



Reduction of Skin Irritation

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Tradename: AcquaSeal® Algae

Code: 20852

CAS #: N/A

Test Request Form #: 3608

Lot #: NC170831-I

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Principle Investigator: Jennifer Goodman

Test Performed:

In-vivo Reduction and Prevention of Skin Irritation

Introduction

An *in-vivo* Reduction and Prevention of Skin Irritation assay was performed to determine the ability of **AcquaSeal® Algae** to reduce Balsam of Peru-mediated skin inflammation/irritation.

Materials & Methods

Erythema was induced on the volar forearm of 15 subjects by application of 5.0% Balsam of Peru milled into pure petrolatum and applied to test sites under a semi-occlusive Band-Aid brand bandage (2 X 2 inches) for fifteen to thirty minutes. After removal of the tape the test site was wiped free of residual petrolatum and skin erythema was assessed by determining the a^* value of the Minolta Chroma.

For most tests, experimental test materials are applied to several sites, while other sites serve as nontreated controls. Erythema, measured for example with the Minolta Meter is assessed every 15 or 30 minutes over a two hour period after which, the transient erythema induced by Balsam of Peru dissipates. Erythema on the sites treated with anti-irritants is compared with that on the control sites. In general Balsam of Peru treatment will result in an increase in the a^* value (red color) by about 10 units or so within a few minutes after removal the bandage.

Two variations a single use test and a multiple use test were conducted. In the single use test immediately prior to application of Balsam of Peru and induction of irritation, sites were treated with 2.0% **AcquaSeal® Algae** in a base lotion or the base lotion alone. In a second longer term test, the forearm was treated for one week (twice a day) with 2.0% **AcquaSeal® Algae** in a base lotion or the base lotion alone. Balsam of Peru induced irritation was evaluated as above.

Evaluations were made at least one hour after the last application of test product. In this way, longer term or cumulative effects are observed rather than immediate effects.

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Results

As seen in Figure 1 below Balsam of Peru increased skin redness (a*) value dramatically of skin treated simply with the control vehicle. In Contrast a single application (before induction of irritation) and repeated applications of 2.0% **AcquaSeal® Algae** in a base lotion reduced significantly skin redness.

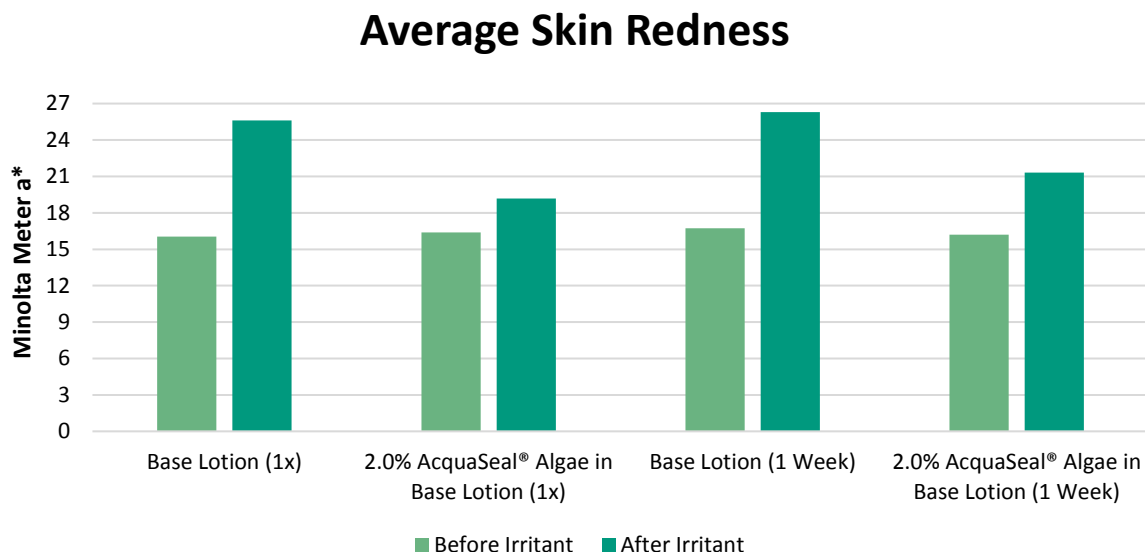


Figure 1. Average skin redness before and after Balsam of Peru application.

Discussion

After a single application of the base lotion before application of the irritant (preventative effect), skin redness increased from about 16 to 25, an almost 60% increase in skin redness (a* value). In contrast a single application of 2.0% **AcquaSeal® Algae** in base lotion (before induction of irritation) lessened this increase to 19 (a* units) and increase of only 17% compared to 60%. In the second test product was applied twice a day for two weeks as described above for both the base lotion and experimental. In this study, neither product was applied directly before application of the irritant since we were looking for cumulative benefits. As can be seen, the base lotion had no sparing effects as the irritant increased skin redness about the same as in the other test 60%, while and repeated applications of 2.0% **AcquaSeal® Algae** in base lotion reduced significantly skin redness (only a 30% increase was observed, ameliorative effect).