

ACB Modified Pomegranate Enzyme PF



stability active
 proteolytic enzymes
 lactobacillus lactis
 exfoliation
 revitalizing, sustainable
 hair + skin care, super fruit

BACKGROUND

Pomegranates may be one of the oldest medicines known to man, its use going back perhaps as far as 8000 years. Originating in the area ranging from Persia to Northern India this fruit has been cultivated throughout the Mediterranean since ancient times. The genus name comes from Punica the Roman name for Carthage; the original source for the Italian peninsula. The plant was believed to be introduced to the Americas by the Spanish and is widely cultivated in California and Mexico. Now used primarily in food products, pomegranates have been used as a source of tannins as well as a means to produce inks and dyes. In Japan the wood has been used as the source of an insecticide. A source of citric acid, pomegranate juice can be used to treat dyspepsia and has been indicated for leprosy. Traditionally extracts from the plant have been used for astringent applications.

SCIENCE

Cosmetically, fruit enzymes have been used as a safe means of exfoliation. Exfoliation is an important segment of a skin care regimen, which serves to remove the outer layer of dead skin cells that traps both bacteria and sebum. Utilizing pomegranate enzymes for this purpose is appealing to consumers due to the medicinal qualities associated with this ancient fruit. Pomegranates also contain proteolytic enzymes, which help gently breakdown and digest large proteins that have accumulated on the hair and scalp. Fruit enzymes, particularly proteolytic enzymes, serve as a safe means of removing product build up from hair strands.

Sustainably manufactured, **ACB Modified Pomegranate Enzyme PF** is extracted from the unused residual fruit pulp, along with the intact chaperone proteins, which help increase stability and maximize shelf life. We then ferment the macerated fruit with *Lactobacillus lactis* to make the desired phytochemicals readily available for enhanced benefits.

Code Number: 20440PF

INCI Name: Lactobacillus/Punica Granatum Fruit Ferment Extract
INCI Status: Conforms
REACH Status: Compliant
CASNumber: 84961-57-9
EINCS Number: 284-646-0

Origin: Botanical
Processing: GMO

Free
 No Ethoxylation
 No Irradiation
 No Sulphonation

Additives: Preservatives:
 None Antioxidants:
 None
 Other additives: None

Solvents Used: N/A

Appearance: Slightly Hazy to Hazy
 Viscous Liquid

Soluble/Miscible: Water

Ecological Information: 100%
 Biodegradability

MicrobialCount: <100 opg,
 No Pathogens

Suggested Use Levels: 1.0 — 10.0%

Suggested Applications: Exfoliation

Benefits of **ACB Modified Pomegranate Enzyme PF:**

- Functional Active
- Exfoliation
- Skin and Hair Care Applications

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BENEFITS

Pomegranates also contain chlorogenic acid, which functions as an anti-inflammatory, and has antimicrobial properties, both excellent for skin and scalp care applications.

ACB Modified Pomegranate Enzyme PF is ideal for skin and hair care applications to promote gentle, yet effective, exfoliation by capitalizing on the properties of proteolytic enzymes. This product is optimal for revealing shiny, clean hair and revitalized skin!

EFFICACY

ACB Modified Pomegranate Enzyme PF was evaluated for its ability to accelerate cellular renewal by means of a traditional Dansyl Chloride Cell Renewal Study. The results indicated that this product is capable of efficiently increasing cellular renewal by 26.0% when compared to the untreated biological control.

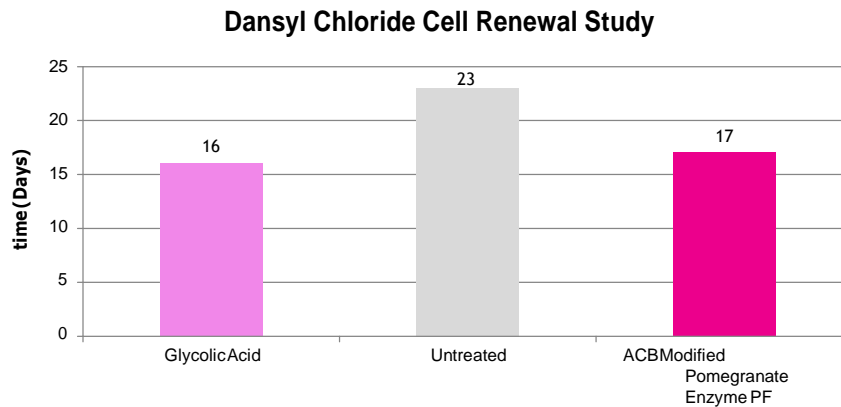


Figure 1. ACB Modified Pomegranate Enzyme PF is comparable to Glycolic Acid at increasing the rate of cellular renewal..

Number of Subjects:	12 m/f (between ages 20 - 45)
Dansyl Chloride Concentration:	5% in petrolatum
Test Materials:	A - Glycolic Acid 4% B - Biological Control (untreated) C - ACB Modified Pomegranate Enzyme PF 5%

ACB Modified Pomegranate Enzyme PF delivers the efficacy of our original ACB Pomegranate Enzyme without discoloration. By eliminating residual carbohydrates we are able to manufacture a product that suffers from none of the Maillard Reaction associated darkening typical of protein solutions.



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