

DUOLIFE Food Supplements

Slim Shake

DUOLIFE Slim Shake is a food supplement in powder form used to prepare a fully vegan shake with a delicate vanilla flavour. The formula has been developed based on two sources of plant-based protein: fava bean protein isolate and pea protein concentrate. The product also provides three sources of dietary fibre: chicory root inulin FIBRULINE™, oat fibre ^{Sanacel®} and defatted, ground flax seeds. The formula is complemented with MCT oil, plant extracts from bitter melon fruit, green tea leaves, white mulberry leaves and cinnamon bark, as well as a complex of B vitamins, vitamin D and iron.



EDUCATION CARD

When to use DUOLIFE Slim Shake?

The food supplement DUOLIFE Slim Shake may complement your daily diet, especially for:

- people who wish to maintain optimal body weight;
- people who want to increase the intake of plant-based protein in their diet;
- people limiting or excluding animal-derived products;
- physically active people who care about maintaining muscle mass;
- people who want to supplement their diet with dietary fibre;
- people leading an intensive and active lifestyle;
- people looking for a convenient, quick-to-prepare snack;
- people who want to supplement their diet with B vitamins, vitamin D and iron;
- people paying attention to sugar intake in their diet.

How does DUOLIFE Slim Shake work and how to use the product?

The ingredients contained in the food supplement DUOLIFE Slim Shake support:

- maintaining normal body weight thanks to the content of chicory and flax seeds;
- normal digestion thanks to cinnamon and chicory;
- normal liver function thanks to chicory;
- maintaining normal blood glucose levels thanks to white mulberry and cinnamon;
- supplementing the diet with a combination of plant-based proteins;
- growth and maintenance of muscle mass thanks to protein content;
- maintaining healthy bones thanks to protein and vitamin D content;
- normal energy-yielding metabolism thanks to vitamins B1, B2, B6 and B12, niacin, biotin and iron;
- reducing tiredness and fatigue thanks to riboflavin, niacin, vitamins B6 and B12, folate and iron;
- normal functioning of the immune system thanks to vitamins B6, B12 and D, folate and iron;
- normal muscle function thanks to vitamin D;
- normal production of red blood cells and haemoglobin, as well as oxygen transport, thanks to iron;
- protection of cells from oxidative stress thanks to riboflavin;
- supplementing the daily diet with dietary fibre.



Directions for use:

Add three scoops of powder (30 g) to 200-250 ml of water. Shake intensely or mix thoroughly to prevent the powder from settling at the bottom. Wait a moment, then shake or mix again. Consume the prepared shake once a day.

Ingredients: fava bean protein isolate, Fibruline™ - chicory root inulin (*Cichorium intybus*), pea protein concentrate, defatted ground flax seeds, Sanacel® - oat fibre, vanilla flavouring, MCT oil powder, arrowroot flour, bitter melon (*Momordica charantia*) fruit extract 4:1, green tea (*Camellia sinensis*) leaf extract standardised to 98% polyphenol content (including 2% caffeine), Himalayan salt, colouring: curcumin, white mulberry (*Morus alba*) leaf extract 10:1, cinnamon bark (*Cinnamomum cassia*) extract 10:1, vitamin and mineral blend [vitamin B1 (thiamine mononitrate), vitamin B2 (riboflavin), vitamin B6 (pyridoxal 5'-phosphate), vitamin B12 (methylcobalamin), vitamin D (cholecalciferol), folic acid (pteroylmonoglutamic acid), biotin (D-biotin), niacin (nicotinamide), iron (iron(II) lactate)], sweetener: Bestevia® - enzymatically produced steviol glycosides.

May contain trace amounts of **sesame seeds, mustard, celery, eggs, crustaceans, molluscs and fish, soybeans, nuts and peanuts, lupin and their derivatives.**

* The daily serving of the product contains 50 mg of (-)-epigallocatechin-3-gallate derived from green tea leaf extract.

Fibruline™ is a registered trademark of COSUCRA Groupe Warcoing S.A.

Bestevia® is a registered trademark of Sweegen.

Sanacel® is a registered trademark of CFF GmbH & Co. KG.

Nutritional value

Nutritional value	1 serving (30 g)	100 g
Energy	416 kJ / 99 kcal	1387 kJ / 331 kcal
Fat	1,1 g	3,8 g
of which saturates	0,1 g	0,2 g
Carbohydrate	4 g	13 g
of which: sugars	0,7 g	2,4 g
Fibre	7,9 g	26 g
Protein	14 g	48 g
Salt	0,3 g	0,9 g

One package of 750 g contains 25 servings.

Vitamins and minerals

Ingredient	1 serving (30 g)
Vitamin D	5 µg (100% NRV**)
Thiamine	1,1 mg (100% NRV**)
Riboflavin	1,4 mg (100% NRV**)
Niacin	16 mg NE*** (100% NRV**)
Vitamin B6	1,4 mg (100% NRV**)
Folic acid	200 µg (100% NRV**)
Vitamin B12	2,5 µg (100% NRV**)
Biotin	50 µg (100% NRV**)
Iron	3,5 mg (25% NRV**)

**% NRV – Nutrient Reference Value for an average adult (8 400 kJ / 2 000 kcal)

***NE – niacin equivalent



Other active ingredients

Ingredient	1 serving (30 g)
MCT oil	1000 mg
bitter melon fruit extract (<i>Momordica charantia</i>)	345 mg
green tea leaf extract (<i>Camellia sinensis</i>) including polyphenols of which caffeine of which EGC	100 mg 98 mg 2 mg 50 mg
white mulberry (<i>Morus alba</i>) extract	80 mg
cinnamon bark extract (<i>Cinnamomum cassia</i>)	75 mg



The herbal extracts contained in the product have a ratio of 4:1 **written next to their names. This is the so-called DER value. What does it mean?**

DER ratio (*drug extract ratio*) defines the ratio between the amount of plant material used to obtain a specific amount of extract. For example, the ratio 4:1 means that 4 mg of plant material was used to obtain 1 mg of extract.

- 345 mg of bitter melon extract 4:1 corresponds to 1380 mg of plant material;
- 80 mg of white mulberry extract 10:1 corresponds to 800 mg of plant material;
- 75 mg of cinnamon bark extract 10:1 corresponds to 750 mg of plant material.

Plant-based proteins from fava beans and peas

Protein is one of the main macronutrients in the human diet. It performs structural and functional roles in the body. It is a component of, among others, muscles, skin and connective tissue, as well as enzymes, hormones, antibodies and transport proteins.¹

Adequate protein intake is essential for the proper functioning of the body. In studies assessing overall dietary patterns, higher-protein diets have been associated with increased thermogenesis and greater feelings of satiety compared with lower-protein diets.² Branched-chain amino acids (BCAA) – leucine, isoleucine and valine – are involved in muscle protein metabolism; however, their effects depend on the intake of all essential amino acids, total protein intake and physical activity.³

Protein contributes to:⁴

- growth of muscle mass;
- maintenance of muscle mass;
- maintenance of healthy bones.

Dietary proteins are sources of amino acids used by the body to synthesise its own proteins. Some of them are essential amino acids, which the body cannot produce in sufficient amounts to meet its needs and therefore must be supplied through the diet.¹ The nutritional value of protein depends, among other factors, on its amino acid profile, digestibility and the bioavailability of individual amino acids.⁵

DUOLIFE Slim Shake combines two sources of plant-based protein: fava bean protein isolate and pea protein concentrate.

Fava beans and peas belong to the legume family and are naturally rich in protein. Their proteins provide essential amino acids, including branched-chain amino acids (BCAA): leucine, isoleucine and valine.^{6,7} Amino acids absorbed after protein digestion can then be used for the synthesis of body proteins.¹

The use of fava bean protein isolate provides a concentrated source of plant-based protein, while pea protein concentrate complements the formula with a second source of protein derived from legumes.^{6,7} Combining both ingredients allows the creation of a vegan shake with a more diverse amino acid profile.⁵

One serving of DUOLIFE Slim Shake provides as much as 14 g of protein. Protein contributes to more than half of the energy value of the shake prepared with water; therefore, the product may be described as a **high-protein product**.

Adequate protein intake is particularly important for physically active people, people who care about maintaining muscle mass and those who want to maintain normal body weight.

DUOLIFE Slim Shake provides a convenient way to supplement your daily diet with plant-based protein – both at home and on the go.

DUOLIFE Slim Shake contains as many as 3 types of soluble dietary fibre.
FIBRULINE™ chicory root inulin, Sanacel® oat fibre, defatted ground flax seeds.
How does dietary fibre promote body weight control?

Dietary fibre has bulking, water-binding and prebiotic properties. Selected fibre fractions can bind water, increase the volume of intestinal contents, influence stool consistency and undergo fermentation by the intestinal microbiota.⁸ Therefore, the beneficial effects of dietary fibre should be assessed in relation to the specific ingredient, its amount and the overall dietary pattern.⁸

One serving of DUOLIFE Slim Shake provides approximately 8 g of dietary fibre.

FIBRULINE™ – chicory root inulin

Chicory root inulin is not digested in the small intestine and reaches the large intestine, where it is fermented by the intestinal microbiota.⁸ Inulin is one of the most extensively studied dietary fibres with prebiotic properties, as it can be selectively utilised by certain intestinal microorganisms.⁸

By stimulating intestinal peristalsis, it supports bowel movements and helps maintain normal body weight.⁹

Chicory:

- supports weight management and weight control as part of a balanced diet; (ID 2702)
- supports digestion, the production of digestive juices and intestinal peristalsis; (ID 2011)
- supports liver function; (ID 2012)
- supports the maintenance of the heart and blood vessels in optimal condition. It also supports the maintenance of normal blood glucose levels. (ID 2416)

Sanacel® – oat fibre

Sanacel® is a plant-based dietary fibre obtained from oats. It is a natural fibre concentrate derived from fibre-rich parts of the oat plant and oat husks.

It is one of the three types of dietary fibre used in the DUOLIFE Slim Shake formula, alongside chicory root inulin (FIBRULINE™) and dietary fibre naturally present in ground flax seeds.

Defatted ground flax seeds

Flax (*Linum usitatissimum*) is a plant whose seeds have long been used as a food ingredient. Flax seeds contain dietary fibre, protein and naturally occurring plant compounds, including lignans and other polyphenolic compounds.¹⁰

The dietary fibre present in flax seeds includes both soluble and insoluble fractions. The characteristic components of the soluble fraction are mucilage compounds – polysaccharides capable of binding water and forming viscous solutions. The insoluble fraction is mainly associated with the structure of the seed coat.¹⁰ The use of flax seeds complements the fibre composition derived from chicory (FIBRULINE™) and oat fibre Sanacel®.

Flax seeds are a well-known source of lignans, which are compounds classified as plant polyphenols. The most characteristic lignan found in flax is secoisolariciresinol diglucoside (SDG).¹⁰

In DUOLIFE Slim Shake, defatted flax seeds are used. The defatting process removes a significant proportion of the oil and increases the relative content of non-fat components, including protein and dietary fibre, in the remaining ingredient.¹¹ The defatted, ground form is also convenient for use in the DUOLIFE Slim Shake formula with controlled fat content and energy value.

Flax seeds:

- contribute to the maintenance of body weight; (ID 2294)
- help reduce calorie intake; (ID 2294)
- support feelings of fullness and satiety; (ID 2294)
- support intestinal peristalsis. (ID 3926)

What is the effect of medium-chain triglycerides (MCT; *medium chain triglycerides*)

MCTs (medium-chain triglycerides) are triglycerides composed of medium-chain fatty acids. Compared with long-chain triglycerides, they are hydrolysed and absorbed more rapidly, and a significant proportion of the resulting medium-chain fatty acids is transported via the portal vein to the liver.¹² A meta-analysis of randomised studies showed that replacing part of long-chain triglycerides with medium-chain triglycerides was associated with a reduction in body weight and selected body composition parameters.¹³ Consumption of MCT oil may support weight reduction, mainly by increasing energy expenditure (thermogenesis).^{14,15} As compared to “normal” fats, there are fewer MCTs accumulated in fat cells (adipocytes). Consumption of MCTs increases feelings of fullness, supporting body weight management.¹⁶

One serving of DUOLIFE Slim Shake provides 1 g of MCT oil in a convenient powdered form.

Green tea leaf extract (*Camellia sinensis*) – a standardised source of polyphenols

Green tea is a source of catechins belonging to the flavonoid group. The main catechins include epicatechin (EC), epicatechin gallate (ECG), epigallocatechin (EGC) and epigallocatechin gallate (EGCG); EGCG is one of the best-studied catechins found in green tea.¹⁷ Catechins have antioxidant properties, support the maintenance of optimal blood pressure and normal heart function; EGCG has documented effects supporting body weight management.¹⁸

The green tea leaf extract used in DUOLIFE Slim Shake has been standardised to contain 98% polyphenols, including 2% caffeine. One serving of the product contains 100 mg of extract, 98 mg of polyphenols, 50 mg of EGCG and 2 mg of caffeine.

What are the effects of the other plant extracts contained in the shake: white mulberry leaf extract (*Morus alba*), cinnamon bark extract (*Cinnamomum cassia*) and bitter melon fruit extract (*Momordica charantia*)?

White mulberry

White mulberry (*Morus alba*) is a tree originating from Asia. Its leaves have been identified as containing, among others, protein, dietary fibre, minerals, phenolic compounds, flavonoids and polyhydroxylated alkaloids, including 1-deoxynojirimycin (DNJ). The composition of leaves and extracts may vary depending on the variety, harvest time and extraction method.¹⁹

White mulberry may help maintain the balance of carbohydrate metabolism in the body. (ID 2378)

Cinnamomum

Cinnamomum cassia is a plant whose dried bark is widely used as a spice. The bark contains aromatic and polyphenolic compounds, including cinnamaldehyde, cinnamic acid and its derivatives, procyanidins, as well as naturally occurring coumarin.²⁰

Cinnamon:

- helps maintain normal blood glucose levels; (ID 3323)
- supports digestion; (ID 2014)
- supports the function of the circulatory system. Helps maintain normal blood lipid levels. Supports the production of HDL (good) cholesterol. (ID 2017)

Bitter melon

Bitter melon (*Momordica charantia*), also known as bitter gourd, is a plant belonging to the Cucurbitaceae family. It is found in tropical and subtropical regions of Asia, Africa and both Americas.²¹

Its characteristic elongated fruits have been part of traditional cuisine in many Asian countries for centuries, including India, China, Japan and Philippines. Unripe fruits are characterised by an intense bitter taste resulting from the presence of natural plant compounds.²¹

Bitter melon fruits contain, among others, cucurbitane-type triterpenoids, triterpene glycosides, saponins, phenolic compounds, flavonoids, proteins, peptides and polysaccharides. The qualitative and quantitative composition depends on the variety, degree of ripeness and extraction method.¹⁹

B-complex vitamins

Each serving of DUOLIFE Slim Shake provides 100% NRV of thiamine, riboflavin, niacin, vitamin B6, folic acid, vitamin B12 and biotin.

These vitamins support, among others, normal energy metabolism and the normal functioning of the nervous system, the maintenance of normal psychological functions, the reduction of tiredness and fatigue, as well as the normal functioning of the immune system. Selected vitamins also help maintain healthy skin and mucous membranes.⁴

The product contains, among others, an active form of vitamin B6 – pyridoxal 5'-phosphate – and methylcobalamin as a source of vitamin B12.

Vitamin D and iron

Vitamin D

One serving (30 g) of the product provides 5 µg of vitamin D, which equals 100% NRV. Vitamin D contributes to the normal functioning of the immune system and muscles, maintenance of healthy bones and teeth, normal absorption and utilisation of calcium and phosphorus, as well as maintenance of normal blood calcium levels.⁴

Iron

Iron contributes to the normal formation of red blood cells and haemoglobin, normal oxygen transport, maintenance of normal cognitive function, normal functioning of the immune system, reduction of tiredness and fatigue, and normal energy metabolism.⁴

Bestevia® – enzymatically produced steviol glycosides

Bestevia® is an innovative sweetener based on steviol glycosides – natural compounds found in the leaves of the stevia plant (*Stevia rebaudiana*). Steviol glycosides have zero calories and are not absorbed in their unchanged form in the human digestive tract.²² They are responsible for the characteristic, intensely sweet taste of stevia. Unlike classic stevia extract, the production process of enzymatically produced steviol glycosides uses a gentle enzymatic bioconversion process, which allows the structure of individual glycosides to be modified. Depending on the technology used, this process may produce, among others, rebaudioside M (Reb M), rebaudioside D (Reb D) or rebaudioside AM (Reb AM). These are naturally derived compounds belonging to the same family of steviol glycosides, but differing in molecular structure, sweetness intensity and sensory profile.²³ Bestevia® uses modern enzymatic technology to achieve a high-quality natural sweetening profile, which is well suited for formulations where an intense sweetness effect is desired while using only a small amount of sweetener.

What makes DUOLIFE Slim Shake dietary supplement stand out?

- Contains as many as 3 branded ingredients: **FIBRULINE™, Sanacel® and Bestevia®**.
- **94%** of the formula consists of ingredients of natural origin.
- Contains valuable medium-chain triglycerides (**MCTs**) and **two different complete protein sources** from pea and fava bean, with a high content of BCAA amino acids (valine, isoleucine and leucine).
- Contains three types of dietary fibre: **chicory root inulin FIBRULINE™, oat fibre Sanacel® and defatted, ground flax seeds**.
- Suitable **for VEGANS and vegetarians** (contains no animal-derived ingredients).
- The product **does NOT contain gluten, lactose, soy or added sugar**.
- The product **DOES NOT contain** artificial fillers and **is GMO-FREE** – the raw materials used in the development of the supplement ARE NOT derived from genetically modified plants.
- **Convenient and quick preparation** – allows you to prepare a shake within moments, both at home and on the go.
- Delicate vanilla flavour.

 *The bibliography for the DUOLIFE Slim Shake product is available on a separate tab of the binder.*

Slim Shake

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