Anti-irritating effect of willow extract in an anti-dandruff formulation

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Abstract: Willow, Salix alba is an evergreen tree belonging to the salicaceae family. Willow extract is widely used in cosmetics and dermatology due to its moisturizing, keratolytic and purifying properties. The parts used in cosmetics are the dried leaves and bark of branches of Salix Alba. It also has properties to be used as an astringent, analgesic, anti-inflammatory and antimicrobial active ingredient. The main constituents are polyphenols (8-20%), flavonoids (0.2-1.5%) and salicylic derivatives (1.5-11%). One of the best known and most representatives of salicylic derivatives is salicylic acid (C7H6O3). Salicylic acid is applied topically to treat keratolytic and skin desquamation disorders. The aim of this study was to determine anti-irritating effect of willow extract in Cepigène antidandruff lotion formulation.

In order to evaluate the anti-irritant efficacy of the Willow Extract, the inhibition of cyclooxygenase (COX), enzyme that catalyzes the formation of inflammatory mediators from arachidonic acid, was measured. The assay was performed on primary cultures of keratinocytes determining the content of prostaglandins (PGE2) using an immunoassay and acetylsalicylic acid as a positive control.

The results indicated that Willow Extract (0.1%) produces an important reduction in the amount of prostaglandin (PGE2), 43.4%, which leads to a marked inhibition of cyclooxygenase. This effect is comparable to those caused by acetylsalicylic acid (0.1 mM) which 49.8% Cyclooxygenase inhibition used as control in the assay.

Willow Extract, with anti-irritant action, is a new natural origin active ingredient for the treatment of dandruff. Therefore anti-Cepigène dandruff lotion is developed to provide an effective anti-dandruff active ingredient obtained from natural sources.

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