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AC Dermal Respiratory Factor Advanced PF Efficacy Data

Code: 20219PF
INCI Name: Water & Saccharomyces Lysate Extract
CAS #: 7732-18-5 & 8013-01-2
EINECS #: 231-791-2 & 232-387-9

Type of Study	Results
Hyaluronic Acid Synthesis	The results indicate that AC Dermal Respiratory Factor Advanced PF is capable of increasing the percent concentration of hyaluronic acid by approximately 42% in comparison to the control. Therefore, we can assume that AC Dermal Respiratory Factor Advanced PF may be useful for retaining epidermal moisture.
ORAC Assay	AC Dermal Respiratory Factor Advanced PF exhibited antioxidant activity comparable to Trolox®. The antioxidant capacity of AC Dermal Respiratory Factor Advanced PF increased as the concentration increased, allowing us to deduce that its ability to minimize oxidative stress is dose dependent.
ProCollagen Assay	The ELISA indicates that AC Dermal Respiratory Factor Advanced PF is capable of increasing the expression of procollagen type 1-C peptide in the fibroblast cell culture model. AC Dermal Respiratory Factor was shown to be comparable to Magnesium Ascorbyl Phosphate in increasing the synthesis of Collagen Type I. These finding suggest that AC Dermal Respiratory Factor Advanced PF would be useful in cosmetic preparations to stimulate collagen type I production *in-situ.*
Reduction of Sunburn Pain	Topical application of AC Dermal Respiratory Factor Advanced PF is capable of producing consumer perceivable reductions in erythema and discomfort resulting from overexposure to light. It was also noted among those panelists complying with the one-week application period that there was a marked reduction in skin peeling to areas where lotion containing AC Dermal Respiratory Factor Advanced PF was applied.

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Cellular Viability Assay	AC Dermal Respiratory Factor Advanced PF exhibited positive results by increasing cell metabolism. The increase in fluorescent signal indicates an increase in cellular metabolism and viability post AC Dermal Respiratory Factor Advanced PF treatment. For these reasons, we can assume AC Dermal Respiratory Factor Advanced PF is suitable for cosmetic applications designed to increase cell viability and metabolism.
High Resolution Ultrasound Skin Imaging Assay	As evidenced in a 4 week efficacy study of AC Dermal Respiratory Factor Advanced PF on skin, skin density was improved by 9.50% after one week and by 17.39% after 4 weeks when compared to the untreated control. When compared to the base cream AC Dermal Respiratory Factor Advanced PF improved skin density for the first two weeks of the trial, working 9.54% better than the base lotion after two weeks. Although still working better than the base lotion at the end of 4 weeks, AC Dermal Respiratory Factor Advanced PF improved density only 2.24% better than the base lotion. Results indicate that AC Dermal Respiratory Factor Advanced PF is capable of improving skin density when compared to both the untreated control as well as the base lotion. AC Dermal Respiratory Factor Advanced PF has a strong positive effect on skin's density when used at recommended use levels.
Moisturizing Assay	As evidenced in a 4 week efficacy study of AC Dermal Respiratory Factor Advanced PF on skin, moisture levels were improved by 44.60% after 24 hours and by 95.0% after 4 weeks when compared to the untreated control. When compared to the base cream AC DRF Advanced PF improved moisturization by 12.14% and after 4 weeks AC DRF Advanced PF improved moisturization by 33.74%. Results indicate that AC Dermal Respiratory Factor Advaced PF is capable of increasing moisturization when compared to both the untreated control as well as the base lotion. The present study confirms that AC Dermal Respiratory Factor Advanced PF is not only capable of providing functional benefits but it is also capable of providing moisturizing and skin hydrating benefits when added to cosmetic applications.
Pigmentation Assay	As evidenced in a 4 week efficacy study of AC Dermal Respiratory Factor Advanced PF on skin, erythema values were decreased 4.73% more than the untreated test after one week. After 4 weeks, erythema values were decreased by 15.16% more than the untreated site. When compared to the base cream AC Dermal Respiratory Factor Advanced PF decreased pigmentation 1.73% better after week one and after 4 weeks AC Dermal Respiratory Factor decreased pigmentation 13.11% more effectively than the base lotion alone. Results indicate that AC Dermal Respiratory Factor Advanced PF is capable of decreasing erythema when compared to both the untreated control as well as the base lotion. AC Dermal Respiratory Factor Advanced PF has a lightening effect on skin's pigmentation when used at recommended use levels.

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Scratch Assay	AC Dermal Respiratory Factor Advanced PF was able to increase cell migration and close the scratch at a rate comparable to the positive control. The mechanisms of the cells in the *in vitro* scratch assay mimic the mechanisms seen in *in vivo* wound healing therefore we can be assured that our results are translatable outside the laboratory. AC Dermal Respiratory Factor Advanced PF was designed to increase cellular respiration, metabolism, and collagen synthesis**.** With the present study we can also be confident that this product has healing abilities and cell proliferation properties.
Reduction in Transepidermal Water Loss Assay	As evidenced in a four week efficacy study of AC Dermal Respiratory Factor Advanced PF on the skin, it can be used to effectively reduce transepidermal water loss with better results over time. When compared to the base cream AC Dermal Respiratory Factor Advanced PF was shown to decrease transepidermal water loss by 29.24% and by 50.00% when compared to the untreated control after four weeks. Results indicate that AC Dermal Respiratory Factor Advanced PF is capable of reducing TEWL, which allows for moisture retention. AC Dermal Respiratory Factor Advanced PF was designed to provide moisture retention benefits, however with the present study we can confirm that this unique ingredient is not only capable of providing functional benefits but it is also capable of providing a decrease in transepidermal water loss therefore promoting moisture retention benefits when added to cosmetic applications.

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