

ASIA-PACIFIC DERMATOLOGY AND COSMETOLOGY CONFERENCE

AUGUST 16-17, 2018 TOKYO, JAPAN

Anti-photoaging effect of *Achatina fulica* in human skin *in vitro*

Toni Febriyanto, Susan Simanjaya, Juan Adrian, Mohammad Galih Pratama, Eka Nur Fitriyani and Dewajani Purnomosari
Universitas Gadjah Mada, Indonesia

Background: Ultraviolet (UV) exposure causes photoaging by inducing the expression of Matrix Metalloproteinase-1 (MMP-1) expression. Snail *Achatina fulica* is one of the most extensively studied snails due to its economic, ecological and medical importance. Moreover, the slime is well-known for its wound-healing and anti-bacterial properties.

Objective: The research is aimed to investigate whether snail slime of *Achatina fulica* exhibits anti-photoaging properties by inhibiting the expression of MMP-1.

Methodology: 50 snails were stimulated by a 9V electricity source for the extraction of slime. The extracted slime was then converted into powder form by the freeze-drying process. The slime powder was dissolved in Dimethyl Sulfoxide (DMSO) to desired concentration. At the end of the experiment, the MMP-1 expression in different fibroblast groups was assessed by qPCR.

Results: Administration of snail slime has proven to lower MMP-1 expression compared to the positive control group without snail slime. However, administration of snail slime at various concentrations did not significantly produce different results. MMP-1 expression level is slightly lower in slime group compared to the *Ellicina* cream group at the concentration of 25 and 50 µg/mL. Administration of *Ellicina* cream at the concentration of 100 µg/mL has shown to lower MMP-1 expression compared to slime group at any concentration.

Conclusion: Snail slime of *Achatina fulica* reduces MMP-1 expression level on UVB-induced fibroblast culture. The potency in inhibiting MMP-1 expression level between *Achatina fulica* slime and *Ellicina* cream is not much different at certain concentrations.

Biography

Toni Febriyanto is pursuing his medical degree at Universitas Gadjah Mada, Yogyakarta, Indonesia. He is interested in biomedical and clinical research.

toni.feb@gmail.com

Notes: