

Study to Evaluate the Dermal Hydration Effects of Revitalized Structured Water

INTRODUCTION

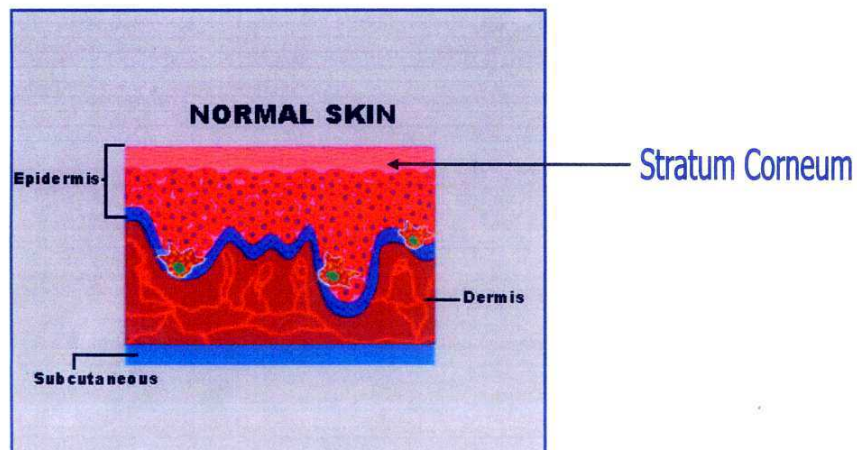
A study was conducted to clinically evaluate the hydration effects of an application of various waters on normal skin. Hill Top Research, Inc. of Ohio conducted this study in accordance to applicable Good Clinical Practices and the Standard Operating Procedures of Hill Top Research, Inc.

The study was conducted in June of 2002

OBJECTIVE

The hydration state of the upper layers of the skin (stratum corneum) is a factor influencing the stratum corneum integrity and ultimately the skin's barrier function. The measurements of electrical properties on the skin's surface have shown to be related to stratum corneum water content. The stratum corneum intrinsically has low water content and therefore the ability to absorb topically applied water. The extent to which the skin absorbs water, (the rapidity) and resists the release of this water is a reflection of the health of the stratum corneum. To maintain our skin in its most healthy state, we must provide it with water that can be effectively absorbed and retained.

Measurement of water absorption and de-adsorption after treatment with a water sample is a means to determine the ability of the specific type of water to effect increased levels of skin hydration and to maintain these increased water levels in the stratum corneum.



METHOD

Two milliliters of each water sample was applied by study personnel to the designated skin sites according to a randomization amongst test subjects supplied by the researcher. The test article was allowed to remain on the skin for 10 seconds before the excess was quickly blotted dry.

Initial measurements were conducted on each subject after acclimation and prior to test water sample application to establish a baseline. Measurements were then taken immediately after blotting water, and 30, 60, 90, and 120 seconds post water application.

EVALUATIONS

All measurements were performed in an environmentally stable room in which the temperature was maintained at an appropriate temperature (18-22 C) and at an appropriate relative humidity (35 + or - 5%). These conditions were monitored during the course of the test period and recorded hourly on the appropriate data collection forms. Subjects were required to acclimate in this room for at least 30 minutes prior to any measurements.

Skin Hydration was assessed by conductance measurements with a Skicon-200 (I.B.S. Company, Ltd. Japan)

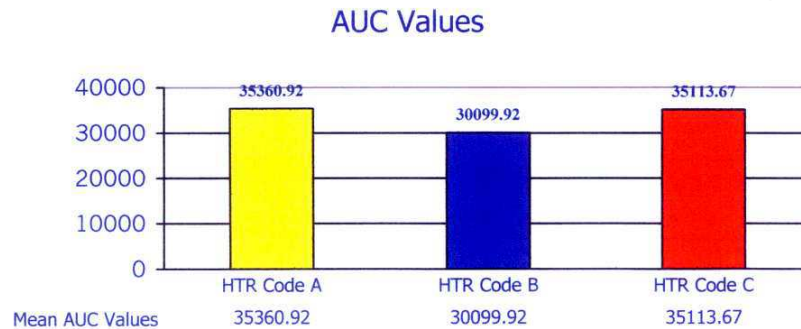
Samples

No. 1 - A Tap Water

No. 2 - B Revitalized Structured Water Concentrate

No. 3 - C Spring Water

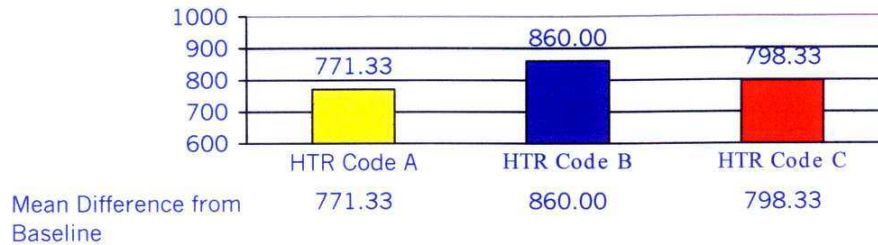
Graphic Results: Area under the Curve (AUC)



More area under the curve is indicative of the skin holding more moisture, i.e., the test application of water stayed on the surface longer and was not well absorbed. Therefore, graphically, the shorter the bar, the less AUC (Area under the Curve), indicates the water from the Concentrate stayed on the surface of the skin the least amount of time of the waters tested. This is due to the concentrate being absorbed more rapidly.

Immediate Hydration

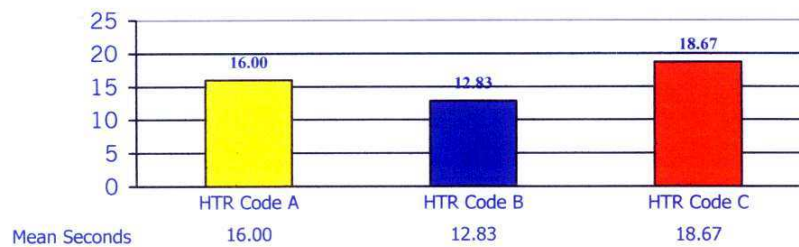
Immediate Hydration Levels



Graphically, the greater the value of the bar reflects more water being absorbed immediately. Here we can see that the special structure and osmotic drive of the Concentrate resulted in demonstrable differentials between the other samples in immediate rapid hydration.

Time to Peak

Time to Peak



Graphically, the lower the number, the faster the water was being maximally absorbed. Here it is again abundantly clear that the Concentrate continued to be more rapidly and thoroughly absorbed throughout the duration of the test.

CONCLUSION

Even though this study was limited in scope, the results indicate that the Revitalized Structured Water Concentrate is superior in its capability to rapidly penetrate the skin and to provide more thorough and long lasting hydration.