

## 사마귀류의 추출물을 이용한 항산화활성 및 COX-2 promoter 활성 억제효과 비교

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### Comparison of In Vitro Antioxidant Activities and Cox-2 Promoter Inhibitory Activities Using *Statilia maculata* (Thunberg), *Tenodera angustipennis* Saussure and *Tenodera aridifolia* (Stoll) Extracts

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#### Objectives

In order to investigate the availability of insect resources for agrobiotechnological or medical purposes, we examined antioxidant assay and Cox-2 promoter assay with the extracts of *Statilia maculata* (Thunberg), *Tenodera angustipennis* Saussure and *Tenodera aridifolia* (Stoll).

#### Materials and Methods

##### o Materials

*Statilia maculata* (Thunberg), *Tenodera angustipennis* Saussure and *Tenodera aridifolia* (Stoll) were obtained from Prof. Yun (Daejeon University). The whole body was dissolved with DW, DMSO, ethanol or methanol, and incubated overnight at room temperature. The extracts were filtered and centrifuged (10 min, 12000 × g). The upper fraction was used for anti-oxidant assay and Cox-2 promoter analysis.

## o Methods

To determine whether the extracts have the anti-oxidant and Cox-2 inhibition activity, we examined DPPH assay, FRAP assay and protection assay of linoleic acid oxidation. Inhibition of Cox-2 expression using a stable cell line with Cox-2 promoter was also investigated.

## Results and Discussion

We found that *Tenodera angustipennis* Saussure and *Tenodera aridifolia* (Stoll) extract (DW, ethanol, methanol) had high levels of anti-oxidant activity, whereas *Statilia maculata* (Thunberg) extract showed decreased relative Cox-2 transcriptional intensity than any other samples. These findings suggest that *Statilia maculata* (Thunberg), *Tenodera angustipennis* Saussure and *Tenodera aridifolia* (Stoll), extract have potentials to be developed for agrobiotechnological or medicinal use. Mechanistic study against molecular inflammation will shed light to development of useful insect biomaterials.

**Key words** : *Statilia maculata* (Thunberg), *Tenodera angustipennis* Saussure, *Tenodera aridifolia* (Stoll), Cox-2 promoter assay, anti-oxidant assay