Vitalus is a global brand providing specialized dairy ingredients for use in a wide variety of food and beverage applications. Our team of technical service support and application specialists partner with our customers to meet their requirements for new products, formulations and ingredients.

## Application/ Functionality

| MPC 70, MPC 80, MPC 85, MPI 90 | Soup | Sauce | Meat Product | Infant Formula | RTD | Ice Cream | Cheese | Yogurt | Whipped Topping | Dessert | Bakery | Cereal | Bar | Snack | Confectionery |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EMULSIFICATION | ● | ● | ● | | | ● | | | | | | | | | |
| PROTEIN/NUTRITION | ● | | | ● | ● | ● | | ● | | | ● | | ● | ● | ● | |
| FOAMING/WHIPPING | | | | | | | | | | ● | ● | | | | | |
| STANDARDIZATION | | | | | | | | ● | ● | | | | | | | |
| GELATION | | | | | | | | | ● | | | ● | | | | ● |
| THICKENING/WATER BINDING | ● | ● | ● | | ● | ● | ● | ● | | | ● | ● | | | | ● |

## REFERENCES


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**We are a Canadian company headquartered in Abbotsford, BC. Based on our core values of care, integrity and expertise, we have grown from a small, family-owned business to a trusted international supplier of specialty ingredients for large-scale processors and top-tier brands.**


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VITALUS
Bringing Milk to Life™



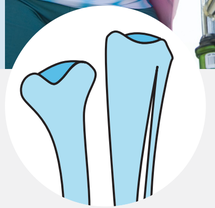
# Milk Protein Benefits for Active Lifestyle and Healthy Aging

Vitality Through Nutrition™

VITALUS

## Healthy Aging

The global population is aging. As life expectancy increases, individuals are faced with a number of health challenges. Proper nutrition is essential in ensuring good quality of life for older demographics.



Dietary proteins play a key role in muscle synthesis. With aging, muscle mass and function are slowly reduced. Adequate protein intake is therefore essential in preventing the loss of muscle mass and function [1]. While adults generally consume protein at/or above the recommended daily allowance (RDA) of 0.8 g protein/kg body weight, many older adults are consuming less than the RDA [2].

The deterioration of bone mass and structure is another health concern in the older population, being responsible for more than 8.9 million fractures worldwide annually [3]. Adequate intake of calcium and vitamin D is one of the recognized strategies that can help reduce the risk of bone mass loss [4].

Our milk protein ingredients contain 70-90% of complete protein. These protein ingredients are a source of calcium, providing 2 g per 100 g of MPC/MPI. Dietary calcium helps in the formation and maintenance of bones.

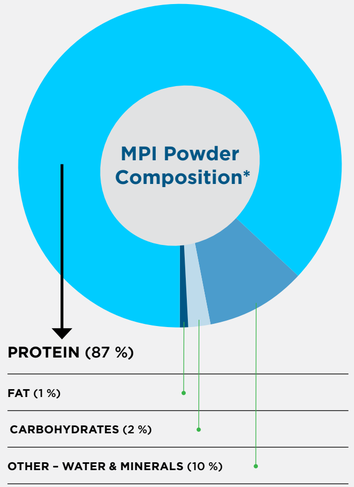
## Active Lifestyle

### BALANCE

More than ever, consumers are increasingly conscious of the impact that their diet has on their health and are looking for foods that support their body and mind.

Dietary proteins are known to have a satiating effect and have been proposed to help with body weight management [5]. Research has shown that an increase in protein intake at the expense of other nutrients could facilitate weight loss [6].

Proteins in milk have been reported to enhance satiety and reduce short-term food consumption by acting on various components of the food intake regulatory system, including the satiety hormones [7].




*Values represented in an "As is basis"

## Active Lifestyle

### PERFORMANCE

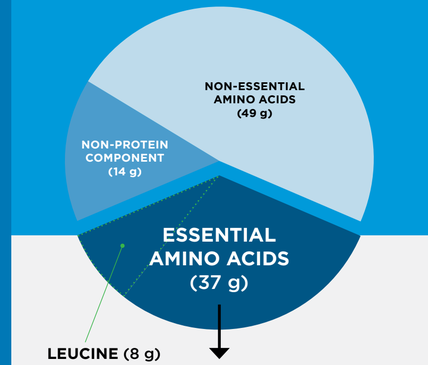
Active individuals understand that nutrition is a key factor in achieving their exercise goals. With the increasingly recognized role that diet plays in supporting physical activity, new dietary strategies to optimize both performance and postexercise recovery are emerging [8].

Exercise causes changes in muscle protein synthesis and breakdown and a reduction in muscle glycogen. Replenishing the body's fuel stores and restoring damaged muscle tissue are essential parts of the recovery process [9].

Dietary proteins provide the amino acids needed for muscle growth. Among these, the branched chain amino acid leucine is believed to play a unique role in muscle synthesis [10].

Research in sport nutrition has also suggested that the addition of protein to a carbohydrate supplement improves glycogen synthesis compared to a carbohydrate only drink [9].

### Amino Acid Composition of 100 g MPI




**LEUCINE** (8 g)

| | | | |
|---|---|---|---|
| **LYSINE** (7 g) | **VALINE** (5 g) | **PHENYLALANINE** (4 g) | **ISOLEUCINE** (4 g) |
| **THREONINE** (4 g) | **HISTIDINE** (2 g) | **METHIONINE** (2 g) | **TRYPTOPHAN** (1 g) |