

Papain



Papain is an enzyme that is found naturally in papaya. This ingredient can be found in some skin care products, as it has been shown to improve the collagen content of the skin and can also act as an exfoliating agent. Papain belongs to a family of proteins related to a wide variety of activities, including endopeptidases or aminopeptidases, with both exopeptidase and endopeptidase activity. In addition, it has remarkable physical properties for topical formulations: this enzyme is very stable at neutral pH, even at elevated temperatures.

It also accelerates the metabolism of epidermal cells by acting as an anti-aging ingredient when applied topically. Papain has been found to help open clogged pores and is effective in treating blemish-prone skin. This enzyme from papaya also has anti-inflammatory and antibacterial properties. Additionally, it can remove dead skin cells, making it a good agent for a wide variety of exfoliating skin care products, including face scrubs, body cleansers, face masks, and peels.

Antiaging

As we age, skin cells do not regenerate as quickly as when we are younger. Therefore, dead skin cells do not shed as quickly, resulting in rough, dull-looking skin and visible signs of aging.

Papain breaks down damaged, misfolded and potentially harmful proteins and provides the free amino acids necessary for the synthesis of new proteins, helping to repair tissue and stimulate new growth of skin cells. By promoting new skin cells and proteins, it gives the skin a more youthful appearance and acts as an anti-aging agent.

Exfoliant

It not only works by breaking down the proteins that accumulate, but also the dead skin cells that accumulate.

The chemical peel helps to weaken the bond between new and dead skin cells so that they come off more easily.

In addition, the ability of papain to act as an exfoliant allows to improve the penetration of any cosmetic agent that is applied, increasing its benefit for the skin, such as, for example, biological additives and moisturizers.

Other benefits

Papain also helps hydrate the skin by increasing the pH (acidity) of the stratum corneum, which retains more than 90% of the skin's intracellular moisture, moisture that is trapped between skin cells and is easily lost.

Papain can also help alleviate the effects of allergies due to its anti-inflammatory properties. It also has antioxidant and antibacterial properties.

How is it usually used?

It is usually combined with clays such as kaolin or bentonite to create face masks. It can also be combined with other enzymes such as bromelain to enhance its proteolytic effect.

It is recommended to use it once a week on normal skin.

In fatty peels it can be used up to 2 times a week.

Literature

1. Stremnitzer, C., Manzano-Szalai, K., Willensdorfer, A., Starkl, P., Pieper, M., König, P., ... & Jensen-Jarolim, E. (2015). Papain degrades tight junction proteins of human keratinocytes in vitro and sensitizes C57BL/6 mice via the skin independent of its enzymatic activity or TLR4 activation. *Journal of Investigative Dermatology*, 135(7), 1790-1800.
2. Banchhor, M., & Saraf, S. (2008). Potentiality of papain as an antiaging agent in cosmetic formulation. *Pharmacognosy Reviews*, 2(4), 266.
3. Dawkins G, Hewitt H, Wint Y, Obiefuna PC, Wint B. Antibacterial effects of *Carica papaya* fruit on common wound organisms. *West Indian Med J*. 2003;52(4):290-29

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