

# Bioactives

## PENTAVITIN®

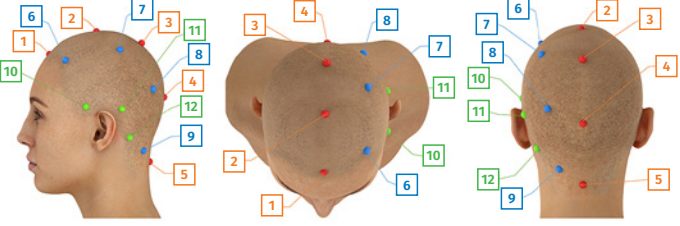


The smart moisturizer  
– from head-to-toe



# Innovative Scalp Color Mapping Technology makes PENTAVITIN® benefits in a shampoo visible

## Test design

Institute	TRI Princeton (USA) – Proof of concept scalp hydration and sebum study on two volunteers
Data collection	Jan. 2022
Products	<b>Shampoo placebo vs. Shampoo with 0.5% PENTAVITIN®:</b> Aqua, Sodium laureth sulfate, Glycerin, Coco-betaine, Sodium cocoamphoacetate, Sodium chloride, Sodium lauryl glucose carboxylate, Lauryl glucoside, Sodium cocoyl glutamate, Lactic acid, PENTAVITIN®, Phenoxyethanol, Benzyl alcohol, Potassium sorbate, Tocopherol
Skin characteristics of the selected volunteers	<ul style="list-style-type: none"><li>Scalp hydration study: one healthy female volunteer (Caucasian, 27 years old)</li><li>Scalp sebum study: one healthy female volunteer (Caucasian, 24 years old), scalp has dandruff and tends to be on the oilier side</li></ul>
Study duration	<ul style="list-style-type: none"><li>1 week wash out with shampoo placebo (Baseline**).</li><li>Daily application of shampoo placebo for 7 days (day 7**).</li><li>10 day break (personal hair routine)</li><li>1 week wash out phase with shampoo placebo (Baseline**)</li><li>Daily application of shampoo containing PENTAVITIN® for 7 days (day 7**).</li></ul>
Rinse-off test procedure	<ul style="list-style-type: none"><li>Test products were applied by gentle massage on scalp for 2–3 minutes</li><li>Rinse gently and thoroughly the hair and scalp with warm water and drying with a towel</li></ul>
Measuring sites	Hemi scalp, 12 predefined sites 
Evaluation	<ul style="list-style-type: none"><li>ATR-FTIR (Fourier-Transform infrared) spectroscopy measurements with REMSpec optical fiber</li><li>From the IR spectrum, calculation of water and sebum content</li></ul>
Colour scales and parameters	Scalp hydration and sebum are visualized with color scales, resp. from white to blue and white to brown, based on FTIR spectrum intensity. Calculation of difference between Baseline and Day 7 results
Time points	Baseline and after 7 days

### Fully hydrated after frequent use\*

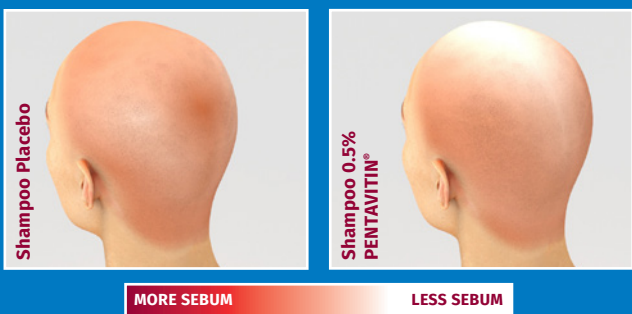
FTIR scalp hydration color 3D mapping / 7 days vs baseline



Visible hydration power after 7 days frequent use of PENTAVITIN® (0.5%) in a shampoo compared to placebo.

### Visible sebum reduction after frequent use\*

FTIR scalp sebum color 3D mapping / 7 days vs baseline



After 7 days frequent use of PENTAVITIN® (0.5%) in a shampoo, visible reduction in sebum observed on scalp.\*

\*\* After each wash out phase and day 7 application, FTIR measurements are performed on 12 predefined sites on scalp.

# The *smart* moisturizer

We all understand the importance of moisturization in our facial skin-care routines, but when it comes to the rest of the body, studies show that the skin on our hands, feet, legs, and scalp needs as much attention as our face to stay hydrated. PENTAVITIN® has long been proven to moisturize, restore, and protect skin against dehydration. New studies show that it recovers moisture and prevents dryness *all over the body*:

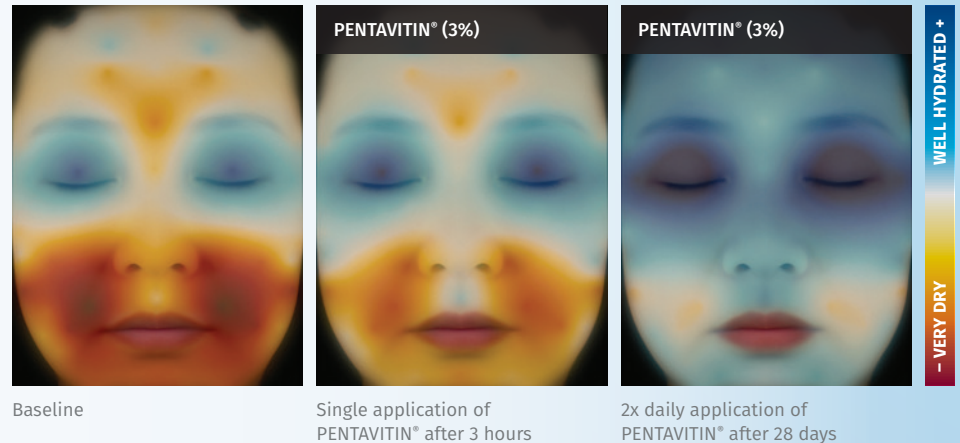
- In body moisturizers, PENTAVITIN® prevents dryness and helps skin recover its moisture content quickly. It also guarantees a strong cumulative moisture recovery effect with repeated use - even after daily showering.
- In a moisturizing soap bar with a high pH, it performs strongly – boosting foam volume and significantly helping to lock-in moisture for up to 24 hours. All in an eco-friendly and practical format (zero waste, water conserving, travel-friendly) that is growing in popularity.
- Innovative 3D scalp mappings visualize the benefits of PENTAVITIN® in a shampoo. Seven days after frequent use, the scalp is fully hydrated and sebum is reduced.
- Reinforced scalp barrier and reduced oil build-up 24 hour after one single application and even after 28 days of frequent showering.

A 100% natural ingredient, PENTAVITIN® is a smart solution to consumer demand for proven but sustainable skin care ingredients for use in body care products. And its unique, moisture-magnet mode of action means that skin will feel the benefits long after the first application.

## From head...

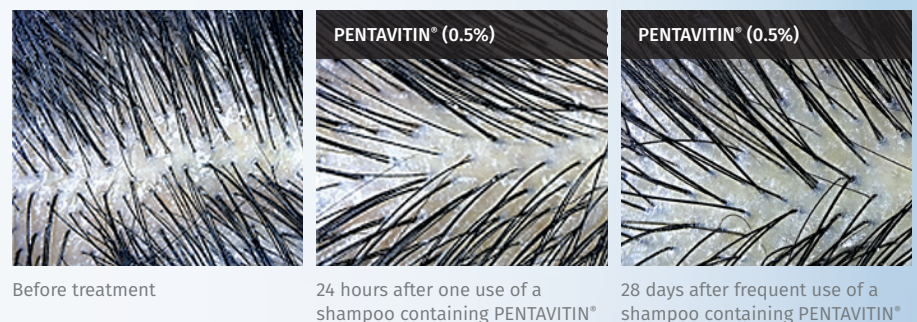
- Relieves itchy, flaky, dry skin, helping it to feel soft and smooth\*
- Instant hydration that lasts for up to 72 hours\*

### 28 days true hydration power to all facial areas\*



- Strengthens the skin's natural defenses in preventing dehydration\*
- Rapid restoration of skin barrier function\*

### Up to and 55% reduction of scalp flaking after frequent showering\*



## ...to toe

- Reduces unwanted effects of skin dryness caused by hand sanitizers\*
- 24-hour body calming\*
- Boosts skin hydration for 24 hour and even with frequent showering\*
- Takes skin from dry to normal just one hour after washing\*

## New proven efficacy of PENTAVITIN® ...

### ...in a post-shower body moisturizer\*\*

- 275% more moisture after a single application\*
- Helps protect skin against dehydration\*
- Strong cumulative moisture recovery effect with repeated use of PENTAVITIN® – even after daily showering\*

### ...in a moisturizing soap bar\*

- Performs strongly in high pH conditions\*
- 24-hour moisture boost & lock\*
- Hydration booster of glycerin\*

### ...in a shampoo\*

- Visible hydration power and sebum reduction for a healthy-looking scalp\*

## PENTAVITIN® (0.2%) performs very well in a post-shower body moisturizer

### +275% more moisture after single application

In a body moisturizer, PENTAVITIN® boosts skin moisture compared to placebo just 8 hours after a single application (T2).

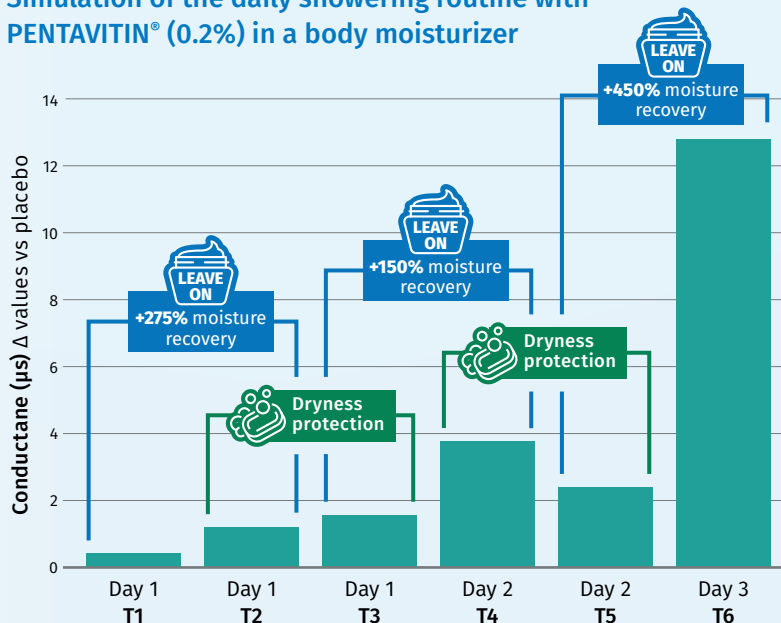
### Helps protect skin against dehydration

PENTAVITIN® in a body moisturizer helps to protect skin from dehydration, even after daily showering (T3 and T5).

### Strong cumulative moisture recovery effect

Repeated use of PENTAVITIN® in a body moisturizer (at T4 and T6) after daily showering guarantees a strong cumulative moisture recovery effect.

### Simulation of the daily showering routine with PENTAVITIN® (0.2%) in a body moisturizer



Day 1: T1 Before application of body moisturizer  
 Day 1: T2 8h after 1st application of body moisturizer  
 Day 1: T3 After cleansing with standard soap  
 Day 2: T4 12h after 2nd application of body moisturizer  
 Day 2: T5 After cleansing with standard soap  
 Day 3: T6 24h after 3rd application of body moisturizer

## PENTAVITIN® (0.2%) has a strong performance in a Moisturizing Soap Bar

### 24-hour moisture lock

PENTAVITIN® in a moisturizing soap bar helps significantly to lock in moisture within the skin for up to 24 hours.

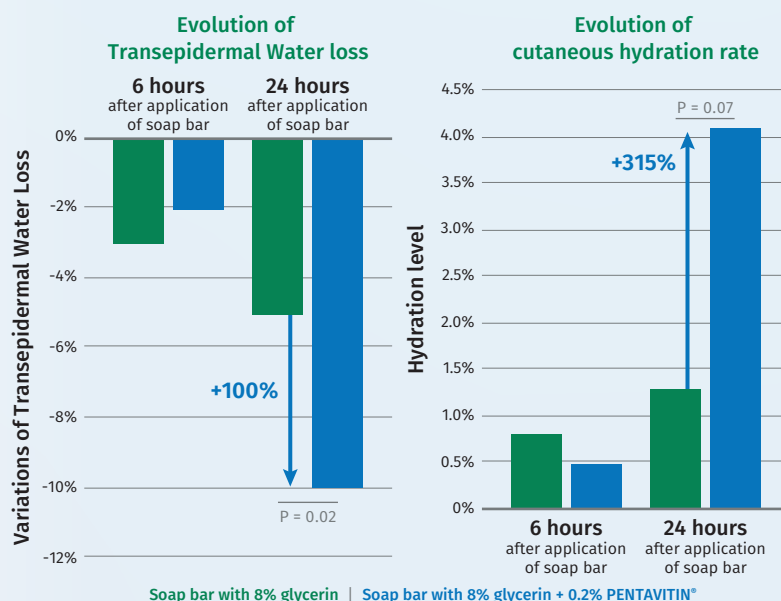
### 24-hour moisture boost

3 times more moisture after one single application of PENTAVITIN® in a moisturizing soap bar compared to placebo at 24 hours.

### Hydration booster of glycerin

After one single use, PENTAVITIN® significantly boosts the hydration efficacy of a moisturizing soap bar containing 8% glycerin at 24 hours.

### Delta values vs baseline at six and 24 hours after soap bar application



Soap bar with 8% glycerin | Soap bar with 8% glycerin + 0.2% PENTAVITIN®

# It's time to *embrace* your skin... as a whole

The **Embrace Your Skin** line-up retains water in the skin, with the help of PENTAVITIN® in its formulations – a unique ingredient of natural origin and recognized effectiveness. Transform your self-care routine with this intelligent treatment – for all areas of the body, including those with the tendency to dry out, like the scalp, hands, calf and feet. The result? Skin that's restored, protected, *always* smooth, and a lasting feeling of comfort and well-being.

## 24h Moisturizing Bar Soap (SK-E-102147-1<sup>†</sup>)

PENTAVITIN® (0.2%) | For a plastic-free shower, it washes away dirt and helps to preserve the skin's protective barrier while moisturizing it for 24 hours.

## Flaky Scalp Mild Cleansing Shampoo (HC-E-100121-16<sup>†</sup>)

PENTAVITIN® (0.5%) and TILAMAR® PDO with NØØVISTA™ (3%) | Helps to reduce scalp flakiness and oil build-up, whilst moisturizing and strengthening it and helping to keep flakes at a bay.

## 24H Hydration Shower Gel (SK-E-101434-5<sup>†</sup>)

PENTAVITIN® (0.5%) | A soap-free, daily hygiene product that gently cleanses, hydrates and reinforces stressed skin leaving the body feeling soft and pampered.

## Intense Restorative Hand Cream (SK-E-101250-4<sup>†</sup>)

PENTAVITIN® (1%) and STIMU-TEX® AS (3%) | Restores and relieves dry, rough and stressed hands, leaving skin feeling calm and soft.

## Resurfacing Face & Body Cream Mist (SK-E-101869-27<sup>†</sup>)

PENTAVITIN® (1%), ALPAFLOR® EDELWEISS CB (1%), ARGAN OIL (0.5%) and TILAMAR® PDO with NØØVISTA™ (2%) | An innovative light texture, combining freshness and moisturization, that helps to relax, restore elasticity and protect the skin all over the body.

## Soothing Fluid (SK-E-102146-1<sup>†</sup>)

PENTAVITIN® (0.2%), STIMU-TEX® AS (2%), TILAMAR® PDO with NØØVISTA™ (2%), HYA-ACT™ M (0.7%) and Vitamin B12 cryst (0.01%)  
Even more lightness for your routine with this fluid that delivers lasting care for your skin in a creamy and smooth texture. With guaranteed maximum hydration *plus* helps calm irritated skin.

## Repair Foot Cream (SK-E-102145-1<sup>†</sup>)

PENTAVITIN® (4%) and STIMU-TEX® AS (3%) |  
Made specially for comforting and repairing dry, cracked feet.



For more information, please visit [www.dsm.com/personal-care](http://www.dsm.com/personal-care)

#### Europe

DSM Nutritional Products Europe Ltd  
Personal Care  
Wurmisweg 576, CH-4303 Kaiseraugst  
Switzerland  
Phone: +41 (61) 815 8888  
Email: [info.pc-emea@dsm.com](mailto:info.pc-emea@dsm.com)

#### North America

DSM Nutritional Products, LLC  
45 Waterview Boulevard, Parsippany, NJ 07054  
United States of America  
Phone: +1 800 526 0189  
Fax: +1 973 257 8580  
Email: [info.pc-na@dsm.com](mailto:info.pc-na@dsm.com)

#### Asia Pacific

DSM Singapore Industrial Pte Ltd.  
trading as DSM Nutritional Products Asia Pacific  
30 Pasir Panjang Road  
Mapletree Business City #13-31  
Singapore 117440  
Phone: +65 6632 6617  
Fax: +65 6632 6600  
Email: [info.pc-apac@dsm.com](mailto:info.pc-apac@dsm.com)

#### Latin America

DSM Produtos Nutricionais Brasil S.A.  
Av. Juscelino Kubitschek, 1909, Torre Sul, 5o andar  
03178-200 Brasil  
Phone: + 55 11 3760 6409  
Fax: + 55 11 3760 6492  
Email: [info.pc-latam@dsm.com](mailto:info.pc-latam@dsm.com)

#### China

No. 476, Libing Road, Zhangjiang  
Pudong, Shanghai 201203  
China  
Phone: +86 21 6171 8240  
Fax: +86 21 61716266  
Email: [info.pc-china@dsm.com](mailto:info.pc-china@dsm.com)



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