KERACTIVE: Bioactive Ingredients

**Active Ingredients**
- L-Cysteine
- HCl
- H2O
- L-3,4-Dihydroxyphenylalanine (L-DOPA)
- L-Methionine
- 4-(1-Pyrrolidinyl)-1-(2,4,6-trimethoxyphenyl)-1-butanone (PTMBP)
- L-Tyrosine
  - • 2Na
  - • H2O
- Vitamin B1 (Thiamine)
- Vitamin B3 (Niacinamide)
- Vitamin B5 (D-Pantothenic Acid • ½Ca)
- Vitamin B6 (Pyridoxine • HCl)
- Vitamin B8 (D-Biotin)
- Vitamin P
- Zinc Sulfate • 7H2O

**Amino Acids**
- L-Alanine
- L-Arginine • HCl
- L-Asparagine • H2O
- L-Aspartic Acid
- L-Glutamic Acid
- L-Glutamine
- Glycine
- L-Histidine • HCl • H2O
- L-Isoleucine
- L-Leucine
- L-Lysine • HCl
- L-Phenylalanine (16.4 mg/l)
- L-Proline
- Pyruvic acid
- L-Serine
- L-Threonine
- L-Tryptophan
- L-Valine

**Minerals**
- Ammonium Metavanadate
- Ammonium Molybdate • 4H2O
- Calcium Chloride • 2H2O
- Cupric Sulfate • 5H2O
- Ferrous Sulfate • 7H2O
- Magnesium Sulfate
- Manganese Sulfate
- Nickel Chloride • 6H2O
- Potassium Chloride
- Sodium Phosphate Dibasic
- Sodium Chloride
- Sodium Metasilicate
- Sodium Selenite (0.003 mg/l)
- Zinc Sulfate • 7H2O

**Vitamins**
- Choline Chloride
- Cobalamine (Vitamin B12)
- Folinic Acid • Ca
- Myo-Inositol
- Riboflavin

**Other Components**
- Adenine • HCl
- Benzyl Alcohol
- D-Glucose
- Phenol Red • Na
- Procaine (0.5 mg/ml)
- Putresine • 2HCl
- Safranin O
- D-L-6,8-Thioctic Acid
- Thymidine

**Biological Structure of Hair**

KERACTIVE is a medium rich in vitamins, amino acids and minerals formulated to restore effective micro-circulation of the scalp and revitalize hair follicles.

**A bio-stimulation treatment for hair follicles**

To restore effective micro-circulation of the scalp and revitalize hair follicles.

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Elements required for hair growth.

Powell BC, Rogers GE.


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Sequence, expression, and function of cuticle layers of differentiating wool and hair

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Systemic therapy of diffuse effluvium and hair structure damage

Fratini A, Powell BC, Rogers GE.


Hair loss: an overview

Keractive

Table 1: Table of the amino acids present in KERACTIVE

<table>
<thead>
<tr>
<th>Amino Acid</th>
<th>Amount in residues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arginine</td>
<td>6</td>
</tr>
<tr>
<td>Aspartic</td>
<td>5</td>
</tr>
<tr>
<td>Cysteine</td>
<td>20</td>
</tr>
<tr>
<td>Glutamic</td>
<td>13</td>
</tr>
<tr>
<td>Histidine</td>
<td>1</td>
</tr>
<tr>
<td>Leucine</td>
<td>7</td>
</tr>
<tr>
<td>Phenylalanine</td>
<td>2</td>
</tr>
<tr>
<td>Serine</td>
<td>13</td>
</tr>
<tr>
<td>Threonine</td>
<td>8</td>
</tr>
<tr>
<td>Valine</td>
<td>7</td>
</tr>
</tbody>
</table>

The primary component of hair fiber is keratin protein, a long chain of amino acids. Keratin is composed of two types of keratin: type I and type II keratin. Type I keratin is predominately found in the hair shaft, while type II keratin is found in the hair root. Keratin is a fibrous protein that provides strength and elasticity to hair.

To stimulate hair growth and health. KERACTIVE stimulates the dermal papilla directly, providing the dermal papilla with the nutritional elements required for hair growth. This leads to a stoppage of the growth of the hair fiber and root sheaths. The dermal papilla can become isolated in the dermis and the hair fiber can easily be pulled out.

To repair hair prematurely damaged by chemical processes, KERACTIVE provides the dermal papilla with the nutritional elements required for hair growth.

To eliminate dandruff and seborrhea, KERACTIVE provides the dermal papilla with the nutritional elements required for hair growth.

To treat female hair loss, KERACTIVE provides the dermal papilla with the nutritional elements required for hair growth.

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