



PENTAVITIN®

BINDS TO KERATIN IN SKIN TO KEEP THE MOISTURE BALANCE

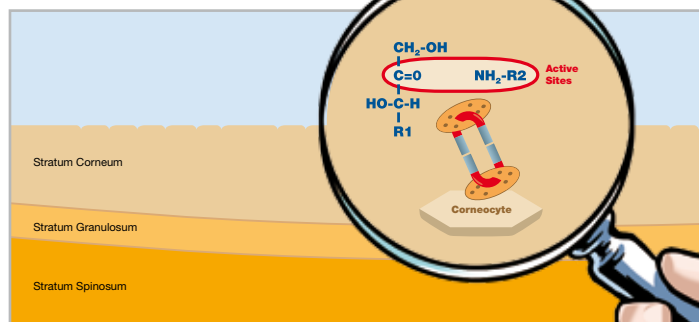
Dry skin lacks water in the upper scaly layers, whilst the underlying layers are normally hydrated by the skin's internal moisturizing mechanism. The secret to resolving dry skin is not only having enough moisture, but also having that moisture located where it can actually resolve a dry skin condition!

PENTAVITIN®'s composition is similar to that of the natural carbohydrate complex found in stratum corneum. It is highly substantive to skin, binding itself to keratin like a magnet.

Compound	Carbohydrate fraction of the stratum corneum %	PENTAVITIN® %
Psicose	0.2	3.9
Mannose	3	4.2
Fructose	31.1	26.5
Glucose	46.7	57.1
Galactose	2.1	3.3
Various	14.7	5.0

Properties

- Extensive studies have examined the binding of PENTAVITIN® to the ε-amino group of lysine in the keratin, leading to a unique substantivity and affinity to skin.
- PENTAVITIN® can only be removed by the natural process of desquamation.



- PENTAVITIN® regulates and retains moisture in the skin under any conditions.

Function

- PENTAVITIN® is a highly effective moisture regulator that functions under the driest conditions where traditional moisturizing agents and humectants lose their effectiveness.
- PENTAVITIN® has been shown to reduce dryness and irritation caused by the use of AHAs.

Cosmetic applications

- Day and night creams
- Formulations for dry and problem skin, xerotic skin conditions, UV-exposed and aged skin.

Formulation

PENTAVITIN® can be processed either warm (<80 °C) or cold, and has to be incorporated into the aqueous phase of a cosmetic formulation. PENTAVITIN® is stable in the pH-range of 3 to 6.

Suggested concentration

1–5% PENTAVITIN®

INCI name (Actives)

Saccharide Isomerate

PENTAVITIN®
Ecocert approved
 100% Natural Origin, 0% Plant Ingredient

Raw material controlled by Ecocert Greenlife according to the Ecocert Standard for Natural and Organic Cosmetics



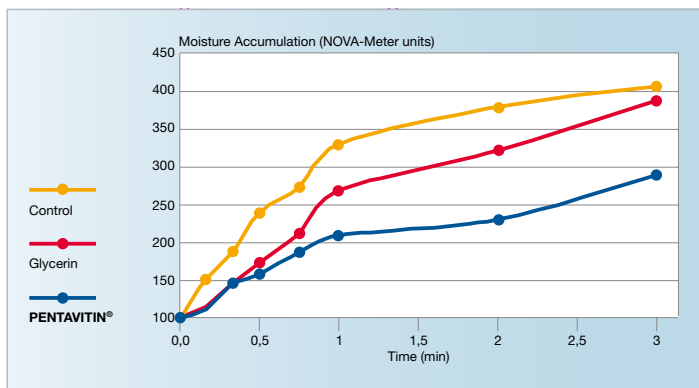
PENTAVITIN®
 2% Natural (0% Organic)
 48% Water
 50% Derived natural
 0% Nature-identical

Complies with the NATRUE Criteria.

EFFICACY TESTS

1. Moisture Accumulation Test (*in-vivo*)

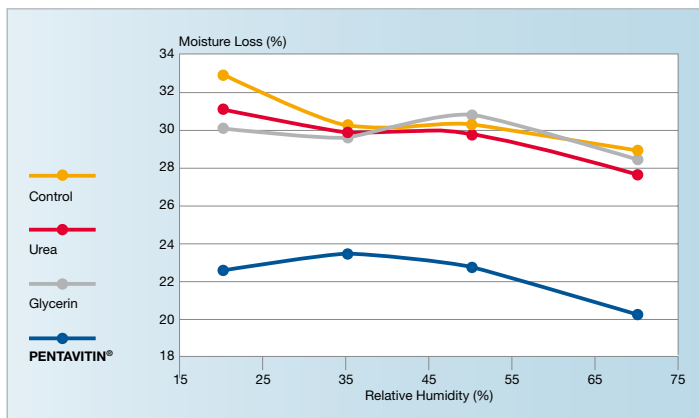
The MAT is a dynamic bioengineering method which provides information about the moisture accumulation on the surface of the stratum corneum and the retention capacity of active ingredients, respectively.



The lower the moisture accumulation on the skin surface, the better the moisture retention in the skin.

2. Moisture Regulation Test (*in-vitro*)

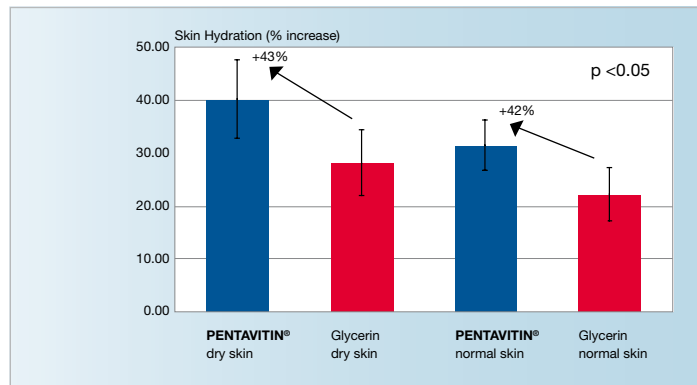
Test creams containing 1.5% of active ingredient were evaluated on their moisture retention efficacy under different relative humidities at 37 °C.



Compared with glycerin and urea, PENTAVITIN® was shown to exert favorable moisture regulation especially under low relative humidities.

3. Chronic Moisturization (*in-vivo*)

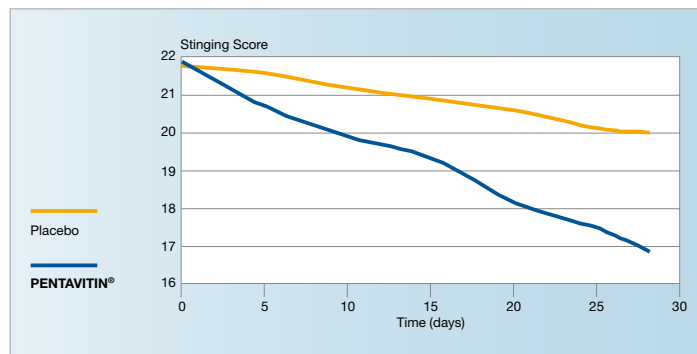
In this test it can be shown that PENTAVITIN® has favorable moisturizing activity compared to glycerin.



Compared with glycerin, PENTAVITIN® provided up to 43% more moisturization on dry skin, and up to 42% on normal skin.

4. Anti-irritation Efficacy (*in-vivo*)

In a lactic acid stinging study PENTAVITIN® proved to be effective against irritation caused by AHA-containing products.



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