matriNutra

Food-grade Elastin

Quality. Made in Germany.

matriVital

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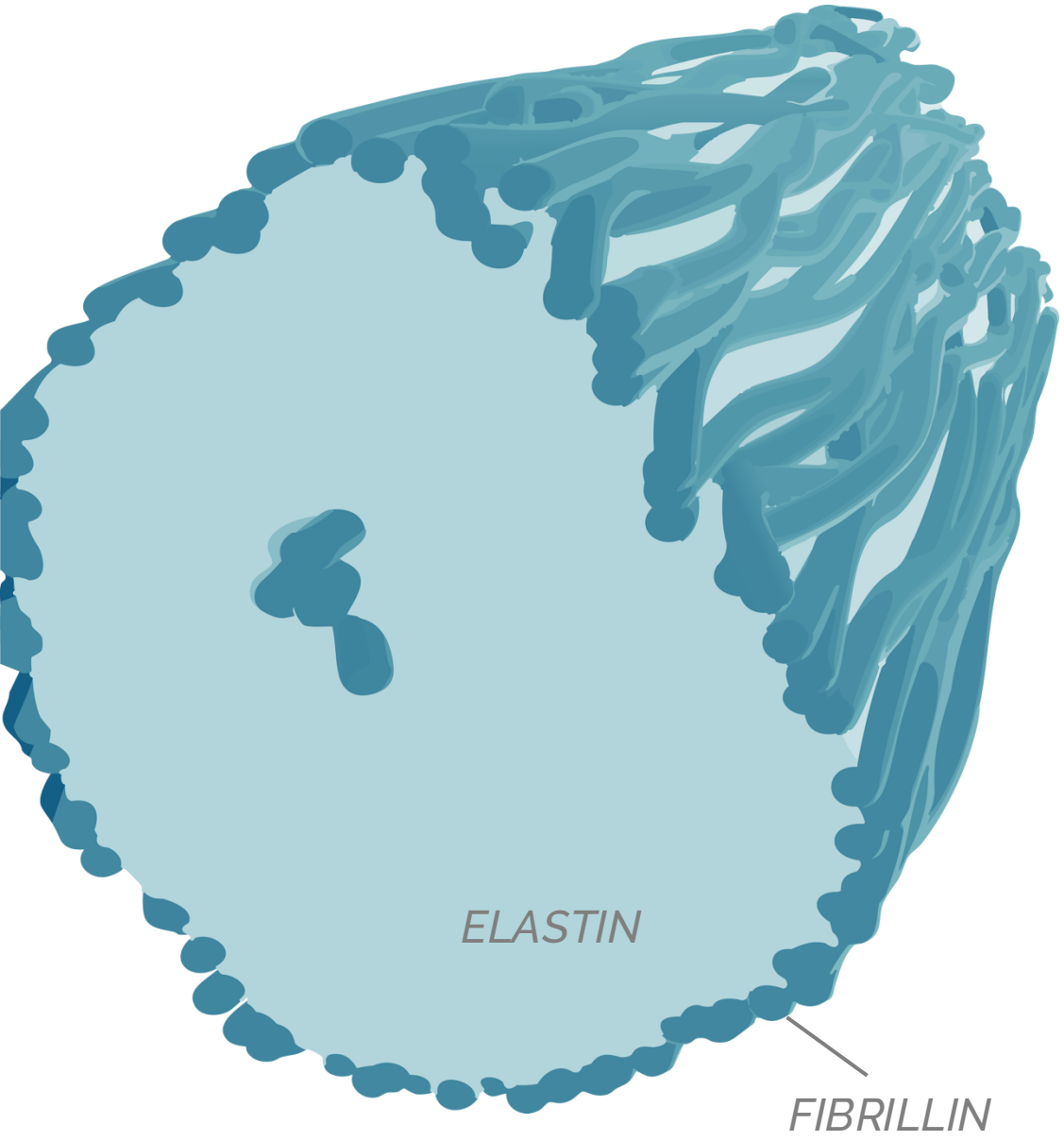
Elastin

… is one of the most important structural proteins in connective tissue and is essential for skin elasticity.

The breakdown and damage of elastin are irreversible. The consequences include wrinkles and scar tissue.



SCHMELZER ET AL., IUBMB LIFE 2019, 1-13

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Elastic Fibers

… are central components of connective tissue.

They consist of elastin and fibrillin, which give the skin its firmness, flexibility, and resilience.

Healthy, intact fibers are crucial for the skin's function and healthy appearance.

Elastin degradation and its consequences

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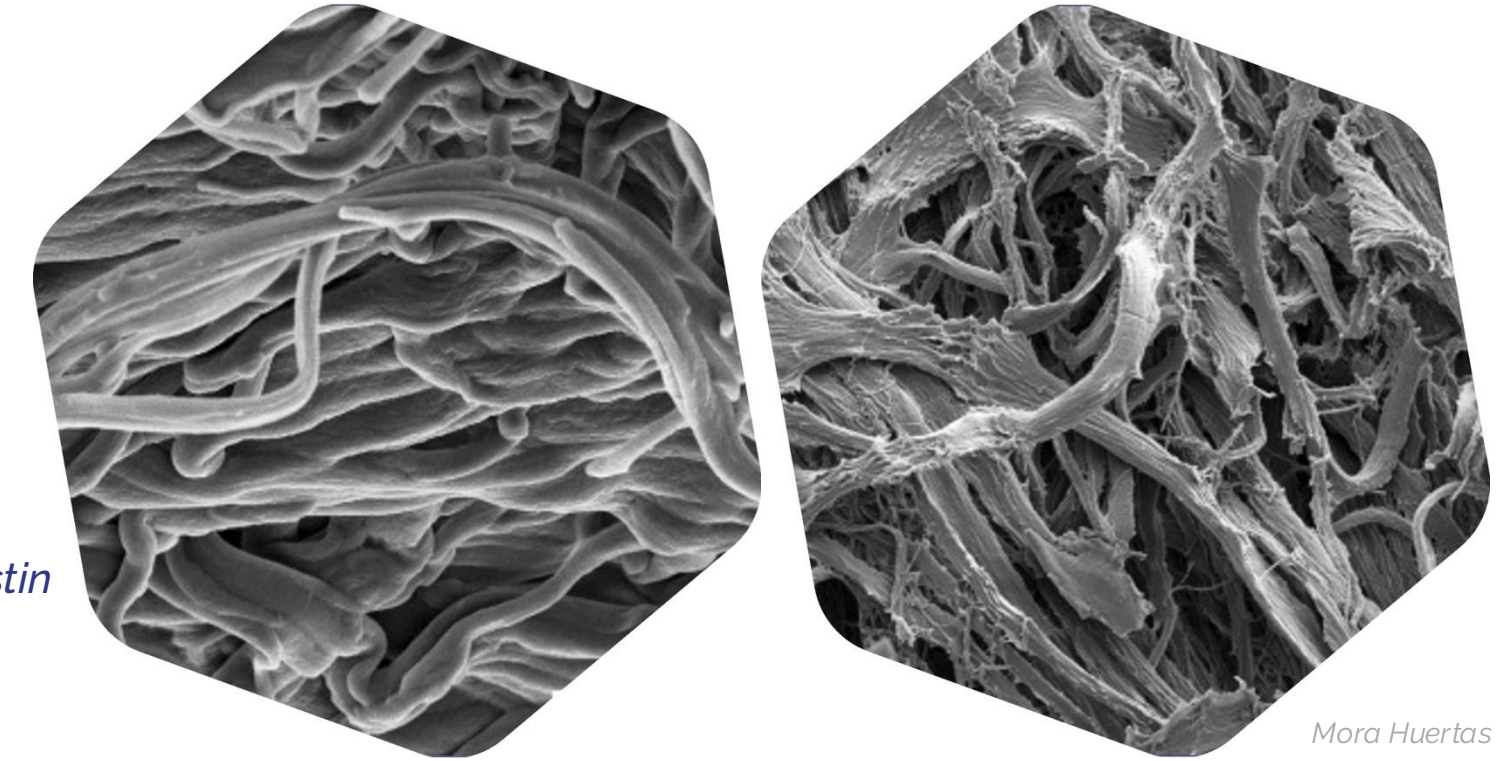

smooth elastin

rough Elastin

Mora Huertas et al., 2016, Biochimie 128-129, 163-173

Elastin is essential for maintaining skin elasticity and firmness. However, it is broken down over time by natural aging processes and external influences. UV radiation and oxidative stress accelerate this process and lead to a gradual loss of skin elasticity. Since the body cannot regenerate elastin, its breakdown contributes to wrinkling, sagging skin, and reduced skin elasticity.

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Elastin

... can be supplied to the body in various ways from external sources.

It has outstanding potential as a component of everyday nutrition.

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Optimized for use in beverages, food, and dietary supplements

- Highest purity
- Cold water soluble
- Allergen-free
- High Protein (1 g ≥ 0,9 g protein)
- Universally applicaple

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Macromolecular elastin available as flakes, granules, and fine powder

- natural Elastin
- High Protein (1 g ≥ 0,9 g Protein)
- High amount of essential amino acids
- Excellent additive for solid foods

matriVital

Product Specification

Identity

Protein content	*≥ 90%*
Desmosine	*≥ 0.5 Gew.-%*
Isodesmosine	*≥ 0.5 Gew.-%*
Elastin content	*≥ 90%*

Heavy Metals and Chemical Analysis

Arsenic (As)	*≤ 1 mg/kg (ppm)*
Cadmium (Cd)	*≤ 0.5 mg/kg (ppm)*
Chromium (Cr)	*≤ 10 mg/kg (ppm)*
Copper (Cu)	*≤ 30 mg/kg (ppm)*
Iron (Fe)	*≤ 30 mg/kg (ppm)*
Lead (Pb)	*≤ 3 mg/kg (ppm)*
Mercury (Hg)	*≤ 0.1 mg/kg (ppm)*
Zinc (Zn)	*≤ 50 mg/kg (ppm)*
Sulfur dioxide (SO_2)	*≤ 10 mg/kg (ppm)*
Hydrogen peroxide (H_2O_2)	*≤ 10 mg/kg (ppm)*

Microbiological Analysis

Total Aerobic Mesophilic Microorganisms	*≤ 100 CFU/g*
Anaerobic sulphite-reducing spores	*≤ 10 CFU/g*
Enterobacteriaceae	*≤ 10 CFU/g*
Listeria monocytogenes	*Absence*
Escherichia coli	*Absence*
Salmonella	*Absence*

Physical and Chemical Properties

Apperance	*Powder*
Color	*Yellowish to orange to brownish*
Odor	*Odorless to faint*
Water content	*≤ 10 wt%*
Active water (a_w)	*< 0.6*
Conductivity	*< 1 mS/cm*
Molecular weight (M_w)	*10-30 kDa*
pH	*6-8*
Clarity of solution	*batch-specific*

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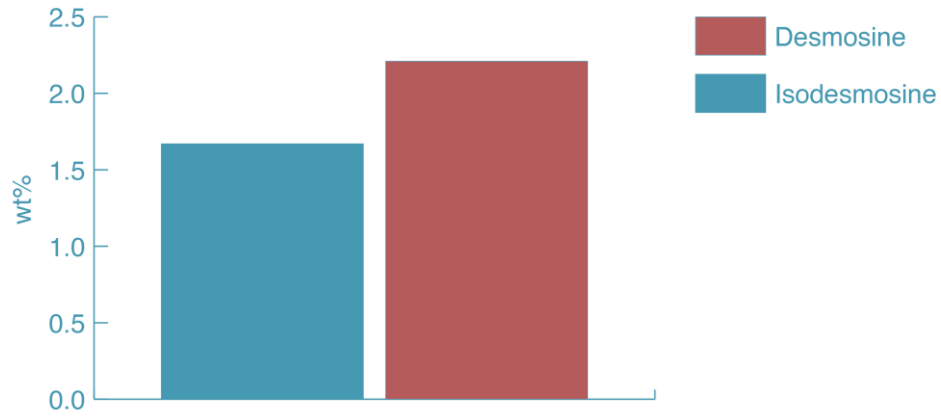
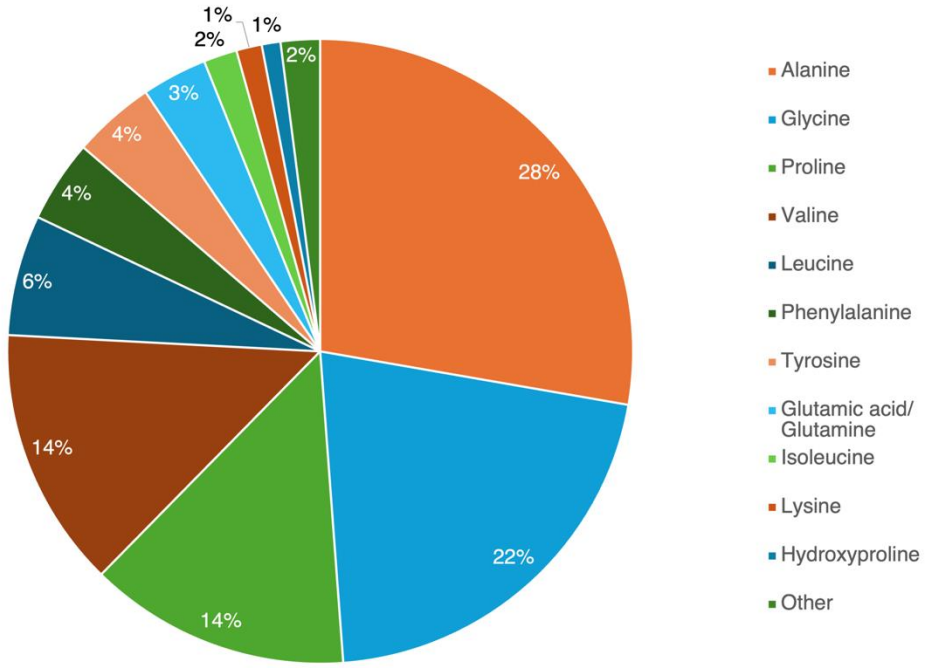


matriVital contains more than 1% isodesmosin and over 2% desmosin. This means it contains two to three times more than conventional elastin.

These cross-linking building blocks (typically 1% in elastin) are crucial for the structural integrity of elastin.

Amino acid profile



matriVital characterized by its unique amino acid profile.
They are rich in alanine, glycine, proline, and hydroxyproline, the main components of elastin.

matriNutra

Product Specification

Identity

Protein content	*≥ 90%*
Desmosine	*≥ 0.1 Gew.-%*
Isodesmosine	*≥ 0.1 Gew.-%*
Elastin content	*≥ 90%*

Heavy Metals and Chemical Analysis

Arsenic (As)	*≤ 1 mg/kg (ppm)*
Cadmium (Cd)	*≤ 0.5 mg/kg (ppm)*
Chromium (Cr)	*≤ 10 mg/kg (ppm)*
Copper (Cu)	*≤ 30 mg/kg (ppm)*
Iron (Fe)	*≤ 30 mg/kg (ppm)*
Lead (Pb)	*≤ 3 mg/kg (ppm)*
Mercury (Hg)	*≤ 0.1 mg/kg (ppm)*
Zinc (Zn)	*≤ 50 mg/kg (ppm)*
Sulfur dioxide (SO_2)	*≤ 10 mg/kg (ppm)*
Hydrogen peroxide (H_2O_2)	*≤ 10 mg/kg (ppm)*

Microbiological Analysis

Total Aerobic Mesophilic Microorganisms	*≤ 100 CFU/g*
Anaerobic sulphite-reducing spores	*≤ 10 CFU/g*
Enterobacteriaceae	*≤ 10 CFU/g*
Listeria monocytogenes	*Absence*
Escherichia coli	*Absence*
Salmonella	*Absence*

Physical and Chemical Properties

Apperance	*Granulate, flakes*
Color	*Yellowish to orange to brownish*
Odor	*Odorless to faint*
Water content	*≤ 10 wt%*
Active water (a_w)	*< 0.6*

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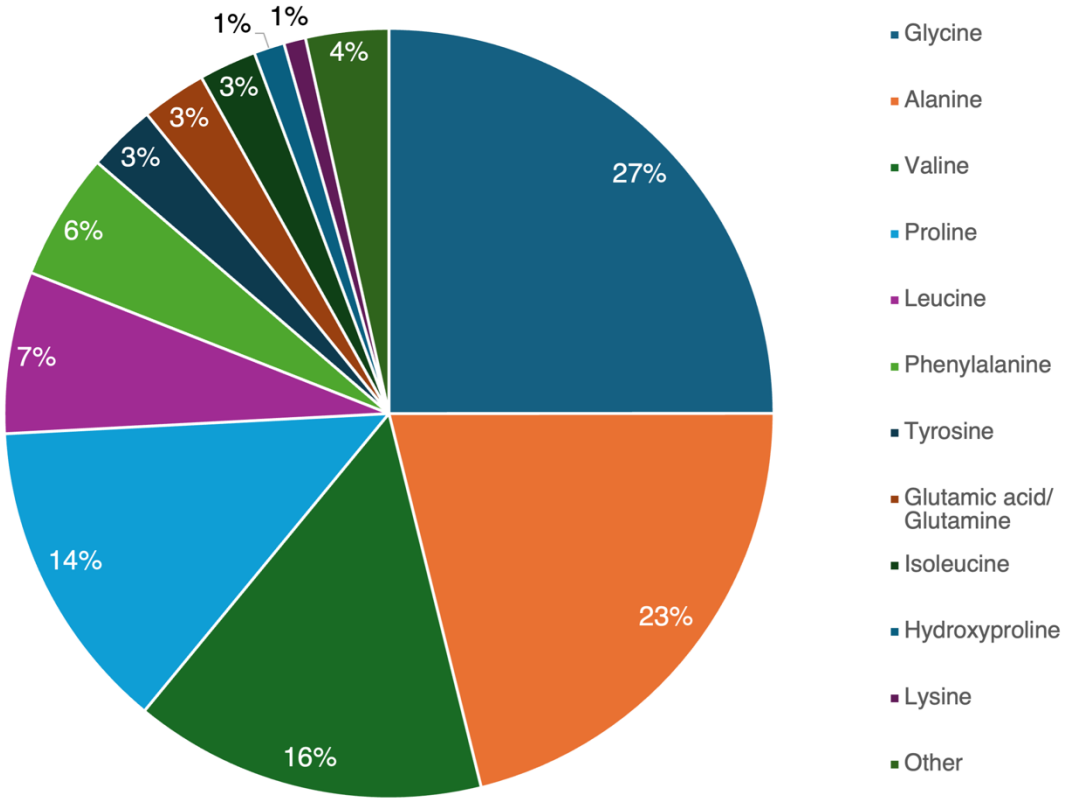
Amino acid profile



matriNutra is characterized by its natural amino acid profile.

It reflects the purest form of elastin.

High protein and *low carb* products

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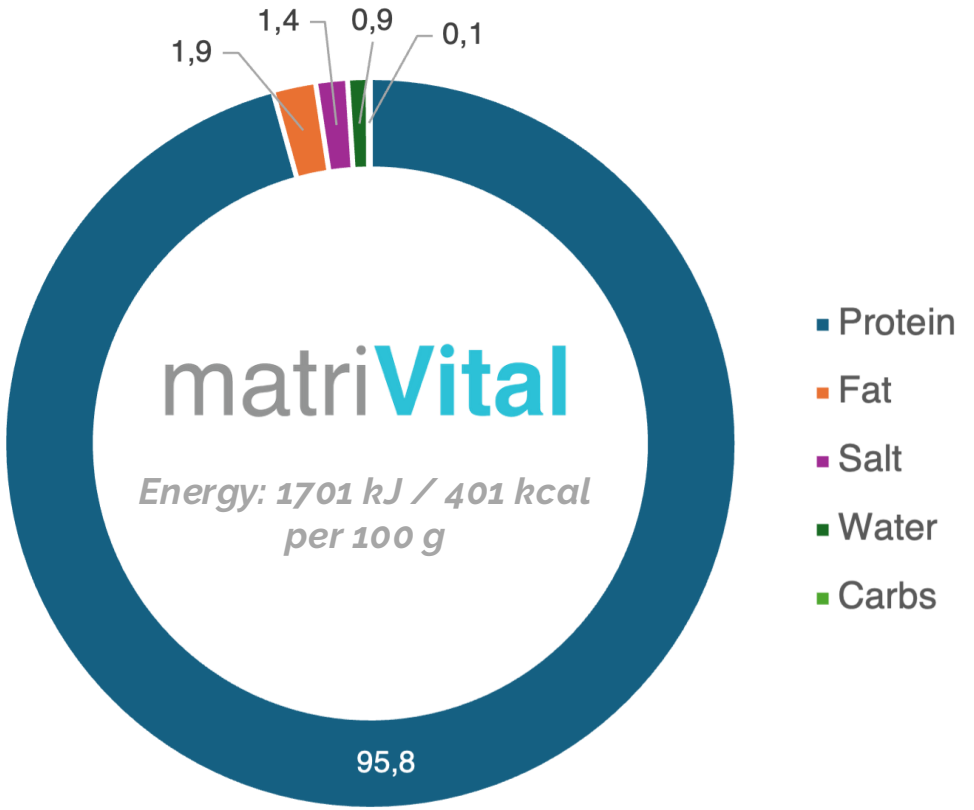

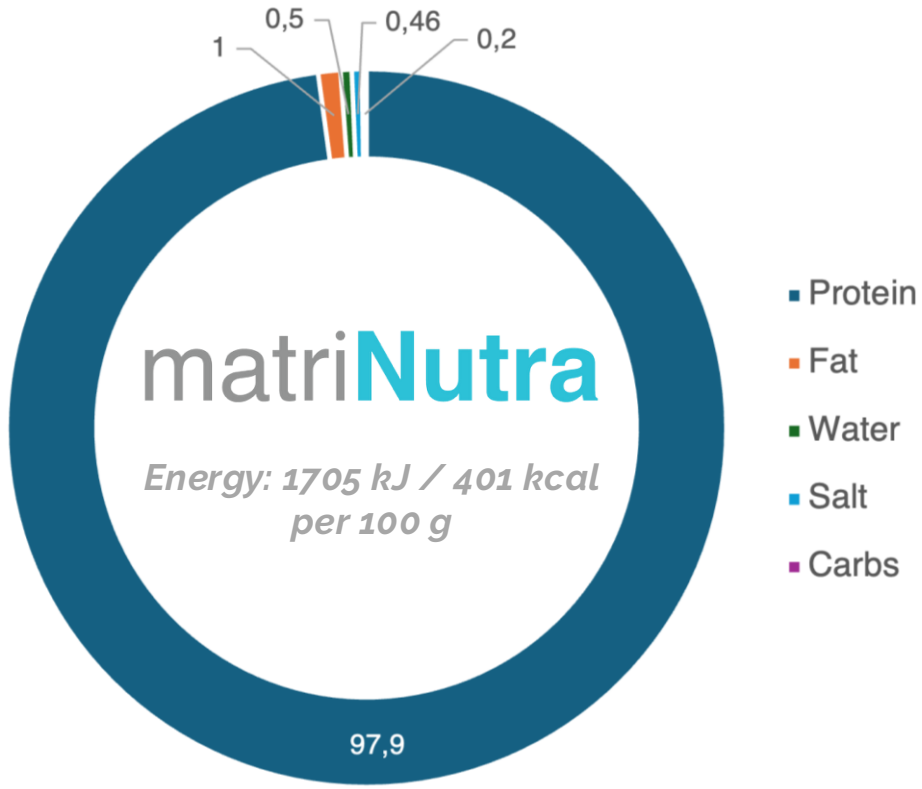

Nutrition claims: High protein, sugar-free, low fat, low saturated fat, no added sodium/salt

https://food.ec.europa.eu/food-safety/labelling-and-nutrition/nutrition-and-health-claims/nutrition-claims_en

Proven effects of elastin

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Bioavailability and safety

- of elastin peptides when taken orally have been proven

Effects of elastin supplements

- Inhibition of elastase (elastin-degrading enzyme)
- Stimulation of the synthesis of important skin proteins
- Anti-inflammatory effects

Protection against photoaging

- Improvement of skin health
- Protection against photoaging

Stimulation of collagen and elastin synthesis

- Synergistic effects with collagen peptides for more comprehensive skin health

References:
Mikako Sato et al,Nippon Shokuhin Kagaku Kogaku Kaishi. 2011
Zejun Zhang et al., J Photochem Photobiol B. 2020
Wu J et al., J Sci Food Agri, 2024
Liu Y et al., J Agric Food Chem., 2018
Shigemura Y et al., Agric Food Chem., 2012
Zhang Z et al., J Photochem Photobiol B., 2020

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Expertise in Elastin

matrihealth GmbH specializes in the sustainable industrial isolation and processing of elastin and offers a comprehensive portfolio of high-quality products. With over 20 years of experience in elastin research, the development of isolation strategies, and scalable processing methods, the matrihealth team sets standards in quality assurance, technological innovation, and application-oriented product development. All matrihealth production takes place in Germany and covers the entire elastin production chain – from the careful selection of raw materials to the packaging of high-quality elastin ingredients. This ensures the consistently high quality, safety, and sustainability of our products, which are regularly tested and certified by independent laboratories.

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