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Modulation of alopecia by formulation containing biochanin A as a unique ingredient for suppressing micro inflammation

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Aims & Background: Androgenetic alopecia is a common cosmetic hair disorder, resulting from interplay of genetic, endocrine, and aging factors leading to a patterned follicular miniaturization. Micro-inflammation seems to be a potential active player in this process. IL-8 is an inflammatory cytokine which secretes by different cells. In this study for determination of anti inflammation effects of anti hair loss formulation containing biochanin A and Acetyl tetrapeptide-3 as an active ingredients (Cepigène®), the expression of IL-8 was evaluated.

Material & Methods: Fibroblast cells were cultivated for 24 hours and then cells were treated with biochanin A, Cepigène anti hair loss formulation and dexamethasone (DMS). Dexamethasone was the positive control with the concentration of 1µM. LPS from *Escherichia coli* (65µg/ml) was added for occurring inflammation in fibroblasts. 24 hours later the amount of IL-8 was measured by the very sensitive method of Enzyme immunossay (EIA) kit (Sigma-Aldrich).

Results: The results showed that fibroblasts secreted IL-8 after stimulation by LPS, a bacterial component that is triggering the inflammation process in cells. When cells are treated with DMS (-17%), the red clover extract (-20%) and Cepigène anti hair loss lotion (-48%), we observed a significant decrease in the synthesis of IL-8 attesting a decrease in the inflammation process. The effect of Cepigène anti hair loss formulation has a dose dependant effect and is higher than the effect observed with the DMS, an anti-inflammatory reference.

Conclusion: Isoflavones of this extract inhibit the inflammation by modulation of leucocytes migration to inflammation site. Cepigène anti hair loss lotion decreases pro-inflammatory cytokines with a synergistic action compared to red clover extract alone.

Biography

Hamidreza Ahmadi Ashtiani has completed his Ph.D. at the age of 24 years from Veterinary school of Urmia University and also Pharmacology from Tehran Islamic Azad University of Science and Research. His postdoctoral studies were from Tarbiyat Modarres University of Tehran and he was top student of country in Ph.D. level. His book was Selected of Fourteenth Year Book Festival at 2008. He is the Director of Cepigène Company. He has published more than 51 papers in reputed journals and serving as an editorial board member of repute.

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