

Klean Recovery™

DESCRIPTION

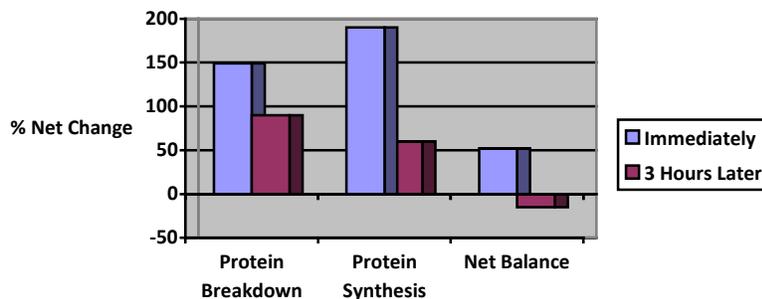
Klean Recovery™ by Klean Athlete® is a delicious milk chocolate flavored powder formulated with the athlete's recovery in mind. A 4:1 ratio of carbohydrates to protein helps support optimal glycogen re-synthesis and muscle protein synthesis immediately after a workout or competition. In addition to whey protein, Klean Recovery contains a special hydrolyzed marine protein that is quickly and efficiently absorbed and is rich in amino acids that are crucial to muscle building and nitrogen balance.

Klean Recovery™ is tested and certified by the NSF Certified for Sport® program, which was created to meet the growing demands of athletes, coaches and healthcare professionals to certify that sports supplements are safe and completely free from banned substances. Every product that carries the NSF Certified for Sport® mark has undergone stringent laboratory testing to confirm content, purity and compliance.

FUNCTIONS

Nutrient timing is crucial to an athlete's recovery and muscle tissue repair following high-volume and endurance or resistance exercise. The goal is to enhance muscle protein synthesis, resulting in positive net protein balance. After intense prolonged exercise, body stores of glycogen are depleted and muscle tissue begins to breakdown. Research suggests that when an athlete is glycogen-depleted after exercise, a carbohydrate intake of 0.6 –1.0 g CHO/kg during the first 30 minutes, and again every two hours for 4 – 6 hours, may adequately replace glycogen stores that have been depleted in both the muscle and liver. It has been demonstrated that delaying carbohydrate ingestion by as little as two hours post- exercise can reduce the rate of muscle glycogen re-synthesis by 50%. Post-exercise, muscles move from the catabolic mode to the critical anabolic phase that depends on the action of insulin and nutrient utilization during the first 30-45 minutes. Nutrients, particularly carbohydrate and protein, support the anabolic phase, in part by the effect on insulin. Certain carbohydrates including dextrose and fructose are the excellent choices given their rapid absorption and utilization.

The International Society of Sports Nutrition's position on nutrient timing suggests that a carbohydrate to protein ratio of 3 – 4:1 may increase endurance performance and maximally promote glycogen re-synthesis during acute and subsequent bouts of endurance exercise. The results of several studies in animals and humans suggest that post-exercise muscle glycogen storage can be enhanced with a carbohydrate-protein supplement as a result of the interaction of carbohydrate and protein on insulin secretion. Additionally, a reduction in fat accumulation was shown in a study in rats resulting in increased fat oxidation and lower abdominal fat when fed immediately after resistance exercise. Amino acids are important for muscle protein synthesis. Protein synthesis was shown to be three times greater with a carbohydrate-protein supplement immediately after exercise versus 3 hours later:



Effect of Delay on Net Protein Balance (Adapted from Levenhagen et al.)

Klean Recovery™

A study performed in 60 – 90 minute bouts of cycling on separate occasions, concluded that even greater muscle glycogen levels were achieved when the carbohydrate plus protein combination was consumed post-exercise when compared to placebo. Furthermore, the availability of essential amino acids following exercise, especially the branched-chain amino acids (BCAAs), have been reported to influence recovery by optimizing protein re-synthesis as well as glycogen re-synthesis rates after exercise.

Protein sources may be an important consideration as studies have suggested that whey protein may exhibit a faster kinetic digestive pattern when compared to casein protein. Whey protein is rapidly absorbed and contains the essential amino acids including BCAAs. Whey protein isolate contains very low lactose and fat content, making it more tolerable for some individuals. Marine proteins are a unique source of amino acids, rich in methionine, histidine and arginine. Klean Recovery uses a special Norwegian salmon protein isolate that is extracted through a natural process so that functional and nutritional properties are preserved. It is then hydrolyzed so that it contains oligopeptides and peptides with a low molecular weight to allow for faster nitrogen assimilation in the body when compared to whey protein. This allows for greater amounts of amino acids to be absorbed when compared with other protein sources. The hydrolyzed salmon protein has a neutral taste and smell, allowing Klean Recovery to have a delicious milk chocolate flavor.

INDICATIONS

Klean Recovery is indicated for athletes that want to optimize muscle recovery by consuming a proven ratio of carbohydrate to protein immediately after exercise.

FORMULA (#KA57633P-1138, KA57634P-10)

Serving Size 1 heaping scoop or 1 sachet (approx. 56.9 grams)

Approximate Amount Per Serving:

Calories	200
Calories from fat	5
Total Fat	0.5 g
Total Carbohydrates.....	41 g
Dietary Fiber	1.5 g
Sugars.....	38 g
Protein	10 g
Calcium	40 mg
Iron	0.9 mg
Potassium.....	150 mg

Amino Acid Profile:

L-Alanine	580 mg
L-Arginine	475 mg
L-Asparagine.....	1,155 mg
L-Cystine	145 mg
L-Glutamine.....	1,410 mg
L-Glycine	650 mg
L-Histidine	185 mg
L-Isoleucine	470 mg
L-Leucine.....	815 mg
L-Lysine.....	755 mg
L-Methionine	210 mg
L-Phenylalanine.....	325 mg
L-Proline	700 mg
L-Serine.....	465 mg
L-Threonine	575 mg

Klean Recovery™

L-Tryptophan 135 mg
 L-Tyrosine..... 240 mg
 L-Valine.....465 mg

Ingredients: Dextrose, fructose, whey protein isolate (from milk), hydrolyzed marine protein (from fish [salmon]), Dutch process cocoa, natural flavors and sunflower lecithin.

SUGGESTED USE

Mix one scoop or one sachet with 10 to 12 ounces of water and consume within 30 minutes post-exercise or competition, or as directed by a trainer, coach, or healthcare professional.

The following are merely guidelines and one should consult with a coach, trainer, or health professional for individualized dosing:

- Weight <170 pounds (77 kg): Take 1 scoop or sachet post-exercise
- Weight 170-240 pounds (77-109 kg): Take 1.5 - 2 scoops or sachets post-exercise
- Weight >240 pounds (109 kg): Take 2 scoops or sachets post-exercise

SIDE EFFECTS

No adverse side effects have been reported.

STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

REFERENCES

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For more information on Klean Recovery™, visit kleanathlete.com

† These statements have not been evaluated by the Food and Drug Administration.
 This product is not intended to diagnose, treat, cure, or prevent any disease.

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