrients.[5] The speed of absorption can affect postprandial (after meals) protein synthesis, breakdown, and deposition.[6,7]

It’s been shown that the postprandial amino acid levels differ depending on the mode of administration of a dietary protein; a single protein meal results in an acute but transient peak of amino acids whereas the same amount of the same protein given in a continuous manner, which mimics a slow absorption, induces a smaller but prolonged increase.

Since amino acids are potent modulators of protein synthesis, breakdown, and oxidation, different patterns of postprandial aminoacidemia (the level of amino acids in the blood) might well result in different postprandial protein kinetics and gain. Therefore, the speed of absorption by the gut of

amino acids derived from dietary proteins will have different effects on whole body protein synthesis, breakdown, and oxidation, which in turn control protein deposition.

For example, one study looked at both casein and whey protein absorption and the subsequent metabolic effects.[8] In this study two labeled milk proteins, casein (CAS) and whey protein (WP), of different physicochemical properties were ingested as one single meal by healthy adults and postprandial whole body leucine kinetics were assessed. WP induced a dramatic but short increase of plasma amino acids. CAS induced a prolonged plateau of moderate hyperaminoacidemia, probably because of a slow gastric emptying. Whole body protein breakdown was inhibited by 34% after CAS ingestion but not after WP ingestion. Postprandial protein synthesis was stimulated by 68% with the WP meal and to a lesser extent (+31%) with the CAS meal.

Under the conditions of this study, i.e., a single protein meal with no energy added, two dietary proteins were shown to have different metabolic fates and uses. After WP ingestion, the plasma appearance of dietary amino acids is fast, high, and transient. This amino acid pattern is associated with an increased protein synthesis and oxidation and no change in protein breakdown. By contrast, the plasma appearance of dietary amino acids after a CAS meal is slower, lower, and prolonged with a different whole body metabolic response: protein synthesis slightly increases, oxidation is moderately stimulated, but protein breakdown is markedly inhibited.

This study demonstrates that dietary amino acid absorption is faster with WP than with CAS. It is very likely that a slower gastric emptying was mostly responsible for the slower appearance of amino acids into the plasma. Indeed, CAS clots into the stomach whereas WP is rapidly emptied from the stomach into the duodenum. The results or the study demonstrate that amino acids derived from casein are indeed slowly released from the gut and that slow and fast proteins differently modulate postprandial changes of whole body protein synthesis, breakdown, oxidation, and deposition.

After WP ingestion, large amounts of dietary amino acids flood the small body pool in a short time, resulting in a dramatic increase in amino acid concentrations. This is probably responsible for the stimulation of protein synthesis. This dramatic stimulation of protein synthesis and absence of protein breakdown inhibition is quite different from the pattern observed with classic feeding studies and with the use of only one protein source.

In conclusion, the study demonstrated that the speed of amino acid absorption after protein ingestion has a major impact on the postprandial metabolic response to a single protein meal. The slowly absorbed CAS promotes postprandial protein deposition by an inhibition of protein breakdown without excessive increase in amino acid concentration. By contrast, a fast dietary protein stimulates protein synthesis but also oxidation. This impact of amino acid absorption speed on protein metabolism is true when proteins are given alone, but as for carbohydrate, this might be blunted in more complex meals that could affect gastric emptying (lipids) and/or insulin response (carbohydrate).

Since both hyperaminoacidemia[9,10,11] and resistance exercise[12,13,14,15,16] independently stimulate muscle protein synthesis, one study (by Wilkinson et al. 2007) looked at how different proteins differ in their ability to support muscle protein accretion.[17]

The study investigated the effect of oral ingestion of either fluid nonfat milk or an isonitrogenous and isoenergetic macronutrient-matched soy-protein beverage on whole-body and muscle protein turnover after an acute bout of resistance exercise in trained men. The authors hypothesized that the ingestion of milk protein would stimulate muscle anabolism to a greater degree than would the ingestion of soy protein, because of the differences in postprandial aminoacidemia. compared whey against casein.

In this study arterial-venous amino acid balance and muscle fractional synthesis rates were measured in young men who consumed fluid milk or a soy-protein beverage in a crossover design after a bout of resistance exercise.

The primary finding of this study was that intact dietary proteins, as against say portions of intact proteins such as concentrates or isolates of whey, soy or casein, can support an anabolic environment for muscle protein accretion.

Two other studies done to date found that the ingestion of whole proteins after resistance exercise can support positive muscle protein balance.[18,19] However this study was the first to show that the source of intact dietary protein (i.e., milk compared with soy) is important for determining the degree of post exercise anabolism.

The study (by Wilkinson et al. 2007) also found a significantly greater uptake of amino acids across the leg and a greater rate of muscle protein synthesis in the 3 h after exercise with the milk-protein consumption as compared to soy-protein ingestion. Thus, milk protein promoted a more sustained net positive protein balance after resistance exercise than did soy protein.

The authors concluded that since the milk and soy proteins provided equal amounts of essential amino acids, and that the level of EAAs drive protein synthesis,[20] it's likely that differences in the delivery of and patterns of change in amino acids are responsible for the observed differences in net amino acid balance and rates of muscle protein synthesis. Because of differences in digestion rates, milk proteins may provide a slower pattern of amino acid delivery to the muscle than soy protein.

Ingestion of soy protein results in a rapid rise and fall in blood amino acid concentrations, whereas milk protein ingestion produces a more moderate rise and a sustained elevation in blood amino acid concentrations.[21] Interestingly, these increases in anabolic processes were seen without any concurrent increases in whole-body protein oxidation. Part of the explanation for this lack of increase is that the test meals consumed by participants in this study had 30% of total energy from fat, which would likely have slowed digestion and, thus, the rate appearance of amino acids into general circulation. As well, the dose of protein used (7.5 g indispensable/essential amino acids) did not stimulate amino acid oxidation.

Previous studies that examined the effect of ingestion of similar quantities of crystalline amino acids on muscle protein turnover have shown that increases in net protein balance with the ingestion of 40 g crystalline indispensable amino acids (8.3 g leucine)[22] were similar in magnitude to that seen with the ingestion of only 6 g crystalline amino acids (2.2 g leucine)[23]. These data suggest that, when large quantities of amino acids are ingested, amino acids are likely being directed to deamination and oxidation.

The authors of this study (by Wilkinson et al. 2007) proposed that the digestion rate and, therefore, the ensuing hyperaminoacidemia that differed between the milk and soy groups after exercise is what affected the net uptake of amino acids in the exercised leg.

However, regardless of their conclusions, because there are variations between the proteins, it's still possible that the differences in amino acid composition between the two proteins had some effect on protein accretion. For example, the analysis of the proteins in this study found that the content of methionine in the soy protein (1.4%) was lower than that in milk protein (2.6%).

Combination of Proteins Work Best

Because of different absorption kinetics, proteins from different sources are used differently in various tissues, including locally by the gut, by the liver, and by skeletal muscle. As well, the kinetics change not only with the source of protein, but also when protein intake is increased.[24]

Recent studies have alluded that whey protein may be the best protein to use after training. However, this is not the case when one looks at the immediate beneficial effects of whey protein on protein synthesis, the counterproductive effects on insulin, and the lack of long term effects on protein synthesis.

Several studies have shown the advantages on body composition and performance with increased protein intake. For example, one study looked at the effects of protein supplementation on body composition, muscular strength, muscular endurance, and anaerobic capacity during 10 weeks of resistance training.[25]

Thirty-six resistance-trained males were split into three groups and followed a 4 days-per-week split body part resistance training program for 10 weeks. Protein supplements were randomly assigned, prior to the beginning of the exercise program. Group one received carbohydrate placebo, group two whey protein + casein, and group three whey protein plus branched-chain amino acids and glutamine.

In this study, the combination of whey and casein protein promoted the greatest increases in fat-free mass after 10 weeks of heavy resistance training.

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