

## The Glycitin and 38 Combination Inhibit the UV-Induced Wrinkle Fomation in Human Primary Fibroblast

**Authors :** Manh Tin Ho, Phorl Sophors, Ga Young Seo, Young Mee Kim, Youngho Lim, Moonjae Cho

**Abstract :** UV radiation in sunlight is one of the most potential factor induced skin ageing and photocarcinogenesis. UV may induce the melanin production and wrinkle formation. Recently, the natural secondary compounds have been reported that had the beneficial protective effects from UV light. In this study, we investigated the effects of two different compounds, glycitin and 38, on human dermal fibroblast. We first only treated the 38 on melanocyte cell to test the proliferation inhibition of 38 on this cell line. Then, we induced the combination of glycitin and 38 on human dermal fibroblast in 48h and investigate the proliferation, collagen production and the metalloproteinase family expression. The 38 alone could inhibit the proliferation of melanocyte which indicated the reduction of melanin production. The combination of glycitin and 38 truly increased the fibroblast proliferation and even they could recover the UV-induced and H2O2-induced damaged fibroblast proliferation. The co-treatment also promoted the collagen IV expression significantly and accelerated the total collagen secretion. In addition, metalloproteinase (MMPs) family such as MMP1, MMP2, MMP7 was down-regulated in transcriptional level. In conclusion, the combination of glycitin and 38 has induced the fibroblast proliferation even when it was damaged by UV exposure and H2O2, whereas augmented collagen production and inhibited the MMPs caused the wrinkle formation and decreased the melanocyte proliferation, suggested an potential UV-protective therapy.

**Keywords :** UV radiation, wrinkle, ageing, glycitin, dermal fibroblast

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