



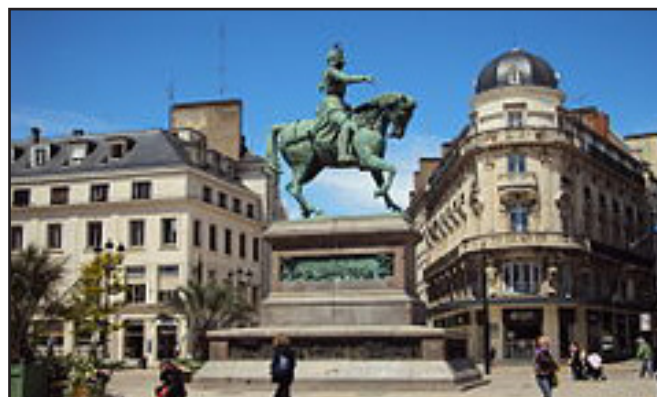
Andrographis Paniculata and its Bioactive Diterpenoids Protect Dermal Fibroblasts against Inflammation and Oxidative Stress

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Abstract:

Andrographis paniculata (Burm.f.) has long been used in ayurvedic medicine through its anti-inflammatory properties. However, its protective effect of skin aging has not been studied in vitro. This study aimed to investigate the anti-aging effects of methanolic extract (ME), andrographolide (ANDRO), neoandrographolide (NEO), 14-deoxyandrographolide (14DAP) and 14-deoxy-11,12-didehydroandrographolide (14DAP11-12) on human dermal fibroblasts (HDFa) under pro-oxidant or pro-inflammatory condition. The in vitro anti-aging capacity of ME, ANDRO, NEO, 14DAP, and 14DAP11-12 (1, 2.5 and 5 $\mu\text{g}/\text{mL}$) was performed in HDFa. Oxidative stress and inflammation were induced by hydrogen peroxide and lipopolysaccharide/TNF- α , respectively. Reactive oxygen species (ROS) production was measured by the fluorescence of DCF-DA probe and cytokines were quantified by ELISA (IL6 and IL8) or RTqPCR (TNF- α). Procollagen type I production was determined by an ELISA. Our results showed a decrease in ROS production with ME and 14DAP at 5 $\mu\text{g}/\text{mL}$ and 1 $\mu\text{g}/\text{mL}$, respectively. Furthermore, IL-6 production and TNF- α expression decreased under ANDRO and ME at 5 $\mu\text{g}/\text{mL}$. Our data indicated that ME and 14DAP protect from oxidative



stress. Additionally, ME and ANDRO decreased an inflammation marker, IL-6. This suggests their potential natural treatment against skin damage. Hence, their applications could be of interest in cosmetics for preventing skin ageing.

Biography:

Eugenie Mussardis currently associated with University of Orleans, France

Recent Publications:

1. Antioxidants (Basel). 2020 May 15;9(5):432. doi: 10.3390/antiox9050432

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