

# Scientific Validation of ASEA® RENUAdvanced® Skin Care

## ASEA'S COMMITMENT TO RESEARCH

Research and testing are integral to any successful product or brand, which is why ASEA® has committed to investing in science since its founding. Research is a critical and vital measure we take to ensure the safety and efficacy of our products. Through these research efforts, our associates and consumers can take note that systematic investigation, which includes research development, testing, and evaluation, has been done to demonstrate the benefits of redox signaling\*, both internally and externally. While aging is inevitable, ASEA continues to investigate ways to support healthy aging and the appearance of age-related decline through patented topical redox signaling technology.

## BIOAGILYTIX REDOX CERTIFICATION

BioAgilytix Labs specializes in large molecule bioanalysis for pharmaceutical and biotech companies. Headquartered in North Carolina, BioAgilytix is a global leader in outsourced laboratory services, developing, optimizing, and conducting bioanalytical testing and third-party validation, supporting pharmaceutical discovery, pre-clinical, and clinical development and manufacturing. As a leading contract research organization (CRO) lab specializing in large-molecule needs, BioAgilytix enables scientific innovators to develop and deliver game-changing biologic products through their expertise in cell-based assays, biomarkers, immunogenicity, and pharmacokinetics.

BioAgilytix's team of



PhD-level experts validates the existence of redox signaling molecules in

\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

ASEA's redox products. ASEA provides a regular product sampling of ASEA RENU28® Revitalizing Redox Gel and RENUAdvanced® Intensive Redox Serum to maintain a BioAgilytix certification.

## DERMATEST® FIVE-STAR ACCREDITATION

Each product in the RENUAdvanced family has received the coveted 5-star accreditation—the highest possible—by leading European dermatological research institute, Dermatest®. Dermatest offers an extensive portfolio of standard and individual test designs to assess the safety and efficacy of cosmetic products for the cosmetic and pharmaceutical industries.



This five-star evaluation provides the highest level of assurance and standards

for proven skin tolerance, effectiveness, and application safety. With five-star seals of approval, Dermatest proves the quality and efficacy our skin care products.

## EFFECT OF RENUADVANCED SKIN CARE SYSTEM ON HUMAN SKIN

ASEA commissioned Stephens & Associates to perform a clinical dermatological evaluation to analyze the effect of the RENUAdvanced a Anti-aging skin care system in supporting common aging concerns.

### Study Protocol

A total of 40 panelists enrolled in an eight-week clinical trial to investigate how the use of RENUAdvanced Skin Care supports healthy aging and improves the appearance of age-related decline. Researchers used the Stephens Wrinkle Imaging using Raking Light (SWIRL) for an objective and quantitative assessment of facial imagery before and after treatment from cosmetic products.



The SWIRL method analyzes the wrinkle severity at multiple areas on the face, such as the crow's feet, under-eye, forehead, and upper lip areas. This approach has been validated through clinical studies and demonstrates excellent correlation with clinical grading.

Participants applied the RENUAdvanced® system twice per day for eight weeks following the prescribed directions. Investigators evaluated facial imagery taken at the beginning of the study, at four weeks, and at eight weeks. Panelists completed product evaluation at the conclusion of the assessment. These clinical trials followed Good Clinical Practice (GCP) regulations and guidelines and Institutional Review Board (IRB) regulations.

### Results Summary

**SWIRL analysis measured the following results.**

- Fine lines decreased an average of 20%
- Visible photo damage decreased an average of 10%
- Skin smoothness improved an average of 19%

### Panelist Survey Results

- 100% reported a visible decrease in numerous, deep fine lines
- 100% reported measurably smoother skin
- 95% reported noticeably firmer skin
- 90% indicated a decrease in visible photo-damaged skin
- 90% reported more radiant skin
- 85% noted a visible decrease in number and depth of wrinkles

## EFFECT OF RENUADVANCED® ULTRA REPLENISHING MOISTURIZER ON PRODUCT SAFETY AND SKIN HYDRATION IN ADULT MEN AND WOMEN

Dermatest®, performed a clinical-dermatological application and hydration assessment to verify the safety and efficacy of RENUAdvanced Ultra Replenishing Moisturizer.

### Study Protocol

In a four-week study, 19 male and female panelists applied RENUAdvanced Ultra Replenishing Moisturizer once per day to the face and neck. Skin moisture measurements were taken by a Corneometer® at the beginning and at the conclusion of the study. A Corneometer is the most used method to reproducibly and accurately determine the hydration level of the skin surface. The accuracy of other hydration measurement instrumentation is typically assessed against the standard of the Corneometer.

In the clinical-dermatological application test, researchers screened and subjected participants to an initial dermatological examination before the clinical trial commenced. Individuals who show no signs of pathological changes in the skin are selected for the testing. Participants are instructed not to use any other similar formulations on the test site. Following the application period, the participants undergo another dermatological examination to ascertain whether the trial product has caused any irritation to the skin.

### Results Summary

Corneometer analysis measured an increase in skin moisture by 43% over four weeks.

## EFFECT OF RENUADVANCED® INTENSIVE REDOX SERUM ON PRODUCT SAFETY AND WRINKLE DEPTH IN WOMEN 45 AND OLDER

Researchers at Dermatest performed a dermatological report on the Optical 3D Measurement of the surface of the skin. The purpose of this study determined safety, efficacy, and depth of one single wrinkle in the eye area.

### Study Protocol

Over a four-week study period, researchers asked 10 adult female participants 45 years of age and older to apply RENUAdvanced Intensive Redox Serum once per day under the eye. Scientists used a 3D optical scanner



with a structured light projection method (PRIMOS) portable to acquire skin surface images.

This optical scanner obtains 3D in vivo measurements of microscopic and macroscopic skin surface structures. The structured light projection method is applied by the PRIMOS camera to get a 3D surface image. The method provides many advantages, such as a standardized capture distance and high-speed scan. High-speed capture is necessary for skin surface measurements due to the inevitable movements of the subject.

### Results Summary

The specialist dermatological report from Dermatest confirms this skin-smoothing effect. Measurement of the wrinkle depth of the under-eye area revealed an average improvement of 18.66% by using the Redox Serum once per day for four weeks. Measurement of the depth of creases prior to and 30 minutes following product application manifested smoother-looking skin.

- Wrinkle depth in eye area decreased an average of 18.66%
- No undesired visible reactions or pathological skin effects indicated
- No visible skin irritation or sensitizing characteristics recorded
- Received the Dermatest 5-star rating

### 30-Minute Benefits Reported

- Smoother-looking skin that eases the appearance of fine lines and wrinkles.

## EFFECT OF RENUADVANCED® GENTLE REFINING CLEANSER ON PRODUCT SAFETY AND SKIN SEBUM BALANCE IN ADULT MEN AND WOMEN

Researchers at Dermatest performed both a dermatological expertise on a clinical-dermatological application test to thoroughly check the compatibility of the formulation based on clinical-dermatological

criteria. The study also included a dermatology specialist expertise analysis on sebum (skin oil) using RENUAdvanced® Gentle Refining Cleanser.

### Study Protocol

Over a four-week study period, 20 adult male and female participants cleansed their faces with the product RENUAdvanced Gentle Refining Cleanser once per day. Skin sebum (oil) was measured using sebumetry in three spots on each panelist's face before and after four weeks.

Sebumetry is used to quantify the sebum (oil) content of the skin. A semi-transparent synthetic film becomes transparent at the point of contact with the skin's sebum. Once the probe presses against the skin, a light is projected through the synthetic film and reflected by a mirror. The transmission of the light is captured by a photocell and then measured. The luminous intensity recorded is an indication of the sebum content of the skin at the test site.

### Results Summary

- Skin sebum balanced with an average decrease of 16.94% over four weeks
- Dermatological assessment found no undesired visible reactions or pathological skin effects
- No visible skin irritation or sensitizing characteristics were associated with the product

## ANTI-AGING EFFECTS OF RENU28® REVITALIZING REDOX GEL ON FEMALE SUBJECTS OVER AGE 45

The influence was of RENU28® was measured over four weeks in the most common parameters concerning aged skin surface.

RENU28 Revitalizing Redox Gel has active redox signaling molecules that can be applied directly onto the skin to improve and revitalize it at the skin surface. ASEA® commissioned a clinical trial to quantify the results of this revitalization.



### Study Protocol

Over the four-week study period, researchers examined 20 adult female panelists over the age of 45 for skin hydration, eye wrinkle depth, face appearance, and elasticity. Each panelist applied RENU28® Revitalizing Redox Gel twice a day (morning and evening) over the four-weeks period.

Researchers used Corneometry to measure the hydration of the outer layer of the epidermis. The PRIMOS 3D optical portable, hand-held device captured in vivo measurements of eye wrinkle depth and skin roughness. Cutometry assessment provided the measurement of skin elasticity. High-resolution photographs of the subject's face using the VISIA™ complexion analysis system provided imagery for digital image face appearance comparison.

### Results Summary

#### AVERAGE IMPROVEMENT OF SUBJECTS IN FOUR WEEKS

SKIN TEXTURE	22%
SKIN SMOOTHNESS	23%
SKIN ELASTICITY	20%

## STUDY – EFFECT OF RENU28® REVITALIZING REDOX GEL ON CELLULITE AND ADIPOSE LOBULES

Dermatest provided dermatological expertise on a 12-week clinical-dermatological application test including cellulite determination average values of length and breadth of adipose lobules using Dub® Skin Scanner.

The influence of the product RENU28® Revitalizing Redox Gel was examined concerning the dimension of adipose tissue lobules in the area of thighs, as well as the tolerance after a period of 12 weeks in-use test according to clinical-dermatological criteria.

Cellulite forms when fat lobules press against the skin and create a bulge with an accompanying depression next to the bulge. Dermatest conducted a 12-week study on the effects of RENU28® Revitalizing Redox Gel on cellulite.

### Study Protocol

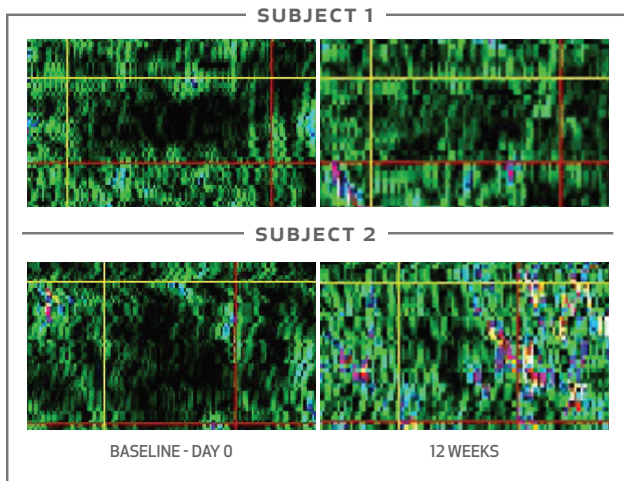
In a 12-week assessment, researchers evaluated 30 female participants using skin ultrasound measurements conducted before the study, at 6 weeks, and after 12 weeks. Each test subject applied the product RENU28® Revitalizing Redox Gel twice a day (morning and evening) in the thigh region. For 30-60 seconds, participants massaged the gel into the targeted areas of the skin.

### Results Summary

	WEEK 6	WEEK 12
LENGTH OF ADIPOSE (FAT) LOBULES	12.24% decrease	15.81% decrease
BREADTH OF ADIPOSE (FAT) LOBULES	10.75% decrease	14.73% decrease

These results show a visible decrease in the length and breadth of fat lobules (cellulite). As indicated in the study, RENU28® is unlike typical cellulite treatments as it does not use inflammation or fillers for a temporary effect.





Images from the study show two different subjects. The dark area represents an actual fat lobule, and vertical and horizontal lines are used for measurement. It is evident in the image on the left that the fat lobule in each subject appears larger than in the picture on the right, after using RENU28® for six weeks.

## EFFECT OF RENU28® REVITALIZING REDOX GEL ON ELASTICITY OF HUMAN THIGH SKIN

Specialists with dermatological expertise studied RENU28's effect on skin elasticity.

### Study Protocol

Investigators at Dermatest provided analysis of skin elasticity by use of Cutometer. Measurements were obtained for 30 female subjects before the study, after 6 weeks, and after 12 weeks. Both a RENU28 application area and untreated control area were tested.

Each test subject applied the product RENU28 Revitalizing Redox Gel twice a day (morning and evening) in the region of the thigh test area. Subjects massaged into skin for 30-60 seconds.

## Results Summary

	% ELASTICITY IMPROVEMENT IN GEL APPLICATION TEST AREA	% ELASTICITY IMPROVEMENT IN CONTROL TEST AREA	% ELASTICITY IMPROVEMENT AFTER DEDUCTION OF CONTROL
AFTER 6 WEEKS	16.62%	0.68%	15.94%
AFTER 12 WEEKS	24.17%	3.26%	20.91%

Throughout the 12-week evaluation, subjects demonstrated significant progressive improvements (up to 21%) in skin elasticity.

## RENU28® REVITALIZING REDOX GEL SURFACE SKIN CELL RENEWAL AND CELL TURNOVER

ASEA® commissioned Stephens & Associates to study the effects of redox signaling on surface skin cell turnover. Stephens & Associates answered important questions in their research:

1. Will RENU28 Revitalizing Redox Gel stimulate surface skin cell renewal and turnover?

Surface skin cell renewal, and the rate at which cells renew, are important components for the anti-aging process. Because redox signaling molecules work at a cellular level, with messages that also signal cell turnover, ASEA commissioned a study that shows the way RENU28 can affect the rate of surface skin cell renewal.

### Study Protocol

Participants applied RENU28 to one forearm twice each morning and twice each evening for two weeks. At that point, a fluorescent dye was applied to the RENU28 forearm and the control forearm. Each arm was then photographed under UV light and quantified. Over the next two weeks, participants continued to apply RENU28 as before. The fading of the dye indicated skin cell renewal and turnover. The findings are compelling.



## Results Summary

After 30 days, the results were measured on participants' forearms. RENU28® arm dye faded to zero in 13.2 days. Control arm dye faded to zero in 15.3 days. RENU showed a surface skin cell turnover time of 24 - 36 days, a decrease of four to six days, which is a 16% faster rate.

