Creative Enzymes®

Recombinant human keratin (Type: epldermal keratin)

Cat. No. CEFX-405

Lot. No. (See product label)

Introduction

Description	The keratin K17 encoded by the KRT17 gene belongs to the type I intermediate filament proteins, which are mainly expressed in epithelial cells and constitute the cytoskeletal components of the skin epidermis. It is essential for maintaining the stability of cell structure and functional diversity, and is involved in cell cycle regulation, apoptosis, and the assembly and repair process of cytoskeletal network. Recombinant human keratin K17 plays a key role in skin cell and hair regeneration. It can effectively stimulate collagen production, reduce skin wrinkles, and enhance skin elasticity and radiance. It also promotes hair growth, strengthens hair texture, effectively prevents hair loss and strengthens hair roots. It has a broad application prospect in the field of biomedicine, hair care, beauty and skin care.
Applications	1. Skin firming, anti-wrinkle Cosmetic grade: skin anti-aging 2. Hair follicle control, hair loss prevention and fixation Cosmetic grade: anti-hair loss and scalp care Medical device grade: Hair injectable fillers, hair and scalp care

Product Information

Species	Human KRT17 gene
Source	Escherichia coli
Appearance	Light yellow transparent colour liquid or powder Characteristic odour of protein
Form	Powder or liquid
CAS No.	68238-35-7
Function	1. Hair follicle regeneration and repair function Recombinant human keratin regulates hair follicle growth through the PI3K/Akt/Nf-kB signalling axis and contributes to peripheral angiogenesis. Recombinant human keratin can regulate the microenvironment of hair follicle development and growth, which is important for promoting hair growth, preventing hair loss and improving hair quality. 2. Anti aging function 80% of skin aging process is caused by photoaging, only 20% is caused by natural aging. Recombinant human keratin can precisely inhibit the UV-induced expression of collagenases MMP-1 and MMP-13, and thus inhibit the degradation of key extracellular matrices such as collagen and elastin, forming an effective defence mechanism against photo-ageing. 3. Repair function (epidermal barrier repair, wound repair, oral repair, nerve repair) Recombinant human keratin-mediated modulation of the EMT process can precisely regulate protein expression in the wound tissue, as evidenced by the down-regulation of E-calmodulin, a marker of epithelialisation, and the up-regulation of a series of mesenchymal cell markers (Vimentin, Snail, Fibronectin, α-SMA). Promotes the migration of fibroblasts and keratinocytes to the wound area, accelerates wound closure and tissue regeneration, and improves the speed and quality of wound healing. 4. Hemostatic function (superficial wound haemostasis, aortic haemostasis) Recombinant human keratin can promote platelet adhesion in the first phase of haemostasis, and activate plasminogen through endogenous (APTT) and exogenous (PT) pathways in the second phase, shorten the formation time of plasminogen activator, and finally form fibrin network to accelerate blood coagulation and haemostasis.

Usage and Packaging

Package	1kg/bottle

Storage and Shipping Information

Storage	Store at -20°C for 12 months, and 4-8°C for 30 days. Thaw at 4-8°C. Avoid repeated freezing and thawing.