Whey Cool™

PURE, INSTANTIZED WHEY PROTEIN FROM NEW ZEALAND

NATURAL CHOCOLATE FLAVOUR | 900 G POWDER | NPN80048048 | WCC900-CN
UNFLAVOURED | 900 G POWDER | NPN80045576 | WCP900-CN
NATURAL VANILLA FLAVOUR | 900 G POWDER | NPN80045576 | WCV900-CN

"The health promoting powers of whey were discovered [a] long time ago. Ancient Greeks, as well as Hippocrates in 460 B.C., prescribed cheese whey for the assortment of human ailments. Later in the 17th century, during the Italian Renaissance sayings about whey flourished in Florence."[1]

Whey Cool™ is a great-tasting high protein, low carbohydrate functional food powder. The milk harvested to produce the whey protein for Whey Cool™ comes from cows that graze on pesticide-free, non-GMO grass pastures in New Zealand, which is known to have one of the least polluted environments in the world. The milking cows are never fed grain, nor subjected to any hormone or antibiotic treatments.

This whey is instantized with sunflower lecithin (non-GMO), which helps it dissolve more easily in water and prevents foaming during blending. Optimal whey digestion is instrumental for the breakdown of native whey into bioactive peptides in the GI tract. Stomach acid has an important role in denaturing whey proteins so that the pancreatic enzymes can access and cleave them into peptides and eventually into amino acids. The fact that this whey is instantized with lecithin may help to improve its digestibility due to increased water solubility. Unlike other instantized whey formulations, Whey Cool™ is 100% soy free.

Whey protein derives its benefits from:[1-3]
a) **Amino acids and small peptides** (peptides break down into amino acids)
b) **Bioactive peptides** composed of 3-20 amino acids, which have special physiological signaling roles as such and are eventually broken down into amino acids
c) **Small molecules with specific physiological effects** which remain intact in the GI tract (occur in low concentrations)

a) **Amino Acids and Small Peptides:** Whey protein is a good source of specific amino acids which provide support for muscle, gut and immune cell metabolism:

The **Essential Amino Acids** (EAAs) content in whey is much higher than the EAAs requirement per gram of dietary protein established by World Health Organization guidelines.[8] Whey is also higher in EAAs compared to many other animal or vegetarian proteins.

Cysteine and Methionine (sulfur amino acids) are precursors for the synthesis of glutathione, which is a potent endogenous antioxidant and supports detoxification of endogenous and exogenous molecules.[11]

Leucine is a branched-chain amino acid (BCAA) known to have unique effects for stimulating protein synthesis and supporting muscle maintenance. (Muscle loss is the main cause of metabolic decline and loss of physical function during the aging process.) Also, along with other BCAAs found in abundance in whey, leucine provides fuel for muscle during exercise.

Glutamine is known for its support of muscle metabolism, and as fuel for gut and immune cells. It supports acid/alkaline balance and it is also one of the three components of glutathione. Glutamine has been classically categorized as a non-essential amino acid (can be synthesized from other amino acids).[8] However, new research is classifying it as a "functional amino acid" that needs to be present in the diet in adequate amounts in order to support optimal health.[5,6]

b) **Bioactive Peptides**: The major protein fractions occurring in native whey are beta-lactoglobulin and alpha-lactalbumin, both of which are broken down during digestion into bioactive peptides (3-20 amino acids), as well as dipeptides and individual amino acids. The bioactivities of native milk proteins are either latent or absent; it is only when the peptides are liberated from the digested whey that they become active.[1]

c) **Small Molecules with Specific Physiological Effects**: Examples include: serum albumin, immunoglobulins, glycomacropeptide, lactoferrin, lactoperoxidase, lysozyme and insulin-like growth factor (IGF). Most of these molecules' functions were found to be preserved while traveling through the GI tract. Their roles include:

Immunoglobulins (include IgG1, IgG2, IgA and IgM) – help bind and inactivate bacteria in the GI tract.[1]

Glycomacropeptide – a powerful stimulator of cholecystokinin, an appetite-suppressing hormone that has essential roles related to GI function.[1]

Lactoferrin – possesses metal-binding properties for Fe, Cu, Zn, and Mn. It is also a delivery vehicle of essential metals to the newborn. Lactoferrin acts as support for the non-specific immune system, playing a strategic role in the first line of defense against many pathogens that enter the body via mucosa.[1-3]

BENEFITS OF WHEY

Gastrointestinal Health – Whey contains biologically active molecules capable of supporting intestinal health through various methods, including prebiotic effects, antimicrobial and antiviral properties, immune support, and in helping to support normal gut permeability. Glycomacropeptide and lactoferrin have been shown to support the growth of beneficial Bifidobacteria.[1-3]

Bone Health – Milk basic protein (MBP), a fraction of whey, was found to be a promoter of bone health by stimulating osteoblasts, inhibiting osteoclastic activity and improving bone density.[3,10]

ADDITIONAL BENEFITS OF WHEY:[1-4]

- Protein synthesis, especially benefiting muscle function, maintenance and hypertrophy, and recovery from exercise, sports and athletics
- Supports healthy gut lining
- Synthesis of the antioxidant glutathione
- Postprandial satiety

Optimization of whey digestion is important for maximizing all of its potential benefits and to reduce any possible allergenicity. Thus, additional supplements with HCl and digestive enzymes may be warranted on an individual basis.

Nutrition Facts / Valeur nutritive	
Serving Size 30 g (1 Scoop) / Portion 30 g (1 mesure)	
Amount / **Teneur**	**% Daily Value** / **% valeur quotidienne**
Calories / Calories 120	
Fat / Lipides 2 g	**3 %**
Saturated / Saturés 1 g	**5 %**
Carbohydrate / Glucides 5 g	**2 %**
Dietary Fibre / Fibres Diététiques 1 g	**4 %**
Sugars/Sucres 1 g	
Protein / Protéines 21 g	

NATURAL CHOCOLATE FLAVOUR

Medicinal Ingredients (per scoop/30 g):
Whey protein concentrate (*Bos taurus*-Milk)
(100 mg Calcium, 90 mg Phosphorus, 230 mg Potassium) ..... 21 g
Non-Medicinal Ingredients: Cocoa powder, natural flavours, certified organic stevia leaf extract powder, luo han duo extract, vegetable cellulose, sodium chloride. **Recommended Dose:** Adults: Take one scoop (in eight ounces of water a few hours before or after taking other medications) once per day, or as directed by your health care practitioner.

Nutrition Facts / Valeur nutritive	
Serving Size 30 g (1 Scoop) / Portion 30 g (1 mesure)	
Amount / **Teneur**	**% Daily Value** / **% valeur quotidienne**
Calories / Calories 130	
Calories from fat / Calories de Matières Grasses 15	
Fat / Lipides 2 g	**3 %**
Carbohydrate / Glucides 3 g	**1 %**
Protein / Protéines 24 g	

UNFLAVOURED

Medicinal Ingredients (per scoop/30 g):
Whey protein concentrate (*Bos taurus*-Milk)
(0.12 g Calcium, 0.09 g Phosphorus, 0.155 g Potassium, 24 g Whey protein) ..... 24 g
Recommended Dose: Adults: Take one scoop (in eight ounces of water a few hours before or after taking other medications) once per day, or as directed by your health care practitioner.

Nutrition Facts / Valeur nutritive	
Serving Size 30 g (1 Scoop) / Portion 30 g (1 mesure)	
Amount / **Teneur**	**% Daily Value** / **% valeur quotidienne**
Calories / Calories 120	
Calories from fat / Calories de Matières Grasses 20	
Fat / Lipides 2 g	**3 %**
Saturated/saturés 0.5 g	**3 %**
Carbohydrate / Glucides 3 g	**1 %**
Sugars/Sucres 2 g	
Protein / Protéines 23 g	

NATURAL VANILLA FLAVOUR

Medicinal Ingredients (per scoop/30 g):
Whey protein concentrate (*Bos taurus*-Milk)
(150 mg Calcium, 100 mg Phosphorus, 130 mg Potassium, 23 g Whey protein) ..... 24 g
Non-Medicinal Ingredients: Natural flavour, luo han guo extract blend, stevia leaf extract. **Recommended Dose:** Adults: Take one scoop (in eight ounces of water a few hours before or after taking other medications) once per day, or as directed by your health care practitioner.

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

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REFERENCES
For a list of references cited in this document, please visit: http://catalog.designsforhealth.com/assets/itemresources/WheyCool_References.pdf