trylagen®
A trifunctional ingredient for an integral collagen treatment

Boosts collagen synthesis
Uniformises fibril diameter and spacing
Inhibits enzymatic destruction

Description
Combination of active peptides and proteins that provide an efficient treatment to restore the collagen levels of youth and mature skin, maintaining an adequate long-lasting collagen function that will ensure a healthy and youthful skin.

Appearance
Yellow suspension containing:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>INCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5%</td>
<td>Pseudoalteromonas Ferment Extract</td>
</tr>
<tr>
<td>2.86%</td>
<td>Hydrolyzed Wheat Protein</td>
</tr>
<tr>
<td>1.86%</td>
<td>Hydrolyzed Soy Protein</td>
</tr>
<tr>
<td>0.04%</td>
<td>Tripeptide-10 Citrulline</td>
</tr>
<tr>
<td>0.01%</td>
<td>Tripeptide-1</td>
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</tbody>
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INCI
Water (Aqua), Pseudoalteromonas Ferment Extract, Hydrolyzed Wheat Protein, Hydrolyzed Soy Protein, Tripeptide-10 Citrulline, Tripeptide-1, Lecithin, Xanthan Gum, Carbomer, Triethanolamine.

Please contact us for information on the preservative system.

Properties
Integral collagen treatment that tackles the problems associated with each aging stage.

Science
During the aging process, the synthesis of collagen is reduced and both degradation and disorganisation of the fibril network are increased, resulting in connective tissue damage, and the loss of the skin three-dimensional integrity, culminating in the development of wrinkles. trylagen® acts at these three stages in the life of collagen and its activity is made up of three main functions: boosts the synthesis of collagen types I, III and IV, controls collagen fibril dimensions and inhibits enzymatic destruction, avoiding excessive collagen damage in aged skin.

Applications
trylagen® can be incorporated in cosmetics formulations where attenuation of wrinkles is desired.

Dosage 1-5%

Solubility Water soluble.
In vitro efficacy

1. COLLAGEN BOOSTING
   • Increase in collagen types I and IV synthesis
     A sample of a cream containing 1.25% Pseudoalteromonas Ferment Extract was tested in reconstituted human skin.

   - Collagen type I
     - 128% increase of collagen I synthesis after 15 days
     - Type I collagen fibrils have a great tensile strength and elastic resistance.

   - Collagen type IV
     - 81% increase of collagen IV synthesis after 15 days
     - Type IV collagen is the most abundant structural component of basement membrane.

2. COLLAGEN ORGANISATION
   • Dermal collagen fibrils study
     Tissues from a tridimensional human skin model were treated with Tripeptide-10 Citrulline 0.01%. Tissues were sectioned and then observed by Transmission Electron Microscopy.

3. COLLAGEN PROTECTION
   • Dermal collagen fibrils study
     The aim of this study was to determine the selectivity of trylagen® versus human MMPs: MMP-2 and MMP-3. The fluorescence released by quenched gelatin (denatured collagen) when digested with MMPs was monitored.

In vivo efficacy

ANTI-WRINKLE EFFECT
Panel of 20 female volunteers, aged 35 to 55.
A cream containing 5% trylagen® was applied twice daily on one side of the face (around the eye), and a placebo cream on the other side, for 30 days.
The depth of the wrinkles was examined by means of the optical 3D measurement PRIMOS.

- 29% decrease in wrinkle depth after 30 days

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