

PSORIASIS

## THE MOLECULAR MECHANISM OF PAEONIFLORIN REGULATING KERATIN 17 EXPRESSION IN THE TARGETED THERAPY OF PSORIASIS

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**Background:** keratin 17 (K17), which is highly expressed in psoriatic keratinocytes, can participate in the pathogenesis of psoriasis by promoting the keratinocyte proliferation. Our previous studies have revealed that the total glucosides of paeonia, mainly consist of paeoniflorin, is an effective treatment for psoriasis. Further study has found that paeoniflorin (PF) can inhibit the expression of K17 in activated keratinocytes, highly suggesting that it may play a therapeutic role in psoriasis by regulating K17 expression.

**Objective:** : To illustrate the effect and mechanism of PF on keratinocyte proliferation and immunological activity by inhibiting the expression of K17.

**Methods:** Using PF to regulate the expression of K17 in keratinocytes as an entry point, the effect of PF targeting K17 on the biological function of keratinocytes was investigated at the cellular level in vitro, revealing the molecular mechanism of PF inhibiting the expression of K17 and subsequently affecting the downstream key functional molecules. Inhibition of K17 expression and subsequent effect on the immunological activity of KC; animal experiments verify the role of PF in targeting keratinocyte proliferation and immunological activity treatment of psoriasis by targeting K17.

**Results:** The results showed that PF could inhibit the proliferation of keratinocytes induced by Tetrakine in a dose-dependent manner, suggesting that PF regulates the proliferation of psoriatic keratinocytes; the erythema scales of the mice were significantly reduced after topical smearing of PF, and the thickness of the epidermis was significantly reduced. HE also showed a significant amount of dermal infiltrating lymphocytes.

**Conclusion:** Paeoniflorin inhibited the proliferation and differentiation of keratinocytes and secrete chemokines by targeting K17, thereby inhibiting the psoriasis inflammatory response and thus treating psoriasis, providing further development and application of PF as a targeted therapy for psoriasis.