Avena Lab
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Import and distribution for Serbia: Farmadria DOO
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PRODUCT SPECIFICATION

Product Name	Keratin Protein, Hydrolyzed
Product Code	AL00144
INCI Name	Hydrolyzed Keratin Protein, Benzyl Alcohol, Sodium Benzoate, Potassium Sorbate

Specification DATA

Items	Parameters
Residue on drying	20.0 - 23.0%
Nitrogen content	2.1 - 2.7%
Protein content	10.0 - 20.0%
Ash	< 5.0%
pH	5.0 - 6.0
Microbial count	< 100 cfu/g
Mould and yeast	< 10 cfu/g
Typical molecular weight	abt. 3000 Da

Typical molecular weight distribution of Keratin Protein fraction

High Molecular Weight Fractions (high MW): These molecules have the highest molecular weight among all the fractions shown. They are crucial for the structural functions of proteins, providing stability and integrity to the keratin in hair. Their high molecular weight means these molecules do not easily penetrate the hair surface but form a protective layer that can help shield the hair from damage. For instance, high molecular weight keratin can create a barrier that protects hair from heat and chemical treatments, reducing the risk of damage and improving hair resilience.

Medium Molecular Weight Fractions (medium MW): These molecules have a medium molecular weight, representing a balance between high and low molecular weight molecules. They are small enough to penetrate the inner layers of the hair but large enough to provide long-lasting protection. This fraction is responsible for hair repair and stability, helping to mend damage and maintain a healthy hair structure. Medium molecular weight keratin can effectively fill micro-cracks in hair fibers, improving hair texture and appearance.

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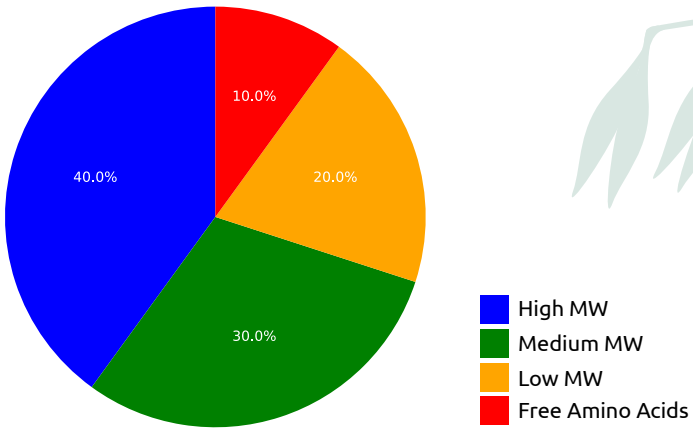
Low Molecular Weight Fractions (low MW): These molecules have a low molecular weight, allowing them to easily penetrate the hair's interior. Their primary role is to hydrate and nourish the inner layers of the hair. Due to their small size, these molecules can efficiently fill gaps in the hair structure caused by damage, contributing to smoothness and shine. Low molecular weight keratin can enhance the hair's moisture retention ability, resulting in improved elasticity and reduced brittleness.

Free Amino Acids (free amino acids): These are the smallest molecules shown in the diagram. Free amino acids are the basic building blocks of proteins and play a key role in hair regeneration and repair. They help repair damage at the molecular level and improve overall hair elasticity and resilience. Free amino acids can act as precursors for the synthesis of new keratin fibers, thereby enhancing the structure and health of the hair.

The typical molecular weight of Keratin protein is around 3000 Da (Daltons), which is the result of partial hydrolysis of sheep wool. This hydrolysis process produces medium molecular weight proteins that guarantee high substantivity (adhesion to hair) and stability.

This distribution of molecular weights allows the product to effectively restructure hair fibers damaged by various treatments such as perming, coloring, thermal treatments, frequent washing, and exposure to atmospheric factors. It also helps protect the keratin in hair from further damage.



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Benefits

• ***Damaged hair restructuring effect:*** Effectively restores damaged hair, improving the structure and health of keratin fibers.
• ***Hair colour protection:*** Provides color protection, making the hair color last longer and be more resistant to fading.
• ***Hair protection from thermal damage:*** Shields hair from damage caused by thermal treatments such as blow-drying, straightening, and curling.
• ***Hair conditioning effect:*** Enhances the conditioning of hair, making it softer, smoother, and easier to comb.
• ***Improved hair elasticity:*** Increases hair elasticity, reducing breakage and split ends.
• ***Enhanced hair shine:*** Boosts hair shine, giving it a healthy and radiant appearance.
• ***Scalp hydration:*** Hydrates the scalp, reducing dryness and irritation.
• ***Strengthens hair:*** Reinforces hair strength, making it more resilient to environmental and mechanical stress.

Cosmetic properties

Acts as a shield against irritation caused by surfactants in shampoos, adding volume and elasticity to hair, as well as a glossy finish and pleasant texture. Aids in repairing and safeguarding hair keratin from damage due to intensive treatments like perming and coloring. Recommended for use in nail care products as well.

Shampoos	1 – 5 %
Hair conditioners	1 – 3 %
Hair treatments	2 – 10 %
Leave – on products	0.5 – 3 %
Nail products	3 – 5 %