

## The study on collagen synthesis and collagenase inhibition assay in natural plants

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Type I (collagen) and procollagen are reduced in aged human skin. This reduction could result from increased degradation by metalloproteinases and from reduced procollagen synthesis and skin collagenase is required for initiation of the degradation of type I collagen. In the present study, we study on assay the collagen and collagenase in natural plants using the fibroblast human skin cell. We select the 15 kind of plants used to herbal and 4 kind of fraction (by methylene chloride, ethyl acetate, n-butanol, water). Among these extract, the ethyl acetate fraction from *benincasa hispida/prunus persica*, *trichosanthes koriowii*, *trogopterus xanthipes* and methylene chloride fractions from *benincasa hispida/prunus persica*, *torilis japonica* and n-butanol fraction from *cnidium officinale*, *chrysanthemum sibiricum* were selected for further experiments as they exhibited distinctive amount of collagen compared to other natural extracts. These extracts were again subjected to collagenase assay test.

*Benincasa hispida/prunus persica* extract was shown to have excellent collagen synthesis activity from result of the collagen assay test and the other extract was shown to have over 130% of collagen synthesis activity. But, in the study of collagenase assay test just only *trogopterus xanthipes* extract was shown to have collagenase inhibition.