Poster ID – **P0017**

Development of a novel Hydrocolloid patch: Enhanced absorption and removability with demonstrated tolerability and efficacy in acne vulgaris subjects with sensitive skin

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Introduction

Sufferers of acne vulgaris need gentle and simple solutions to complement over the counter and prescription medications.

Hydrocolloid patches are effective at reducing the appearance of pimples by absorbing lesion exudate, providing an occlusive healing environment and protecting from trauma. However, a complaint is irritation and discomfort when removing the patch, which is exacerbated in users with sensitive skin.

Methods

A novel hydrocolloid patch was designed to optimize key functionalities, including enhanced absorption and ease of removal, without causing irritation to the inflamed lesion area.

In vitro testing vs a leading competitive hydrocolloid patch was conducted using a water absorption and peel test.

Validation testing with acne-prone subjects with sensitive skin that experienced whiteheads and/or pustules at least 3-4 times a month was conducted.

Upon appearance of a whitehead or pustule, subjects used the patch and evaluated the lesion after the first use, 6-8 hours after application and removal, and again once the blemish healed, or after 7 days.

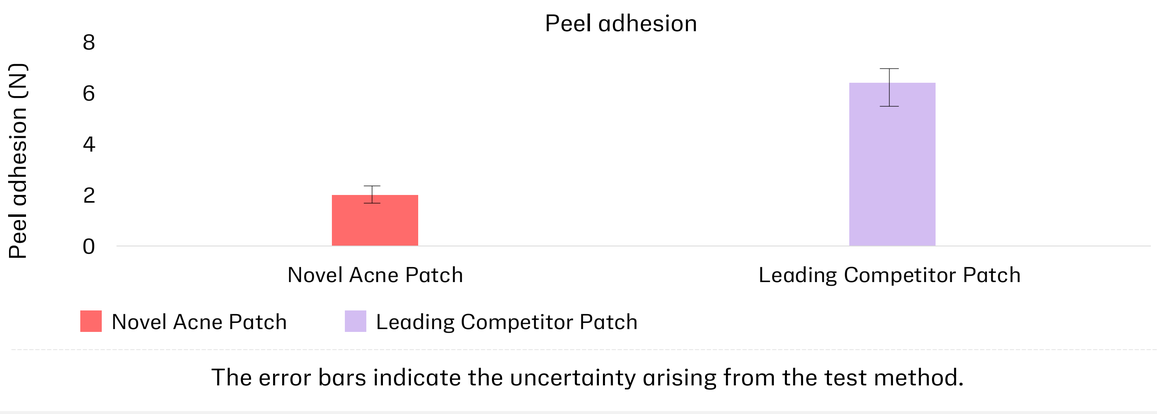
Results

- The novel hydrocolloid patch was 1.5 times more absorbent and required 3 times less force to remove vs a leading competitor, detailed in Figures 1 and 2.
- In-use results demonstrated 89% of subjects experienced overall liking and favorably agreed the patch worked quickly, provided gentle relief, effectively absorbed lesion exudate, reduced the appearance of pimple size and redness, and was easy to remove.
- The percentage breakdown of subjects in the top 2 box agreement is captured in Table 1.
- Before and after images of the novel hydrocolloid patch being used in validation testing are captured in Figures 3, 4, and 5.

Table 1. The percentage of subjects that were in the top 2% agreement are shown for the initial use 6-8 hours after application and removal, and the final use once the blemish healed, or after 7 days.

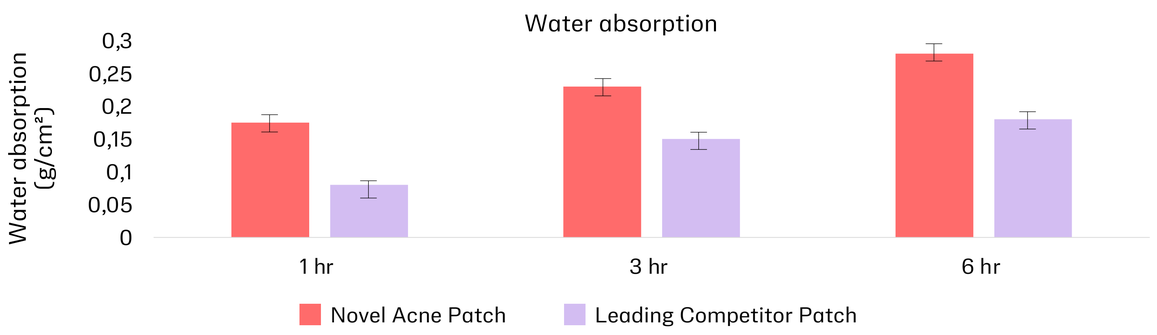
Self-Agree Assessment	First Use	After final use
Overall Liking	84%	89%
Works Quickly	76%	77%
Provides gentle relief	82%	81%
Is ultra-absorbent	71%	74%
Leaves my blemish looking smaller	76%	84%
Leaves my blemish looking flatter	78%	81%
Reduces the look of blemish redness	79%	80%
Is easy to remove	90%	93%

Figure 1. Average peel adhesion of Novel Acne Patch and the leading competitor patch.



The error bars indicate the uncertainty arising from the test method.

Figure 2. Average water absorption of Novel Acne Patch and the leading competitor patch after 1 hr, 3 hrs and 6 hrs.



The error bars indicate the uncertainty arising from the test method.

Figures 3, 4, 5.
Before, during, and after images of participant's acne observed in human use test

Fig. 3

Fig. 4

Fig. 5

Conclusion

The novel hydrocolloid patch was ultra-absorbent, comfortable to wear, and easy to remove, making it an ideal option to complement existing treatment routines for acne sufferers with sensitive skin looking for efficient and affordable solutions.

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