

복숭아 추출물의 collagenase 저해활성과 수렴효과

이화여자대학교¹, 연세대학교^{2,3} : 박헌주¹, 박광균², 황재관³, 정원윤², 이상국*¹Collagenase Inhibitory Activities and Astringent Effect of the *Prunus persica* (Fructus) Extract¹College of Pharmacy, Ewha Womans University, Seoul 120-750; ²College of Dentistry, Yonsei University, Seoul 120-752; ³College of Life Science, Yonsei University, Seoul 120-749Hyen Joo Park¹, Kwang-Kyun Park², Jae-Kwan Hwang³, Won-Yoon Chung², and Sang Kook Lee*¹실험목적 (Objectives)

To investigate the function for anti-aging effect of *Prunus persica* (Fructus) as the ingredients of cosmetics.

재료 및 방법 (Materials and Methods)

○ 실험재료

-*Prunus persica* (Fructus).-pZ-peptide, collagenase from *Clostridium histolyticum*

-Hemoglobin

○ 실험방법

-Collagenase assay

$$\% \text{ inhibition} = [(OD_{\text{control}} - OD_{\text{sample}}) / OD_{\text{control}}] \times 100$$

OD_{control}: OD of the control with collagenase - OD of the control without collagenase

OD_{sample}: OD in the presence of the test compound with collagenase - OD in the presence of the test compound without collagenase

-Astringent activity assay

실험결과 (Results)

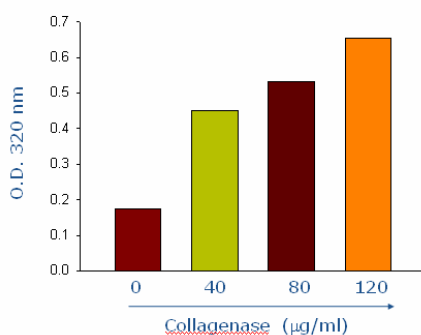
In our previous study, *Prunus persica* (Fructus) extract (PFE) was found to be the inhibitory effects on UVA-induced gelatinolytic activities of MMP-2, -9 in human HaCaT keratinocytes. In this study, we examined the inhibitory activities of PFE on collagenase from *Clostridium histolyticum* with pZ-peptide as a substrate using a spectrophotometric assay. PFE showed a dose-dependent inhibition of collagenase activity with an IC₅₀ of 22 mg/ml. In addition, the astringent effects which are related

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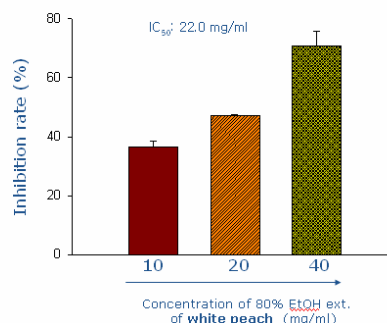
to causing mild coagulation of skin proteins and protecting the skin from dryness and hardness were also measured using hemoglobin precipitation method, PFE showed the astringent effect with the IC_{50} value of 19.7 mg/ml. These novel results suggest that PFE may prevent collagen breakdown by inhibiting collagenase and also the extract has an astringent effect. PFE might be applicable as natural ingredients for skin-antiaging agents.

* 시험성적

The concentration-dependent activity of collagenase using pZ peptide



Inhibitory activity of collagenase by *Prunus persica* (Fructus) extract using pZ peptide



The concentration-dependent effects of astringency by *Prunus persica* (Fructus)

