

ABSTRACT

The skin provides conspicuous signs of aging, and many people are willing to spend a grand amount of money to keep their youthful appearance. Nowadays, treatments to delay the signs of aging in the skin are available, but most people favor the use of topically applied serum, due to its high concentration of active ingredients and comfortable finish product. This project highlights the evaluation of Serum E on primary human dermal fibroblast (HDF), which is a cell line that secretes extracellular matrix (ECM) of the dermis such as collagen type I, collagen type III, elastin, and hyaluronic acid. These ECMs serve as excellent biomarkers for skin aging since aged skin experience reduction of these ECMs. Briefly, the cultured HDF cell line was treated with Serum E, serum base, and serum active pharmaceutical ingredients (API). The treatments were observed for any cytotoxic effect using MTS assay and assessed for their anti-aging efficacy through the expression of ECMs that were measured quantitatively by using enzyme-linked immunosorbent assay (ELISA). Results showed that Serum E, serum base, and serum are safe to HDF up to concentrations of 4X recommended usage. The study found that Serum E is able to increase type I collagen secretion to the extracellular space. However, treatment with Serum E did not stimulate the secretion of type III collagen, elastin, and hyaluronic acid. Regardless, this study can prove that Serum E contributes to anti-aging effect.