

Ceramide Complex CLR™ K

Restores the lipid barrier
of dry and fissured skin



Ceramide Complex CLR™ K – restores the lipid barrier

Ceramide Complex CLR™ K supplies skin with structural elements and supports the recovery and maintenance of the skin's healthy barrier function and water-holding capacity.

Ceramide Complex CLR™ K contains 2% lipids in lamellar liquid crystalline form. The plant-derived lipid mixture consists of phospholipids and at least 10% sphingolipids, and is easily able to penetrate skin.

Ceramide Complex CLR™ K also moisturizes hair.

in vivo	ex vivo	in vitro
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Dosage: 5.0%–10%
pH range: 3.0–10.0

INCI Name:
Water, Phospholipids, Sphingolipids

Skin benefits

- Plant-derived ceramides in lamellar structure
- Helps to restore the lipid barrier of dry and fissured skin conditions
- Phospholipids accumulate in the intracellular matrix
- Promotes moisturization of the skin

Applications

- Moisturizing
- Barrier maintenance and repair
- Hair conditioning and protection

Marketing opportunities *

- Provides an immediate feeling of hydration and comfort
- Deeply moisturizes and softens skin
- Enhances the barrier function of the skin
- Contributes to bring back skin's hydration, softness and smoothness

* This list is for illustrative purposes only.
Make sure to comply with relevant legislation.

Ceramide Complex CLR™ K – Liposomes with an activated lipid structure

Ceramides are the most important structural elements of the lipid barrier. They are orderly arranged in lamellar form to act as a membrane and fill the intercellular space in the stratum corneum (SC). Apart from its important barrier function, this membrane also controls cohesion of dead cells, the corneocytes. In dry and fissured skin this lipid barrier is largely destroyed and the skin suffers increased desquamation of corneocytes and high trans-epidermal water loss. Especially loss of water from deeper epidermal layers will affect the functioning of the cells, which decisively depend on their hydrated environment. Therefore, restoration of the lipid barrier, apart from removing the real cause of dry skin conditions, will also restore the physiological cell functions, thus improving the entire condition of the skin.

Ceramide Complex CLR™ K contains 2% lipids in lamellar, liquid crystalline form. The plant-derived lipid mixture consists of at least 10% sphingolipids (ceramides, glycosphingolipids = cerebroside).

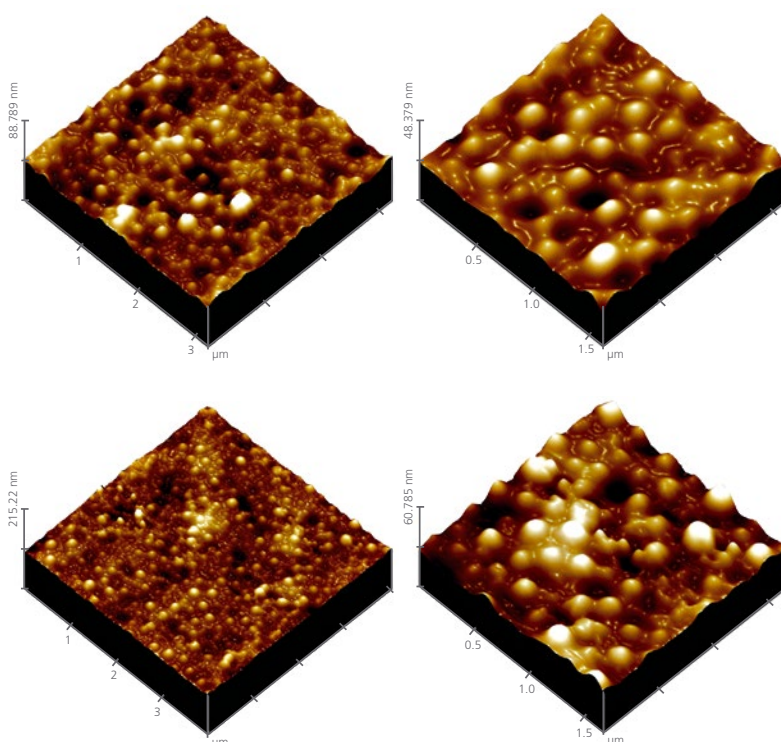
It is known that ceramide-containing formulations only produce the desired effect when they are present in lyotropic form, i.e., as lamellar liquid crystals. Topically applied preparations containing ceramides in non-arranged form did not produce any effect. The lipids contained in Ceramide Complex CLR™ K are present in a membranous and thus active structure.

Ceramide Complex CLR™ K restores the lipid barrier of the stratum corneum of dry and fissured skin and provides well-balanced moisture content. An epidermis that is also intact at the outermost boundary is crucial for well-functioning physiological interaction between the individual skin layers.

Proof of Monodispersity of Ceramide Complex CLR™ K

Following images demonstrate exactly that the liposomes of Ceramide Complex CLR™ K are very consistent in size, i.e. all liposomes are monodispers and small sized. These characteristics represent criteria for both quality and stability.

The 3-dimensional pictures show the actual altitudes, i.e., they show the correct altitude of a particle in relation to its xy dimensions.



Atomic Force Microscopy (AFM) pictures

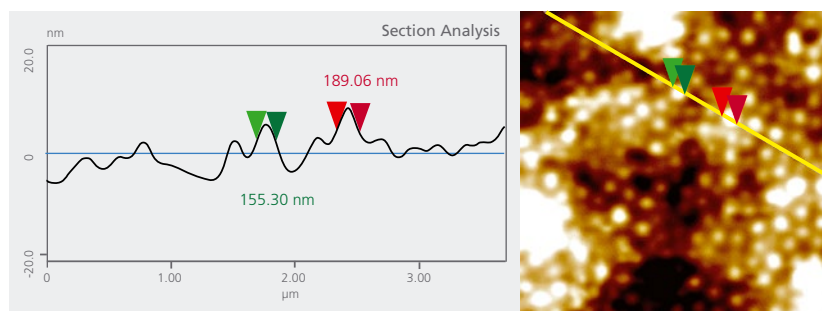
This method allows to classify the objects with respect to their morphology (spherical, round, flat or ellipsoid), while the color gradient indicates various altitude levels (bright = very high; dark = low).

These pictures show a very homogenous distribution of particles with respect to their size as well as good stability, which is indicated by the spherical round form of the liposomes.

The image pairs show the same pictures, taken with different edge lengths (resolution 512 x 512 pixels for both). The altitude shown was used to determine the medium size of liposomes/particles via computer.

Visualization of size via line scan

This section shows a number of particles that are representative in terms of size; they are located in a line. The arrows mark two particles whose sizes can be recognized in the line scans.



SUMMARY

Ceramide Complex CLR™ K is designed for the daily care of dry and chapped skin, with the aim to restore and maintain the skin's function.

- Plant-derived sphingolipids and phospholipids in lamellar structure
- Supplies the skin with structural elements
- Promotes improvement of the skin's barrier function
- Supports increase in hydration levels in the upper skin layers

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