

Epidermal Growth Factor L

Description

The Epidermal Growth Factor (EGF) is a single-chain, non-glycosylated protein that naturally occurs in our skin cells. Its main purpose is to heal our skin by promoting DNA synthesis and cell proliferation. Once it binds to EGFR, which is its receptor on the surface of the cell, the combination of the two kick-starts several signaling pathways that ultimately lead to results such as cell proliferation, differentiation, and survival. There are three intramolecular disulfide bonds consisting of six cysteines, forming three intramolecular ring-type structures, and this receptor binding domain determines EGF biological activity. EGF was discovered by scientist Dr. Cohen and Prof. Montalcini in 1962. Its content directly affects new skin cells growth speed and differentiation which determines the extent of the skin young. This observation made it become the "Beautiful Factor". EGF as a pharmaceutical is widely used in the treatment of skin burns, corneal transplantation, postoperative wound, ulcer, bedsore, etc. where it shows good therapeutic effect.

The Epidermal Growth Factor L is a solution of synthetic human growth factor sh-EGF. The active component, sh-oligopeptide-1, is produced by modern bioengineering methods like fermentation, using glucose as raw material. It has the same molecular structure and biological activity as EGF secreted naturally by the human body. It can promote the epidermis cell, nerve cell and organ tissue epithelial cell growth, thus can be applied in anti-wrinkle, anti-aging cosmetics. In addition, it can also brighten the skin and remove scars. The Epidermal Growth Factor L overcomes the shortcomings of common sh-Oligopeptide-1 which requires low temperature storage and transportation, instead it can be stored, transported and used at room temperature, and its biological activity can remain stable.

Efficacy

- promotes fibroblast synthesis
- increases skin elasticity
- promotes cell regeneration and cell repair
- reduces wrinkles
- smooths the skin
- strengthens the skin barrier against external harmful substances
- prevent scar formation after sun burn or acne
- enhances microcirculation

Appearance

clear, colourless liquid

INCI

Aqua, Glycerin, Mannitol, sh-Oligopeptide-1

Registration

CAS-No.:

Aqua.....	7732-18-5
Glycerin.....	56-81-5
Mannitol.....	69-65-8
Phenoxyethanol.....	122-99-6
Ethylhexylglycerin.....	70445-33-9
sh-Oligopeptide-1.....	62253-63-8



Nature needs no cosmetics,
but cosmetics need nature

Epidermal Growth Factor L

EC-No.:

Aqua.....	231-791-2
Glycerin.....	200-289-5
Mannitol.....	200-711-8
Phenoxyethanol.....	204-589-7
Ethylhexylglycerin.....	408-080-2
sh-Oligopeptide-1.....	810-845-4

Preservatives / Stabilizers

preservative Phenoxyethanol.....	0.45 - 0.9 %
stabilizer Ethylhexylglycerin.....	0.05 - 0.1 %

Characteristics

pH-value.....	6.5 - 7.5
bioactivity.....	7.000 - 13.000 IU/ml
total aerobic mesophilic count.....	<= 10 cfu/g
specific pathogens.....	not detected
(Staphylococcus aureus, Pseudomonas aeruginosa)	
sh-Oligopeptide-1:	
molecular weight (SDS page).....	6200 Dalton

Synonym:

Synthetic Human Epidermal Growth Factor
(sh EGF)

Application

in high quality cosmetic products
creams and lotions
face masks
gels and ampoules
body care

Application concentration

skin care formulations.....	0.2 - 20 %
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Incorporation

Epidermal Growth Factor L is soluble at RT in water, ethanol and mixtures of water:ethanol 1:1. It is soluble in glycerine at 35°C. In propylene glycol and Dermosoft 1388 it is soluble at 40°C. At 60°C it is soluble in pentylene glycole.

Epidermal Growth Factor L can maintain long-term stability at -20°C and remain stable after boiling at 100°C for 30 min at neutral pH. Avoid strong acidic and strong alkaline environments with pH < 5 or pH > 9. We recommend the incorporation at the end of the formulation process at temperatures below 40°C.

Avoiding contact with formaldehyde preservatives, protease, or tannin.

Toxicology

non hazardous in normal use concentration

Storage & Shelf life

Epidermal Growth Factor L should be stored in sealed containers at a cool, dry and light protected place at 2 - 8°C. It is very critical to avoid microbial contamination. Packaging and containers need to be sterilized before use. It is recommended to use Epidermal Growth Factor L ingredients in one package at a time.

In closed original containers the shelf life is 24 months.