

ABSTRACT

The global anti-aging market has been growing throughout the years as usage of anti-aging cosmetics continues to grow, making the anti-aging research industry one of the most popular research areas. With more people willing to invest huge amounts of money to look younger, the demand for anti-aging cosmetics, such as essence, is increasing. Like supplements and drugs, cosmetics testing before releasing a product is also necessary to validate its safety and effects. The main focus of most anti-aging cosmetic products is to increase the levels of collagen, hyaluronic acid, and elastin expression, as these proteins have been associated with anti-aging. This research investigated the cytotoxicity and anti-aging activity of Essence. MTS assay was conducted to investigate the cytotoxic effect of Essence, and ELISA was conducted to measure the concentration of extracellular matrix collagen type 3, collagen type 1, hyaluronic acid, and elastin following 72h treatment with Essence. MTS assay showed that Essence had no significant effect on the cell viability of primary HDF cells. In contrast, ELISA showed that Essence had no significant anti-aging effect on primary HDF cells, as shown by the insignificant increase in collagen type 3, collagen type 1, and hyaluronic acid concentration. Furthermore, the effect of Essence on elastin was inconclusive. Increasing the concentrations of the active ingredients or adding more active ingredients may be needed to increase the effect of Essence on extracellular matrix production for future studies.

Keywords: *Extracellular matrix; Anti-aging; Primary human dermal fibroblast; Essence; ELISA*