Anti-Inflammatory effects of Tetrahydrocurcumin and calcium mineral crystalline : *in vitro* and *in vivo* study

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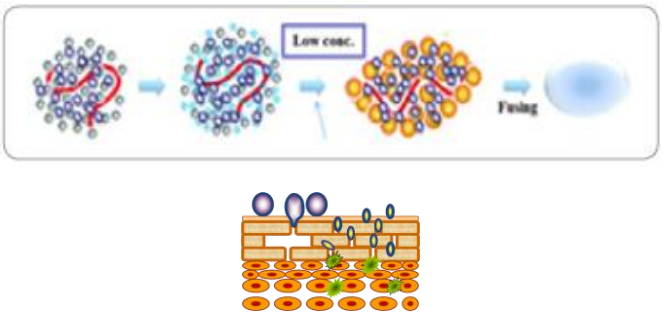
Abstract

Curcuma longa(Turmeric) has been used commonly as a spice, food additive, and an herbal medicine worldwide. This study aimed to investigate potential anti-inflammatory effect of Tetrahydrocurcumin (THC, extracted from Curcuma longa) with calcium mineral crystalline as vehicle. The THC assisted formation of biomineralized calcium mineral(THC & calcium mineral Complex) were synthesized via microemulsion.

The potential anti-inflammatory effect of THC & calcium mineral Complex were examined by in vitro experiments. More specifically, THC & calcium mineral Complex decreased the expression levels of inflammatory effect, such has NO, MTT and PGE2 ELISA assay in Mouse macrophage. In addition, THC & calcium mineral Complex decreased the expression levels of inflammatory genes, such has cyclooxygenase-2 (COX-2), and interleukin-1-α (IL-1α) in keratinocytes.

Clinical studies further suggested that treatment with formulations containing THC & calcium mineral Complex confers anti-inflamatory benefits. In the clinical study, the stable cream of water-in-oil emulsion containing the Complex improved human patch test, skin erythema value, and brightness significantly. Based on these results, we suggest that THC & calcium mineral Complex may be introduced as a possible anti-inflammatory agent and could be applicable to cosmetics as a functional(Useful) cosmetic ingredient.

Image



Recent Publications (minimum 5)

1. Si Jun Park et al (2015) Continuous irradiation with a 633-nm light-emitting diode exerts an anti-aging effect on human skin cells. Inter. Journal of molecular medicine **35**:383-390
2. Ee Taek Hwang et al (2013) CO2 bioconversion using carbonic anhydrase (CA): Effects of PEG rigidity on the structure of bio-mineralized crystal composites. Journal of Biotechnology **168**:208– 211.
3. Si Jun Park et al (2012) Excellent Anti-aging Effects of Ursolic acid and Oleanolic acid Present in Ligustrum lucidum. J. Soc. Cosmet. Scientists Korea **38(2):**181-187
4. Ee Taek Hwang et al (2012) Carbonic anhydrase assisted calcium mineral crystalline composites as a biocatalyst. Green Chem., **14**, 2216-2220
5. Si Jun Park et al (2010) Protective Effect of Cheonjeongkibo-Dan UV-Induced Cellular Damage in Human Dermal Fibroblast Korean J. Oriental Physiology & Pathology **24(6)**:950～955



Biography

Si Jun Park is currently working as an Senior researcher /Ph D in the R&D Center, ACT Co., Ltd., South Korea. His research interest includes anti-aging effect, atopic dermatitis and treatment with carcium mineral particles as skin delivery system.

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Notes/Comments: