

11th Annual Congress on

Immunology & Immunotechnology

September 13-14, 2018 | Zurich, Switzerland

Anti-inflammation effect of combination between naringin and sericin extracts on human peripheral blood mononuclear cells (hPBMC) from patient with psoriasis

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Introduction: Psoriasis is a chronic T-cell-mediated autoimmune skin characterized by rapid proliferation of keratinocytes and incomplete keratinization. Discovery of safety and the most effective anti-psoriatic drugs remains further active investigation. Interestingly, phytochemicals including naringin extracted from citrus and sericin extracted from cocoons had previously found that possessed anti-inflammatory activity associated with inhibition of psoriasis.

Objective: The objective of this study is to investigate the potential of combined use of naringin and sericin extracts that played a molecular role in suppressing psoriasis via anti-inflammatory process on human peripheral blood mononuclear cells (hPBMC).

Materials & Methods: hPBMC are isolated from five healthy people and ten patients with psoriasis. Whereas, naringin is extracted from citrus peel and sericin is commercially ordered. These hPBMC in each groups are treated with naringin, sericin and combined of naringin and sericin extracts, respectively. By using quantitative RT-PCR for analyzing the effects of these potential extracts on different genes of the inflammatory process on hPBMC in psoriasis. Moreover, the expression of inflammatory cytokines is measured by using ELISA technique.

Results: The combined naringin and sericin extracts significantly reduced further the expression of all four inflammatory genes and cytokines level ex. TNF- α , IL-6, IL-23 and IL12p40 in either healthy group or patients with psoriasis group. In addition, the combination of these extracts significantly lowered the expression of all four genes and cytokines than using naringin or sericin alone. Only naringin extract has lowered the expression of TNF- α , IL-6 genes and cytokines than sericin alone. Sericin reduced the expression of IL-23, IL-12p40 genes and cytokines than naringin alone.

Conclusion: Therefore, this study suggested that combined of these phytoextracts are capable of functioning against inflammation associated with psoriasis. Clarify the relative contribution of TNF- α , IL-6, IL-23 and IL-12p40 cytokines in immune regulation in patients with psoriasis represents the starting point for the development of new phytochemicals for the treatment of middle-stage psoriasis.

Biography

Raksawan Deenonpoe has completed her Bachelor degree in Veterinary Medicine (Hons.) and PhD in Pathobiology from Khon Kaen University, Thailand. At present, she is the Lecturer at Chulabhorn International College of Medicine, Thammasat University Rangsit Campus, Thailand. She has published about seven papers in reputed journals and has been serving in Animal Ethics Committee at Thammasat University Rangsit Campus, Thailand. She has her expertise in Pathology, Immunology, Microbiome and Herbal Medicine.

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