



KIDS-AGD044-HIT

Clinical Study Report

A Clinical Study for the Effects of 'Vitabrid Scalp Shampoo' on the Improvement of Scalp Elasticity, Scalp Sebum Excretion, Scalp Moisture, Scalp Soothing Effect, 24 Hours Hair Volume Persistence, Hair Color Persistence (in Comparison with a Control Group), and Hair Moisture Content

Date : May 31, 2017

Requested by : HYUNDAI IBT CO., LTD. (Korea)

Performed by : Korea Institute of Dermatological Sciences (Korea)



**Korea Institute of
Dermatological Sciences**

SUMMARY OF THE CLINICAL STUDY



Title of the clinical study	A clinical study for the effects of 'Vitabrid Scalp Shampoo' on the improvement of scalp elasticity, scalp sebum excretion, scalp moisture, scalp soothing effect, 24 hours hair volume persistence, hair color persistence (in comparison with a control group), and hair moisture content	
Clinical trial institution	Korea Institute of Dermatological Sciences 306, 3rd Floor, 244, Beotkkot-ro, Geumcheon-gu, Seoul, Republic of Korea	
Sponsor	HYUNDAI IBT CO., LTD.	
Chief researcher	In Sook An, Ph. D.	
Researcher	Seung Bin Kwon, Ph. D.	
Name of the test materials	Vitabrid Scalp Shampoo (Test material) Vitabrid Nourishing Shampoo (Control material)	
Trial period	May 2, 2017 (study initiation) ~ May 31, 2017 (study termination) For the study initiation, the person in charge of the study signed the clinical study proposal; for the study termination, the person in charge of the study signed the final report.	
Subjects	Twenty one female subjects over twenty years old who met the inclusion criteria and were not included in the exclusion criteria were selected for this study. And twenty groups of hair wigs, forty groups of hair pieces, and forty groups of hair pieces (bleached hair) were used for this study.	
Methods	Usage of test materials	<ol style="list-style-type: none"> 1. Once a day for two weeks, after soaking the hair with lukewarm water, subjects washed their scalp area including the hair using the same amount of test material, 'Vitabrid Scalp Shampoo'. 2. A same researcher in charge washed 20 groups of hair wigs and 20 groups out of 40 groups of hair piece using the same amount of test material, 'Vitabrid Scalp Shampoo', respectively. 3. Six times for two weeks, a same researcher in charge washed each of 20 groups out of 40 groups of dyed hair pieces (bleached hair) using the same amount of test material, 'Vitabrid Scalp Shampoo', and control material, 'Vitabrid Nourishing Shampoo', respectively.

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Methods	Evaluations	<p>The evaluations were conducted by Standard Operating Procedures of KIDS and all of the procedures were investigated by the person in charge of reliability assurance.</p> <ol style="list-style-type: none">1. Measurements<ol style="list-style-type: none">1) Evaluation of scalp elasticity improvement using the Ballistometer2) Evaluation of scalp sebum excretion improvement using the Sebumeter3) Evaluation of scalp moisture improvement using the DermaLab USB moisture probe4) Evaluation of scalp soothing effect using the SkinColorCatch5) Evaluation of 24 hours hair volume persistence using the Digital Camera and the Image Analyzing Program6) Evaluation of hair color persistence (in comparison with a control group) using the ANTERA 3D and the Image Analyzing Program7) Evaluation of hair moisture content improvement using the Halogen Moisture Analyzer HC1032. Evaluation of abnormal skin response3. Survey
Results		<ol style="list-style-type: none">1. The evaluation results of scalp elasticity improvement using the Ballistometer The CoR value indicating scalp elasticity was increased 4.70% after two weeks of the test material application in comparison with the pre-application ($p < .001$).2. The evaluation results of scalp sebum excretion improvement using the Sebumeter The sebum excretion was decreased 47.62% after two weeks of the test material application in comparison with the pre-application ($p < .001$).3. The evaluation results of scalp moisture improvement using the DermaLab USB moisture probe The scalp moisture was increased 55.53% after two weeks of the test material application in comparison with the pre-application ($p < .001$).4. The evaluation results of scalp soothing effect using the SkinColorCatch The erythema index indicating skin redness was decreased 6.57% after two weeks of the test material application in comparison with the pre-application ($p < .001$).

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Results	<p>5. The evaluation results of 24 hours hair volume persistence using the Digital Camera and the Image Analyzing Program The hair height was increased 26,33% and 7,81% immediately after and after 24 hours of the test material application respectively in comparison with the pre-application ($p < .001$).</p> <p>6. The evaluation results of hair color persistence (in comparison with a control group) using the ANTERA 3D and the Image Analyzing Program The mean Percentage Color Removal Ratio was showed as 0,66% in a test group, whereas 4,02% in a control group after two weeks of the test material application (after 6 times shampooing) respectively in comparison with the immediately after the test material application (use once after dyeing). The evaluation results of a test group were statistically significant ($p < .05$) in comparison with a control group.</p> <p>7. The evaluation results of hair moisture content improvement using the Halogen Moisture Analyzer HC103 The %MC indicating hair moisture content was showed as 10,54% in a test group, whereas 7,78% in a control group immediately after the test material application respectively. The evaluation result of a test group was statistically significant ($p < .01$) in comparison with a control group.</p> <p>8. Subjects' abnormal skin responses were not detected during the trial period.</p>
Conclusion	<p>In the study requested by HYUNDAI IBT CO., LTD., 'Vitabrid Scalp Shampoo' was found to improve scalp elasticity, scalp sebum excretion, scalp moisture, scalp soothing effect, 24 hours hair volume persistence, hair color persistence (in comparison with a control group), and hair moisture content.</p>

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