

BODYBALANCE[®]
Performance Peptides



BODYBALANCE[®] **for Body Toning**

- Increasing lean body mass
- Decreasing fat mass
- Increasing muscle strength

GELITA
Improving Quality of Life

Collagen – The Body Protein!

Collagen is a major component of the human body. About 30% of our total body protein is collagen. Collagen is crucial for mobile joints, stable bones, healthy muscles, strong ligaments and tendons, smooth skin, glossy hair and healthy finger nails. It is one of the primary structural proteins of connective tissues and also abundant in blood vessels, intervertebral discs, the blood-brain barrier, the cornea, dentin and the intestinal wall – a vital component of our whole body.



Bioactive Collagen Peptides® stimulate collagen metabolism

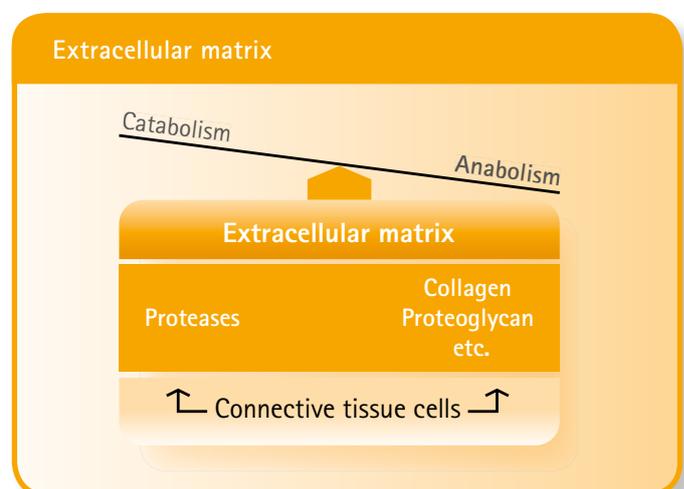
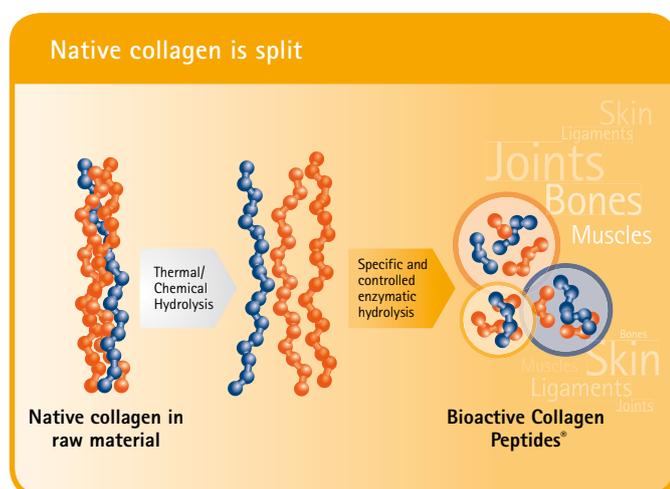
GELITA Bioactive Collagen Peptides® (BCP) are a composition of different specific peptides optimized for specific physiological benefits. The peptides are derived from a highly controlled production process of collagen which is determined by hydrolysis conditions. As a result, GELITA Bioactive Collagen Peptides® differ in physiological functionality. They are optimized to maximize stimulation of the human cell types involved in collagen biosynthesis.

The effect of collagen peptides on increased extracellular matrix synthesis is based on two mechanisms:

- 1) Supply of typical collagen amino acids as valuable building blocks
- 2) Stimulate cell synthesis

Bioactive Collagen Peptides®

Skin Health	Fibroblasts	VERISOL®
Joint Health	Chondrocytes	FORTIGEL®
Bone Health	Osteoblasts/Osteoclasts	FORTIBONE®
Body Toning	Muscle cells	BODYBALANCE®
Ligaments/Tendons	Ligamentocytes/Tendocytes	TENDOFORTE®



BODYBALANCE® is a life science solution to meet the challenge of staying fit and mobile in everyday life

"I want to be fit, good looking and strong!"

(Man, 29)

"I want to be fit, lean and feminine!"

(Woman, 25)

"Keeping up with my grandchildren"...

"Able to attend my table tennis group"...

"I don't want to feel left behind in life!"

"Bring home the groceries"...

"Open up cans and bottles"...

(Men and women, 60-80)

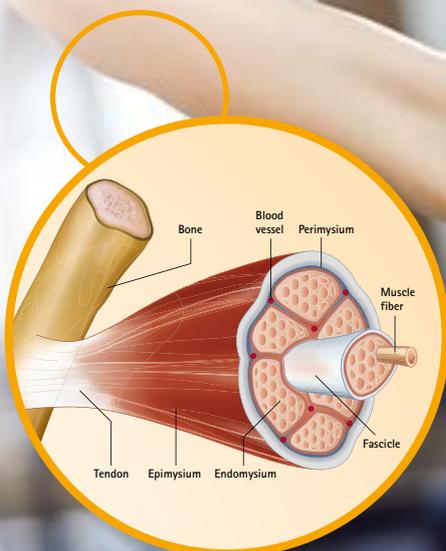
¹ Excerpts of the qualitative market research – BODYBALANCE® in Germany, Great Britain and USA, 2015/2016

"My colleague has the same age, built, family and stress like me – yet, he looks so much better"

(Man, 48)

"Everything started hanging and bulging, but it seems I can't do enough to change that."

(Woman, 43)



BODYBALANCE® + Resistance Training = Optimal Body Composition

BODYBALANCE® for perfect body composition and an active lifestyle

To retain an optimal body composition and to support an active lifestyle, GELITA has developed BODYBALANCE®. These highly specialized collagen peptides have been shown to decrease fat mass, increase lean body mass and to provide more muscle strength in combination with resistance training.

BODYBALANCE® has positive effects on two main components of the human body: lean body mass and fat mass. Lean body mass, also called fat free mass, comprises mainly muscle mass but also bone mass, connective tissue and body water.

Muscles are essential for physical activity, stability and posture, they enable blood circulation and help during the digestion of food. A loss of muscle mass over the course of life time means a loss of mobility, which is followed by a loss of independence and a loss of quality of life.

The BODY PROTEIN mechanism

The exact mechanism of BODYBALANCE® is still subject of ongoing research, but current data suggest, that the mode of action is based on the multifactorial impact of Bioactive Collagen Peptides® on various metabolic processes and the overall functional unit of muscle: e.g. muscle and fat metabolism.

Recent investigations revealed, BODYBALANCE® significantly stimulates the mTOR pathway. Availability and activity of this key protein are essential for the protein metabolism. The protein metabolism ensures the balance between protein synthesis and protein degradation. More synthesis than breakdown indicates an anabolic state that builds lean tissues, higher breakdown than synthesis indicates a catabolic state that decreases lean tissues.

Moreover, BODYBALANCE® influences the fat metabolism. A sufficient energy supply is mandatory for the proliferation of muscle cells and the synthesis of new muscle tissue. The AMPK enzyme is responsible for the energy transfer in the

Fig. 1: Lean body mass

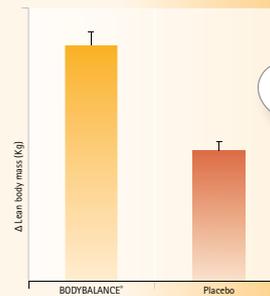
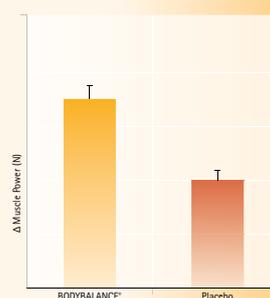


Fig. 2: Muscle strength



Lean body mass

Muscle mass

Bone mass

Connective t

muscle cells. The stimulation of AMPK leads to an increase in fatty acid metabolism, which provides more energy for the cells and results in a reduction of fat mass. Due to its specific amino acid composition and its excellent bioavailability BODYBALANCE® stimulates fat and muscle metabolisms, finally leading to an improved body composition.

Studies confirm the efficacy of BODYBALANCE®

Several randomized, placebo-controlled, double blinded studies have demonstrated the efficacy and potential of the daily intake of 15g BODYBALANCE® in combination with resistance training.

In the latest studies^{2,3}, the effect of post-exercise supplementation on lean body mass, fat mass and muscle strength in combination with resistance training was tested. 114 healthy, physically inactive men, aged 35-60 participated. The primary outcome was to compare 15g BODYBALANCE® supplementation with placebo. Changes in body composition were measured by DXA scans. DXA represents the "Gold Standard" in body composition measurement. Total body scans using DXA give a precise measurement of body composition, including bone mass, lean body mass and fat mass.

In addition, muscle strength, waist circumference and various blood parameters were determined. The results of the primary endpoint of the study revealed a statistically significant

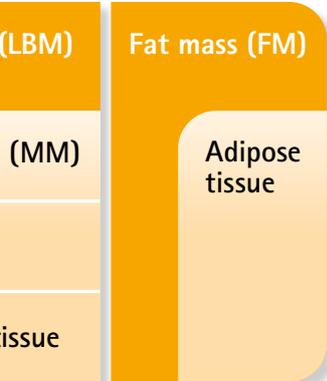


Fig. 0: Body composition

Fig. 3: Fat mass

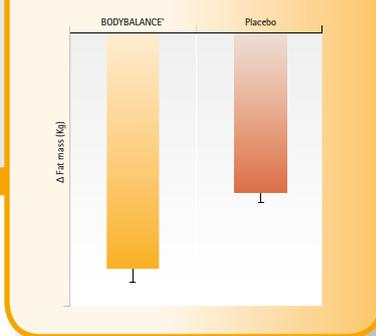
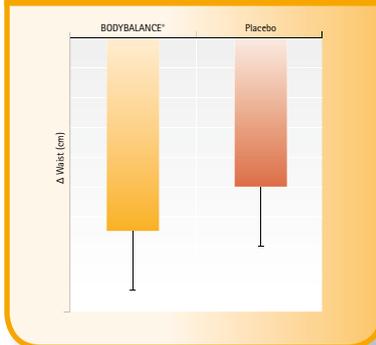


Fig. 4: Waist circumference



($p < 0.05$) increase in lean body mass after BODYBALANCE® supplementation compared to placebo (fig 1).

The positive effect was also reflected in the results of the secondary study criteria. BODYBALANCE® treatment led to an improved muscle strength, a reduction of waist circumference and a statistically significant fat mass reduction ($p < 0.05$), after collagen peptide intake (fig 2, 3, 4).

² Zdzieblik, D. et al Collagen peptide supplementation in combination with resistance training improves body composition and increases muscle strength in elderly sarcopenic men: a randomised controlled trial, doi: 10.1017/80007114515002810, British Journal of Nutrition, 2015

³ Unpublished data 2015, publication pending



! BODYBALANCE® – Performance peptides with great market potential

Active, Sports and Medical Nutrition are experiencing a period of strong growth across a wide spectrum of markets. But to meet the demand of different target groups and participate in the market growth, product concepts need to deliver real benefits.

BODYBALANCE® supports what large target groups want: fitness, shape and power in everyday life

During a research based on focus group discussion conducted 2015 in the US, the UK and Germany, our researchers investigated the mindset of the following three target groups:

Men and women between 25 and 35 years, user of protein products

Determined, young and ambitious

Young males are interested in muscle gain – for visual effects but also increasing strength. Women are interested in losing weight or shaping and toning. Also the so-called 'generation fitness' is convinced that working on its appearance is expected from society. So the physical appearance is by far one of the main drivers!

Men and women between 40 and 55 years, do exercising occasionally

Overcoming frustration

Men are fighting against 'the belly' and loss of masculine shape. Women fight against weight, flab and overall loss of shape and tone – in one word: gravity. Slogans like "50 is the new 40, 40 is the new 30" have positive connotations for this age group – but also pressurize and call for action in a society that values a youthful appearance. With longer living expectations and a natural wish for being attractive and healthy as long as possible, people are motivated to do something for themselves. But often fail due to the trivialities of everyday life.

Men and women between 60 and 80 years, suffering from age related muscle loss

Light at the end of the tunnel

The level of suffering depends on the overall state and accompanying ailments of the individual. Yet, all people are aware that everyday life chores are getting more difficult to achieve. The majority is aware about cause and effect between their struggling and muscle degradation, yet, blame it on a general side effect of aging.

Together with the pronounced reduction of fat mass BODYBALANCE® helps to optimize the training success with regard to muscle gain, muscle strength and body toning.



Consumers are convinced of the BODYBALANCE® effect

BODYBALANCE® from GELITA bridges the gap that keeps consumers from reaching their goal by its offer to achieve significant results: it improves body composition and boosts the effect of workout.

- The promise of supplementing BODYBALANCE® in combination with resistance exercise is immediately understood, fascinates people and mirrors their goals.
- BODYBALANCE® products can be easily integrated into daily routines and support the growth of lean body mass and loss of body fat after just a few weeks. People achieve clear results within a sensible time frame (10-12 weeks) and with reasonable investment (2-3 hours resistance training per week).
- After explaining the role of collagen in the human body, consumers are highly interested in the mode of action of BODYBALANCE® and BODYBALANCE® products.¹



Tap the large market potential of BODYBALANCE®

BODYBALANCE® from GELITA is an effective ingredient for body toning in young and middle aged people and to counteract loss of muscle mass when aging. It represents a life science solution for everyday life. Due to its various technological properties BODYBALANCE® is an ideal protein to be combined with other food ingredients for a variety of food applications: for instance in beverages and bars, powders, soups and gels.

BODYBALANCE® promotes

- clean label (no E numbers)
- highly digestible food
- non-allergenic food
- scientific evidence



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