

Porphyraline

Origin 来源

- Porphyraline is a high molecular weight sulphated polymer, obtained by cultivating red microalgae, *Porphyridium cruentum*, in a marine spring water rich in essential trace elements

Porphyraline是一种高分子量硫酸盐聚合物，来自于在含有丰富矿物元素的海泉水中培养红色微藻-紫球藻



- During its growth, *Porphyridium* synthesizes this polymer which creates a protective coating around the cell membrane.

在其生长过程中，紫球藻能合成这种聚合物围绕在细胞膜周围来保护细胞。

- Porphyraline is a biomimetic moisturizer that reinforces the natural lipid barrier and helps the skin recover its water balance.

Porphyraline是一种生物模拟的保湿剂，能有效地强化皮肤的天然皮脂层和帮助恢复皮肤的水分平衡。

Porphyraline

Characterisitics 特性

Polysaccharide structure 多糖结构

-High molecular weight sulphated polymer: $\approx 4\,000\,000$ D.

高分子量硫酸盐聚合物 ≈ 400 百万道尔顿

-Similar to human GAGs 类似于人类的粘多糖

Major components 主要成分

-Hexoses (galactose / glucose): 36%

己糖（半乳糖 / 葡萄糖）：36%

-Pentoses (xylose): 30% , Glucuronic acid: 8%

戊糖（木糖）：30%，葡糖酸：8%

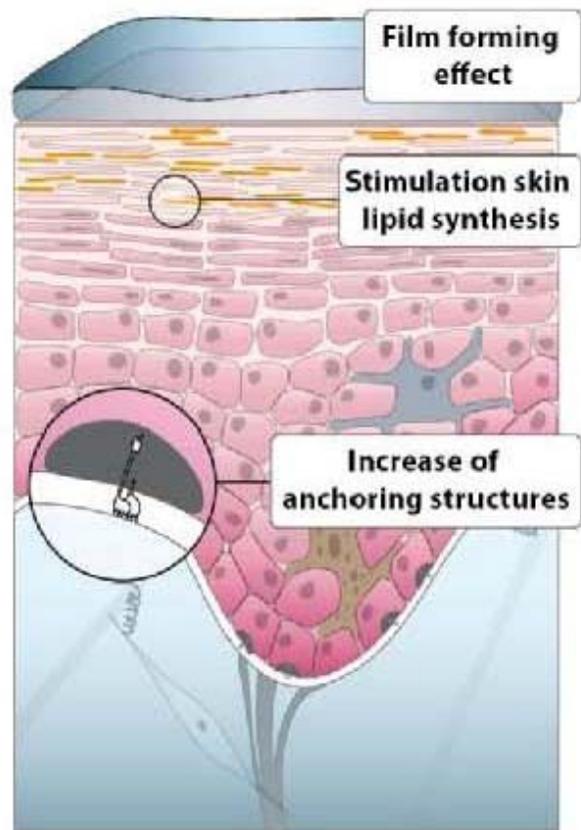
-Sulphate: 9%, Amino acids: 3.8% (xylose linked)

硫酸盐：9%，氨基酸：3.8%（木糖连接）

<u>Composition</u>	Element	Spring Sea Water	Sea water
Oligo elements $\mu\text{g/ml}$	Cu	0.05	0.26
	Mn	3.34	0.27
	Zn	8.50	0.98
	Silicates	3300	232

Porphyraline

Mechanism 机理



- Containing a high molecular weight sulfated polymer, Porphyraline has a film forming activity.

因为自身是一个高分子量硫酸盐聚合物，Porphyraline有成膜的活性

- Porphyraline stimulates skin lipid synthesis to reinforce skin barrier function and prevent TEWL.

Porphyraline能激活皮肤的皮脂合成，巩固皮肤屏障功能和防止经表皮水分流失

- It also strengthens the DEJ to optimize water exchange between the dermis and the epidermis.

它也能强化DEJ，优化表皮与真皮之间的水分交换

Porphyraline

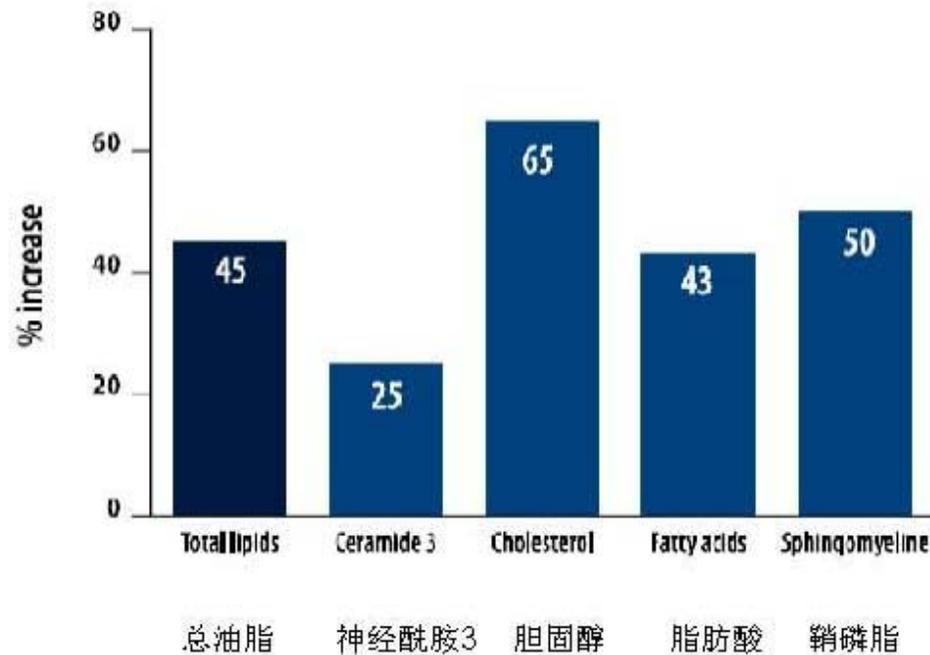
Reinforcement of the skin lipid barrier

修复皮肤脂质屏障

Stimulation of skin lipid synthesis (*in vitro* test) 促进皮肤脂质合成 (体外测试)

Human keratinocytes were treated with Porphyridium extract (100µg/ml) for 12 days..

人体角化细胞用紫球藻提取液(100µg/ml)处理 12 天



By increasing skin lipid synthesis, Porphyraline reinforces intercorneocyte cement to maintain skin hydration

通过增加皮肤的脂质合成, Porphyraline 能强化角质细胞间的粘连性, 从而维持皮肤的水合度

Porphyraline

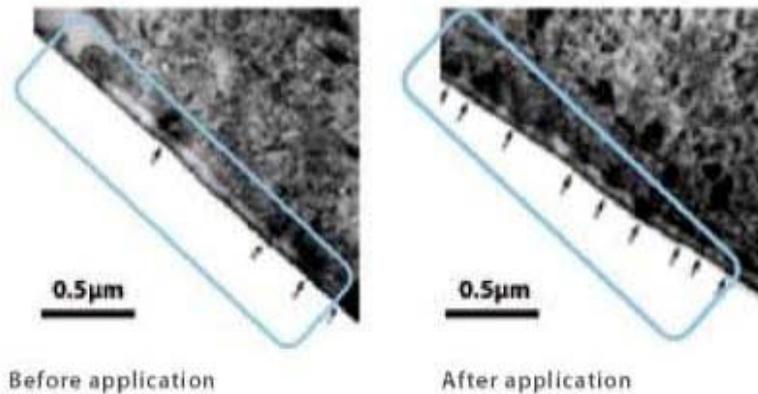
Reinforcement of the skin cohesion

加强皮肤粘合力

Increase of the anchoring structure number 增加锚定结构数量

Basal keratinocytes were treated for 10 days with Porphyridium extract.

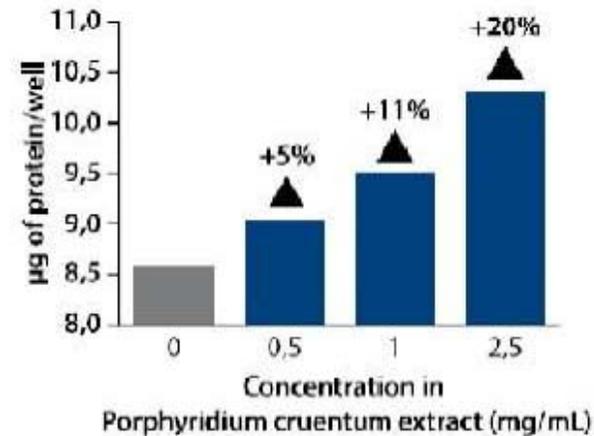
角化细胞用紫球藻提取液处理10天



Improvement of keratinocyte adhesion 提高角化细胞粘合力

Keratinocyte adhesion to a support covered with collagen IV was assessed after treatment with Porphyridium extract.

用紫球藻提取液处理后评估角化细胞与IV型胶原蛋白的粘附性



Porphyraline increases the number of anchoring structures and keratinocyte adhesion to collagen IV to optimize cutaneous water exchange.

Porphyraline 能增加锚定结构数量和IV型胶原蛋白与角化细胞的粘连性来优化了皮肤内的水份交换。

Porphyraline

Moisturizing veil 保湿面纱

Properties

性能

- **Moisturizes the skin**
保湿皮肤
- **Restores epidermal barrier**
重建表皮屏障
- **Biomimics the microalgae protective system**
模拟微藻自我保护系统

Cosmetic applications

化妆品应用

- **Moisturizing products**
保湿产品
- **Anti-aging creams**
抗衰老膏霜
- **Body care, make-up**
身体护理，彩妆

Porphyraline - Specifications & Formulation 指南 & 配方

INCI Name:	Water (and) Porphyridium cruentum extract
INCI名称:	水, 紫球藻提取
Aspect:	Almost colorless clear liquid
外观:	几乎无色的清晰液体
Preservative:	Phenoxyethanol
防腐剂:	苯氧乙醇
Dosage:	3% to 5%
用量:	3%~5%

Formulation tips配方提示:

Incorporation兼容

- Temperature <80° C 温度小于80° C
- Water Phase 水溶
- Gentle stirring or high shear mixing
轻微搅拌或高剪切混合

pH Stability: 2 – 8

PH稳定性: 2-8

Incompatibilities: None met

不兼容: 无