

# Casein Gold

DIETARY SUPPLEMENT



To recover properly as an athlete, it is important that you give your body as constant a supply of proteins as possible. The most important time to use Casein Gold protein is before going to sleep. While you are sleeping, there is no intake of protein for 7–9 hours. By taking Casein Gold before you go to sleep, you ensure that your muscles receive sufficient proteins during the night. Casein Gold contains proteins that are slowly absorbed by the body. This ensures a constant release of proteins in the blood over a prolonged period. You can also opt to use a slow-releasing protein source at other times, such as in the morning or between meals during the day, and you could also use Casein Gold protein after a training session to supplement your diet for a longer release of proteins.

Protein stimulates muscle recovery, muscle building, and muscle preservation. As protein is slowly absorbed by the body, it is suitable to replenish the building blocks in your muscles over a longer period of time. Casein Gold protein is suitable to take prior to a period without food, such as during sleep or before a long working day. Depending on the dosage and training method, you can use Casein Gold as a supplement to your normal diet.

## Friesland Campina

Friesland Campina takes great care to ensure quality and responsible production. The development of high-quality proteins starts with the best quality milk. Friesland Campina dairy farmers supply milk to Friesland Campina DMV where the proteins are extracted. Since Friesland Campina manages the entire chain, this complete process can be monitored in accordance with high quality standards.

The proteins from Friesland Campina DMV that are incorporated in Virtuoos products come from one of the largest milk processing factories in the world. Here, the milk is pasteurised (heated to 72°C) and checked for quality. First, the milk is skimmed. Milk contains two kinds of protein: 80% of milk pro-

tein consists of casein protein and 20% is whey protein. These protein fractions are split and dried to a powder with a protein content of between 80–90% protein.

When the splitting is carried out at the factory in Veghel, casein is formed (called calcium caseinate on the label). Casein protein is obtained by acidifying the milk, after which it is neutralized again by adding calcium. This method of production makes it possible to obtain a pure form of casein; the end product contains hardly any whey proteins and the lactose levels are very low (<0.2%). Casein protein intake can lead to increased muscle mass and muscle strength.

## NZVT Certified

Casein Gold is produced in accordance with the anti-doping standards and other standards of the NZVT system (Anti-Doping Authority for the Netherlands) and therefore displays the NZVT logo. Casein Gold can be used by top athletes with confidence, so that they can concentrate on delivering an optimum athletic performance with peace of mind.

## Additional information:

This product is suitable for vegetarians.

## Recommended use

Dissolve two level measuring scoops in 250 ml of water, milk, or yoghurt. Measuring scoop supplied.

## Health Claims

- Active form of vitamin B12
- Helps to reduce tiredness and fatigue
- Supports normal red blood cell formation
- 500 mcg per vegetarian capsule
- Suitable for vegetarians and vegans

Composition per shake (two measuring scoops)			
Ingredient	Quantity	% RI	Compound
Calcium Caseinate protein concentrate	30 g	*	
RI = Reference intake / * RI not determined			



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NUTRITIONAL VALUE				
Composition	per 100 grams	% RI	per 30 grams	% RI
Energy value				
– Kilojoules (kJ)	– 1506 kJ		– 452 kJ	
– Kilocalories (kcal)	– 360 kcal		– 108 kcal	
Fats	1.0 g		0.3 g	
– of which saturated	0.7 g		0.2 g	
Carbohydrates	0.2 g		0.1 g	
– of which sugars	0.2 g		0.1 g	
Proteins	88.5 g		26.6 g	
Salt	0.1 g		0.03 g	
Calcium	1460 mg	183%	438 mg	55%
Phosphorus	720 mg	103%	216 mg	31%

RI = Reference intake/Reference intake of an average adult is 8400 kJ (2000 kcal)

## COMPOSITION OF PROTEINS (grams of free amino acids/100 grams of proteins)

### Essential branched-chain amino acids

L-Isoleucine	5.8 g
L-Leucine	10.1 g
L-Valine	7.4 g

### Essential amino acids

L-Phenylalanine	5.4 g
L-Lysine	8.3 g
L-Methionine	3.0 g
L-Threonine	4.6 g
L-Tryptophan	1.4 g

### Semi-essential amino acids

L-Arginine	3.8 g
L-Histidine	3.2 g

### Semi-essential amino acids

L-Alanine	3.1 g
L-Asparagine acid	7.3 g
L-Cysteine	0.4 g
L-Glutamine acid	22.3 g
L-Proline	10.5 g
L-Serine	6.3 g
L-Tyrosine	5.8 g
Glycine	1.9 g

RI = Reference intake  
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Protein should be part of every athlete's diet. Athletes need more protein than people who are less active. Proteins are the building blocks that are needed to preserve, repair, and build muscles. Proteins are also needed to ensure that the adaptation processes in the muscle are conducted properly.

## Quantity and timing

It is important that the proteins are of good quality and contain a high level of essential amino acids (especially leucine). In addition, it is important to spread protein intake over the day evenly. At the moment, a frequency of four to six times a day seems ideal, which means an intake of 20–25 grams every three to four hours. This advice applies to both avid strength athletes as well as endurance athletes.

## Dairy as a source of protein

Dairy products are a good source of protein and form a large part of the average athlete's basic diet, containing two different proteins: whey protein and casein protein. 80% of milk protein consists of casein protein and 20% is whey protein. Whey protein can be broken down quickly into amino acids and it is quickly available for muscle recovery after exercise. This makes it ideal for use immediately after exercise. Casein protein, on the other hand, is broken down into amino acids more slowly and absorbed by the body gradually.

## Casein protein

Since casein protein intake results in a slow release of amino acids in the body, this type of protein is useful in supporting the process of muscle recovery during the night. Amino acids are distributed through the body over a period of up to seven hours. Research has shown that athletes who consume casein protein before going to sleep present a significantly higher rate (+22%) of muscle protein synthesis than those that did not; this can contribute to a positive muscle protein balance and an increase in muscle mass and strength.

## Uses

- Consuming casein protein before going to sleep has a positive effect on the formation of muscle protein during the night and helps to repair, preserve, and build muscle mass.
- During periods of strenuous training
- During multi-day tournaments and competitions

## Recommended use of casein protein

- 30 grams of casein protein before going to sleep

## Additional information about Casein Gold

- It provides 26.6 grams of protein per 30-gram dose
- This includes 7 grams of BCAAs
- This includes 3 grams of leucine
- Low in lactose Contains only 0.1 grams of lactose per 30-gram dose
- Contains only 0.3 grams of fat per 30-gram dose
- Supplies 440 mg calcium per 30-gram dose



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