EltaMD® Barrier Renewal Complex

Product Information

Ceramide and enzyme therapy

- Visibly improves skin appearance
- Promotes healthy skin barrier
- Replenishes moisture

EltaMD® Barrier Renewal Complex is clinically proven to moisturize the stratum corneum and improve dry, compromised skin after a single application within 24 hours. This advanced formula works to visibly minimize the appearance of fine lines and wrinkles while significantly improving skin texture, tone and pore size. A selected blend of ceramides and other essential lipids help strengthen the barrier and restore its natural hydration system. Enzymes and vitamins minimize inflammation and promote skin cell turnover. Within 21 days, skin appears softer, smoother, healthier and more youthful. EltaMD Barrier Renewal Complex is fragrance-free, paraben-free, sensitivity-free and noncomedogenic.

<table>
<thead>
<tr>
<th>Label uses</th>
<th>Use to achieve and maintain a healthy skin barrier, replenish moisture and reduce the appearance of fine lines and wrinkles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directions</td>
<td>Apply morning and night to face, neck, and décolletage. For day-time use, follow with EltaMD sunscreen as directed by a physician.</td>
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<tr>
<td>Package size/dispenser</td>
<td>1.7 oz / 48 g Airless pump</td>
</tr>
<tr>
<td>Applications per package</td>
<td>Varies by application amount and size of area covered</td>
</tr>
<tr>
<td>Ingredients</td>
<td>Purified Water, Ethylhexyl Isononanoate, Niacinamide, Glycerin, Glyceryl Stearate, PEG-100 Stearate, Dimethicone, Ceramide NP, Cholesterol, Ceramide EOS, Cetyl Alcohol, Ceramide NS, Ceteareth-25, Ceramide EOP, Caprooyl Sphingosine, Caprooyl Phytosphingosine, Ceramide AP, Hyaluronic Acid, Hydroxyethyl Acrylate/Sodium Acryloyldimethyl Taurate Copolymer, Xylitylglucoside, Squalane, Anhydroxylitol, PEG-7 Trimethylol-propane Coconut Ether, Polyisobutene, Piptadenia Calabarina Peel Extract, Actinidia Chinensis (Kiwi) Fruit Extract, Bromelain, Tocopherol, Xylitol, Ficin, Glutamine, Biotin, Proline, Behenic Acid, Carbomer, Citric Acid, Sodium Hydroxide, Butylene Glycol, Benzyl Alcohol, Potassium Sorbate, Phenoxyethanol, Hexadecanold, Sodium Bisulfite, Disodium EDTA.</td>
</tr>
<tr>
<td>Availability</td>
<td>Physician-dispensed only</td>
</tr>
<tr>
<td>Item #</td>
<td>02562</td>
</tr>
</tbody>
</table>

EltaMD®: The Science of Skin Care Delivered Safely
Dry skin may be induced by one or more factors such as low humidity, low environmental temperature, aging, psychological stress, microorganisms, and/or exposure to chemicals. Use of moisturizers to combat symptoms of dry skin are often the first treatment option to increase skin hydration. Unfortunately, the dry skin transepidermal water loss can induce inflammatory cytokine release and subsequent inflammatory cell infiltrate. These complex interactions can then lead to additional inflammation and hyperproliferation. This inflammation cannot be resolved simply by adding moisture to the stratum corneum.

A moisturizer that can hydrate, provide penetrating lipid profiles (e.g. ceramides and fatty acids) and ingredients that decrease inflammation was hypothesized to resolve dry skin symptoms and associated inflammation more quickly than a leading dermatologist recommended ceramide containing moisturizer. The test moisturizer was developed and tested in double blind kinetic and usage clinical studies compared to controls. Skin appearance, moisturization, smoothness, tone, pore size, flakiness, elasticity and skin barrier function were assessed in 32 female subjects (15 test: 17 control) with dry or combination facial skin using both objective and subjective measurements.

As expected, both products had significant improvements in hydration and skin dryness in as little as 4 hours and 24 hours following a single application as well as during the 3 week study period. Significant improvements in TEWL, skin tone, fine flakes, coarse flakes desquamation index values were also seen for both products. However, significant improvements in extensibility, pure elasticity and biological elasticity measurement over a 24 hour period were only observed for the test product group. The test product also significantly reduced pore size in as little as one week and throughout the entire study. The control moisturizer was statistically outperformed for pore size and visible smoothness. Within 21 days, 100% of test product subjects had significant visible and tactile smoothness improvements.

Use of a moisturizer containing multiple ingredients that target key deficiencies can improve skin texture and appearance. Breaking the dry skin cycle may be of use in maintaining healthy skin and improving compromised skin quickly.

Abstract

Dry skin may be induced by one or more factors such as low humidity, low environmental temperature, aging, psychological stress, microorganisms, and/or exposure to chemicals. Use of moisturizers to combat symptoms of dry skin are often the first treatment option to increase skin hydration. Unfortunately, the dry skin transepidermal water loss can induce inflammatory cytokine release and subsequent inflammatory cell infiltrate. These complex interactions can then lead to additional inflammation and hyperproliferation. This inflammation cannot be resolved simply by adding moisture to the stratum corneum.

A moisturizer that can hydrate, provide penetrating lipid profiles (e.g. ceramides and fatty acids) and ingredients that decrease inflammation was hypothesized to resolve dry skin symptoms and associated inflammation more quickly than a leading dermatologist recommended ceramide containing moisturizer. The test moisturizer was developed and tested in double blind kinetic and usage clinical studies compared to controls. Skin appearance, moisturization, smoothness, tone, pore size, flakiness, elasticity and skin barrier function were assessed in 32 female subjects (15 test: 17 control) with dry or combination facial skin using both objective and subjective measurements.

As expected, both products had significant improvements in hydration and skin dryness in as little as 4 hours and 24 hours following a single application as well as during the 3 week study period. Significant improvements in TEWL, skin tone, fine flakes, coarse flakes desquamation index values were also seen for both products. However, significant improvements in extensibility, pure elasticity and biological elasticity measurement over a 24 hour period were only observed for the test product group. The test product also significantly reduced pore size in as little as one week and throughout the entire study. The control moisturizer was statistically outperformed for pore size and visible smoothness. Within 21 days, 100% of test product subjects had significant visible and tactile smoothness improvements.

Use of a moisturizer containing multiple ingredients that target key deficiencies can improve skin texture and appearance. Breaking the dry skin cycle may be of use in maintaining healthy skin and improving compromised skin quickly.

Introduction

Dry skin is characterized by a lack of either lipids, water or both, resulting in tightness, flaking and inflammation. Skin may appear dull, especially on the cheeks and around the eyes. It may lack elasticity, presenting accentuated fine lines and wrinkles. In more severe cases, itching and burning may occur. Dry skin can be genetically determined or triggered by external factors such as UV exposure, environment, cosmetics, or medications. It can also be a natural consequence of the aging process, as sebum production slows down.
Dry skin may be induced by one or more factors such as low humidity, low environmental temperature, aging, psychological stress, microorganisms, and/or exposure to chemicals. Use of moisturizers to combat symptoms of dry skin are often the first treatment option to increase skin hydration. Unfortunately, the dry skin transepidermal water loss can induce inflammatory cytokine release and subsequent inflammatory cell infiltrate. These complex interactions can then lead to additional inflammation and hyperproliferation. This inflammation cannot be resolved simply by adding moisture to the stratum corneum.

A moisturizer that can hydrate, provide penetrating lipid profiles (e.g. ceramides and fatty acids) and ingredients that decrease inflammation was hypothesized to resolve dry skin symptoms and associated inflammation more quickly than a leading dermatologist recommended ceramide containing moisturizer. The test moisturizer was developed and tested in double blind kinetic and usage clinical studies compared to controls. Skin appearance, moisturization, smoothness, tone, pore size, flakiness, elasticity and skin barrier function were assessed in 32 female subjects (15 test: 17 control) with dry or combination facial skin using both objective and subjective measurements.

As expected, both products had significant improvements in hydration and skin dryness in as little as 4 hours and 24 hours following a single application as well as during the 3 week study period. Significant improvements in T.E.W.L., skin tone, fine flakes, coarse flakes desquamation index values were also seen for both products. However, significant improvements in extensibility, pure elasticity and biological elasticity measurement over a 24 hour period were only observed for the test product group. The test product also significantly reduced pore size as little as one week and throughout the entire study. The test product also statistically outperformed for pore size and visible smoothness. Within 21 days, 100% of test product subjects had significant visible and tactile smoothness improvements.

Use of a moisturizer containing multiple ingredients that target key deficiencies can improve skin texture and appearance. Breaking the dry skin cycle may be of use in maintaining healthy skin and improving compromised skin quickly.
The objective of this study was to measure a facial moisturizer that can hydrate, provide penetrating lipid profiles (e.g., ceramides and fatty acids) and ingredients that decrease inflammation to resolve dry skin symptoms and associated inflammation more quickly than a commercially available recommended ceramide containing moisturizer.

This single-center, randomized, evaluator-blinded, controlled clinical trial was conducted to assess the efficacy and tolerance of the test moisturizer compared to a commercially available control moisturizer after a single application on the leg and twice daily for 3 weeks on the face.

A total of 32 female subjects aged 32 to 65 (mean age=50.3), with dry or combination facial skin completed the 3-week usage study and 16 subjects completed the 24-hour kinetic study. Subjects applied the assigned test or control moisturizer to the entire face twice per day.

Objective and subjective tolerance and clinical efficacy evaluations were performed by an expert grader at baseline, post-application, week 1, week 2 and week 3 of product use. Parameters assessed by an expert grader included tactile smoothness, visual smoothness, evenness of skin tone and pore size. Bioinstrumentation measurements were taken at each time point using corneometer, cutometer, tewameter, and D-squame discollection. Digital photography was also included in the study.

### Results

As seen in Table 1:

- Within 21 days, 100% of subjects had visible and tactile smoothness in subjects using the test product.
- Significant improvements in visible and tactile smoothness in as little as one week and throughout study for both products. See Figure 1.
- The test product significantly outperformed control for visible smoothness (p<0.001). See Figure 1.
- Significant improvements in moisturizing and skin dryness.
- Significant reduction in pore size within one week and throughout the entire study with test product. See Figure 3.

**Comparisons between the test materials indicated that the test moisturizer outperformed the control, a leading ceramide-containing moisturizer, for improving visual smoothness at weeks 1 and 3, evenness of skin tone at weeks 2 and 3, and pore size at week 3.**

Within 21 days, 100% of test product subjects had significant visible and tactile smoothness improvements.

Both moisturizers were tolerated well by the study panel throughout the three-week study period.

### Conclusions

A statistically significant improvement in extensibility, pure elasticity and biological elasticity measurements over a 24 hour period were only observed for the test product group.

### References


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**Fig. 1 Smoothness Improvement vs. Baseline**

**Fig. 2 Smoothness and Tone Improvement Cross-Polarized Front View, Test Subject**

**Fig. 3 Pore Size Reduction Improvement vs. Baseline**

**Table 1 Percent Improvement From Baseline by Group**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Test Moisturizer</th>
<th>Control Moisturizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisturization</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Visual Smoothness</td>
<td>100.0%</td>
<td>82.4%</td>
</tr>
<tr>
<td>Hydration</td>
<td>85.7%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Pore Size</td>
<td>71.4%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Coarse flakes</td>
<td>71.4%</td>
<td>58.8%</td>
</tr>
</tbody>
</table>