



Evaluation of Antioxidant Ability for Four Traditional Chinese Herbs with Detoxification Function

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Introduction:

Some synthetic antioxidants, such as BHT and BHA, were often seen in cosmetic formulations of the skin care products. They were confirmed to be toxic or carcinogenic in animal models. Therefore, it is important to identify new sources of safe and inexpensive antioxidants of natural origin. In recent years, Chinese herbs have already been reported as having antioxidant effects. The objectives of this study are to identify that four traditional Chinese herbs (*Artemisia capillaris*, *Lygodium japonicum*, *Pyrosia lingua*, *Alisma plantago-watertica*) that have the detoxification function whether also have the antioxidant ability.

Materials & Methods:

Materials

The materials used in this study include Chinese herbal medicines, chemicals and instruments etc. which are described as follows:
Chinese herbal medicine: *Artemisia capillaris* (Ac), *Lygodium japonicum* (Lj), *Pyrosia lingua* (Pl), *Alisma plantago-watertica* (Apa).

Methods

This Research projects were completed following the flow chart (Figure 1).

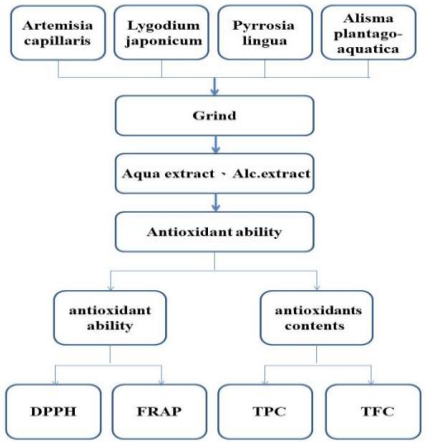
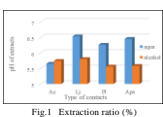


Figure 1 Flow chart

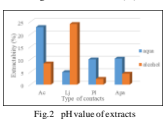
Results & Discussion:

(1) Extraction ratio and pH

The extraction ratio of aqua and alcohol were shown (as Fig.1.) that aqua Extraction was higher than alcohol Extraction.

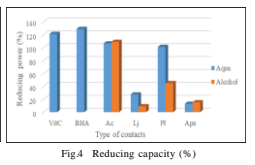
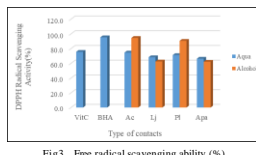


The pH of all extracts fall within the range of 5.58 - 6.53, as shown in Fig.2.



(2) Free radical scavenging ability

The scavenging free radical activity of *Artemisia capillaris* were the strongest, *Artemisia capillaris* were same as BHA, as shown in Fig. 3.

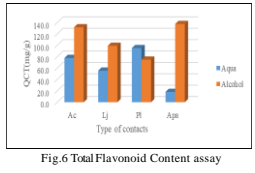
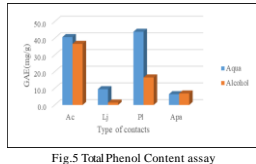


(3) Reducing capacity

The antioxidant activity of *Artemisia capillaris* extracts were the strongest, as shown in Fig. 4

(4) Total Phenol Content assay

The total phenol content of the 4 kinds of contacts are not high in either water or alcohol extract, as shown in Fig. 5.



(5) Total Flavonoid Content assay

Alcoholic extract of *Alisma plantago-aquatica* contain highest dosage of total flavonoid contents, as shown in Fig. 6.

Conclusions:

Artemisia capillaris and *Pyrosia lingua* had the dual effects of antibacterial and antioxidant, they are worth chosen as raw materials of skin care cosmetics preparation.

Acknowledgements:

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