

Antioxidant Activities of Extracts from *Houttuynia cordata Thunberg*

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ABSTRACT

In this study, we has been investigated the effect of *Houttuynia cordata Thunberg* on total phenolic and flavonoid cotents and antioxidant activity. The results showed that the total phenolic contents of the water extracts and the 70% ethanol extracts were 67.5 mg/g and 90.5 mg/g, respectively. The total flavonoid contents was detected water extracts 5.5 mg/g, 70% ethanol extracts 8.2 mg/g. Electron donating ability of the 70% ethanol extracts from *Houttuynia cordata Thunberg* was higher than those of the water extracts (52.7%<70.1% at 1,000 µg/ml concentration). Cation radical scavenging ability of *Houttuynia cordata Thunberg* water extracts and 70% ethanol showed over 99% at a 1000 µg/ml concentration. Superoxide anion radical scavenging ability was water extracts 87.3% and 70% ethanol 90.5% at a 1,000 µg/ml. As a result *Houttuynia cordata Thunberg* extracts indicate the antioxidative ability.

MATERIALS&METHODS

1. Electron donating ability (EDA)
: measured by Blois¹⁾ method.
2. Scavenging rate
: measured by ABTS+ cation decolorization assay ²⁾ method.
3. Inhibition rate
: measured by nitroblue tetrazolium(NBT)³⁾ method.
4. Polyphenol contents
: measured by A.O.A.C⁴⁾ method.
5. flavonoid contents
: measured by Moreno⁵⁾ method.
6. Superoxide dismutase (SOD)-like activity
: measured by Marklund ⁶⁾ method.

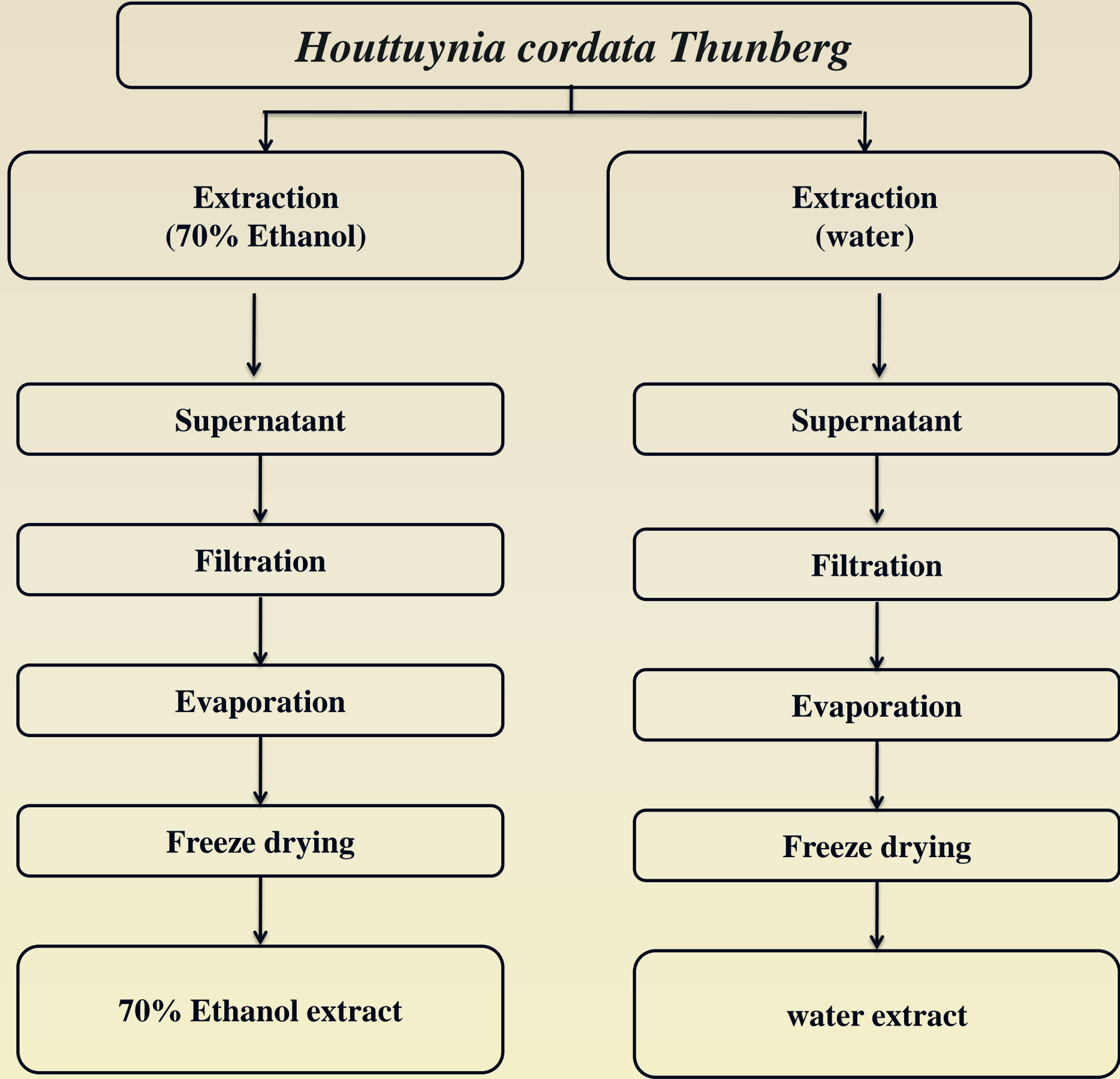


Fig. 1. The procedure for extraction from *Houttuynia cordata Thunberg*

RESULTS

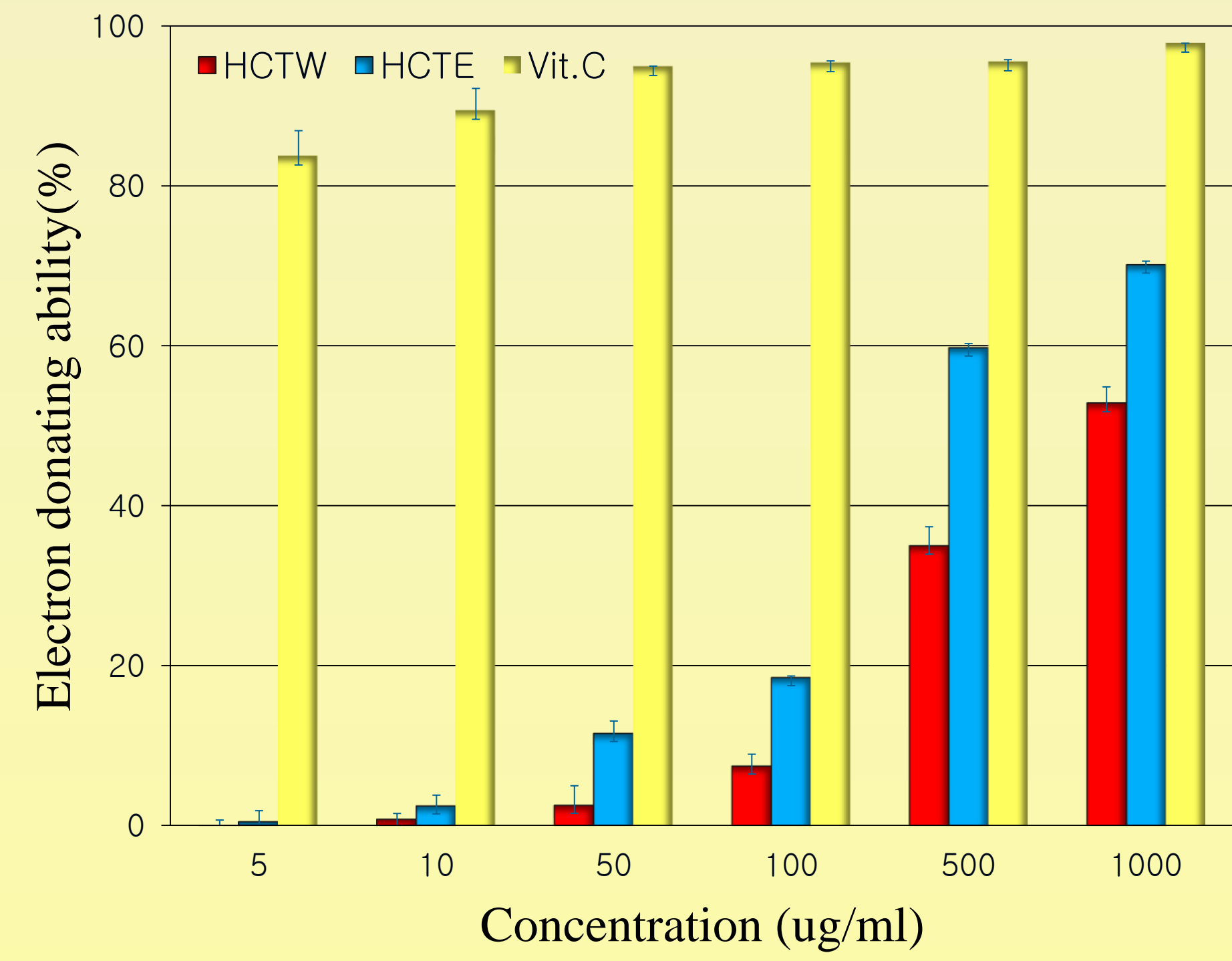


Fig. 2. Electron donating ability of solvent fractions extracted from *Houttuynia cordata Thunberg*

- HCTW: Water extracted from *Houttuynia cordata Thunberg*
 - HCTE: *Houttuynia cordata Thunberg* extracted with 70% Ethanol
 - Vit.C: Ascorbic acid
- Result are means ± S.D. of triplicate data.

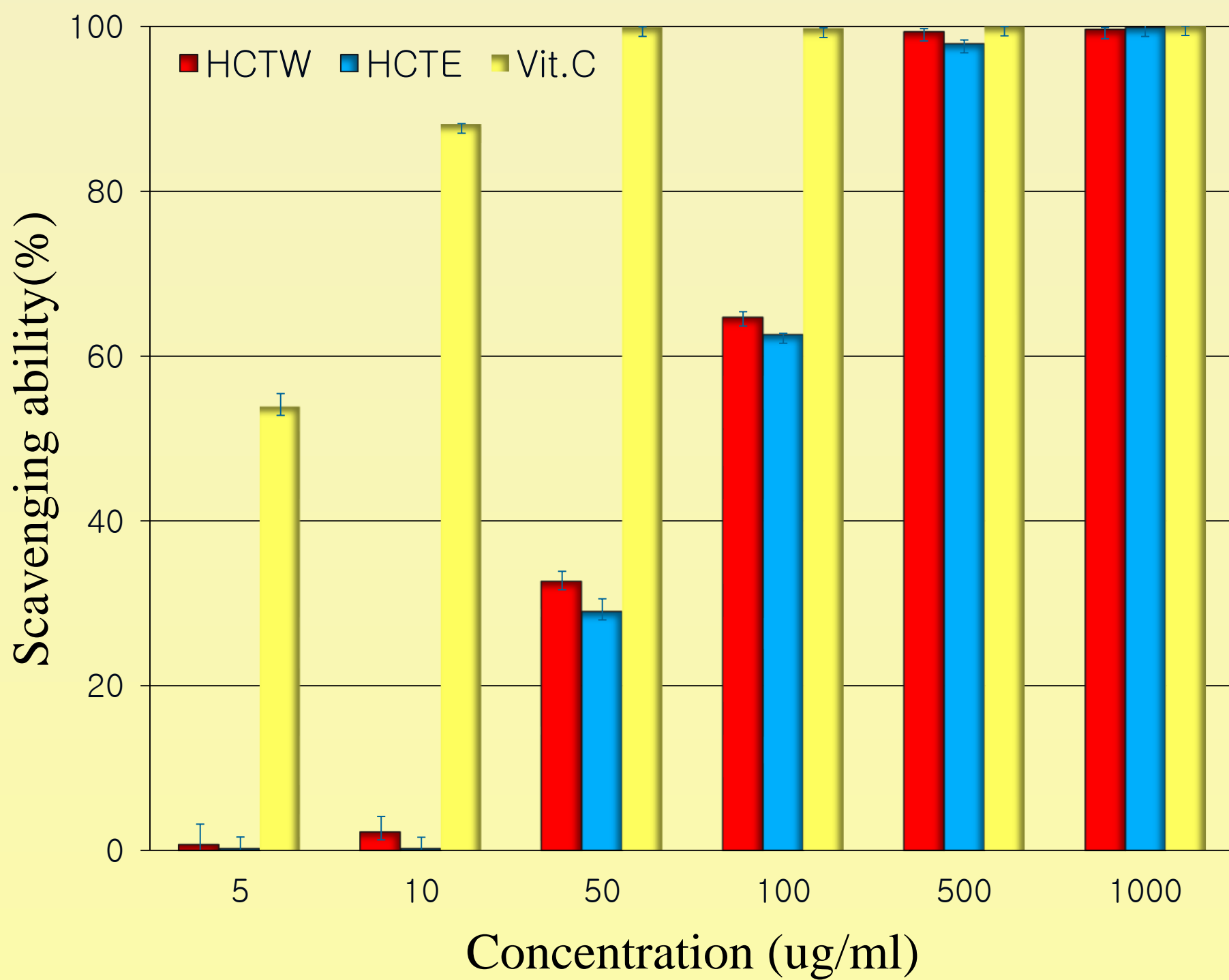


Fig. 3. ABTS+ cation radical scavenging activity of solvent fractions extracted from *Houttuynia cordata Thunberg*

- HCTW: Water extracted from *Houttuynia cordata Thunberg*
 - HCTE: *Houttuynia cordata Thunberg* extracted with 70% Ethanol
 - Vit.C: Ascorbic acid
- Result are means ± S.D. of triplicate data.

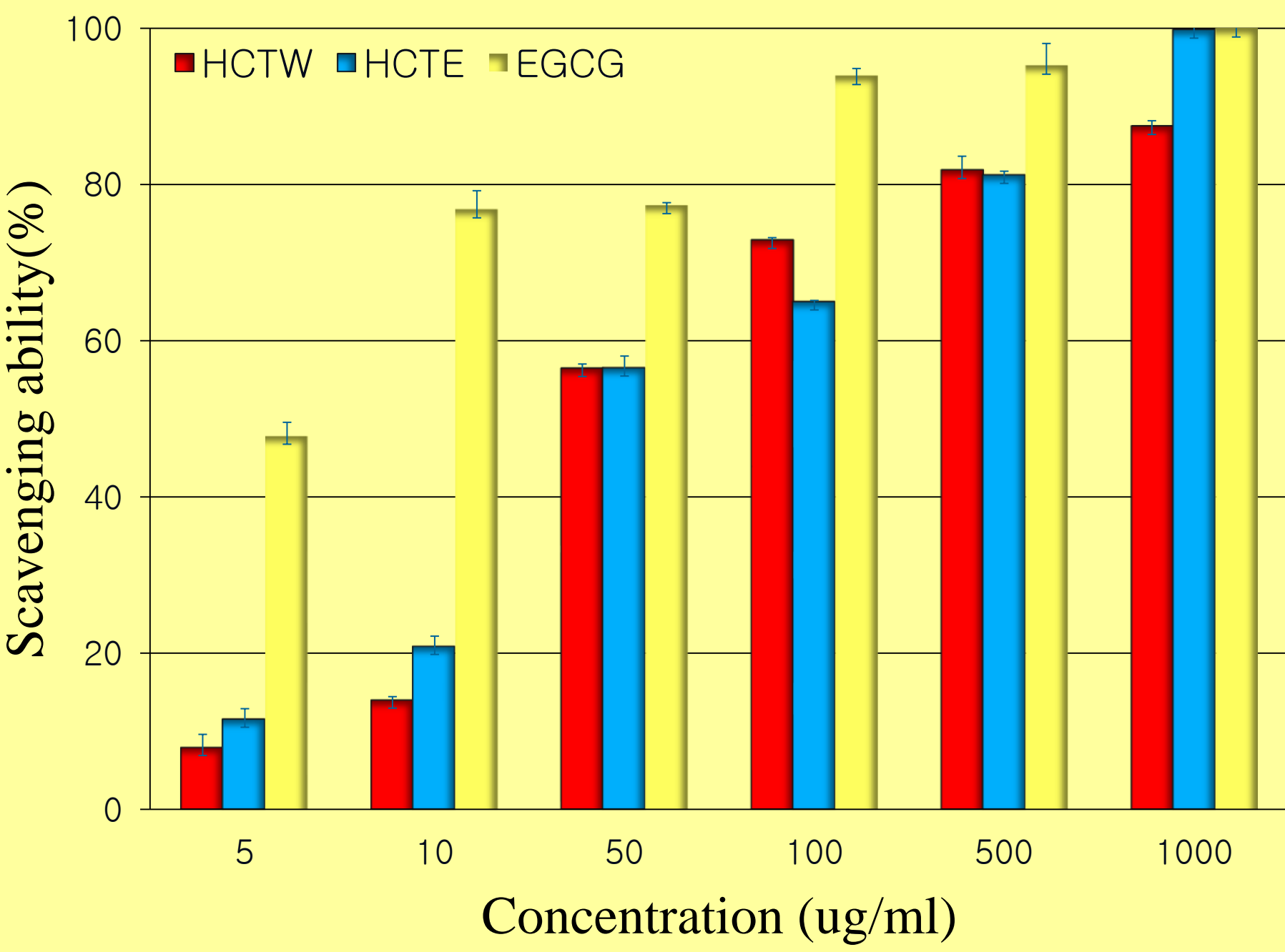


Fig. 4. Superoxide anion radical of solvent fractions extracted from *Houttuynia cordata Thunberg*

- HCTW: Water extracted from *Houttuynia cordata Thunberg*
 - HCTE: *Houttuynia cordata Thunberg* extracted with 70% Ethanol
 - EGCG: Epigallocatechin gallate
- Result are means ± S.D. of triplicate data.

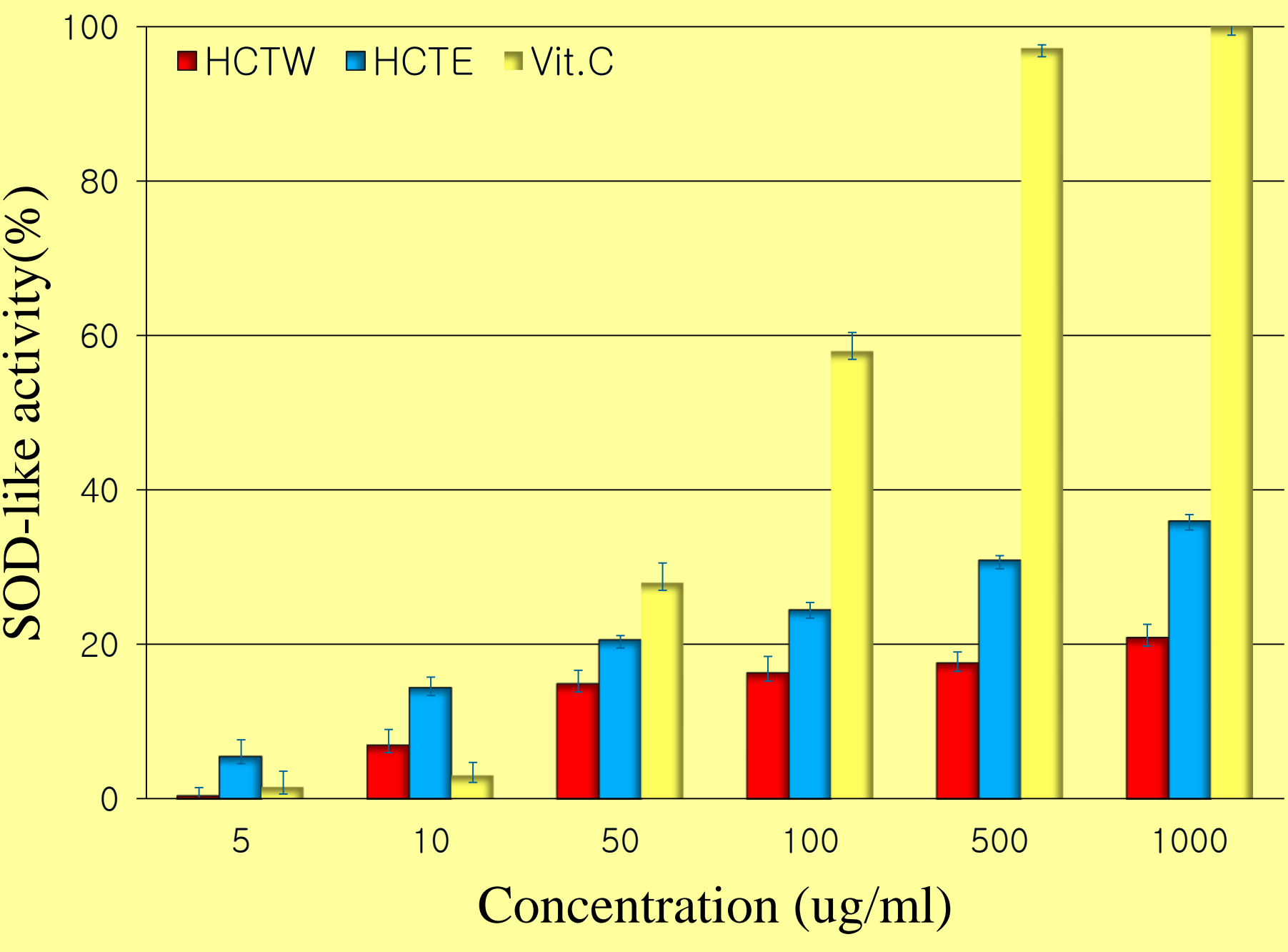


Fig. 5. SOD-like activity of solvent fractions extracted from *Houttuynia cordata Thunberg*

- HCTW: Water extracted from *Houttuynia cordata Thunberg*
 - HCTE: *Houttuynia cordata Thunberg* extracted with 70% Ethanol
 - Vit.C: Ascorbic acid
- Result are means ± S.D. of triplicate data.

Table 2. The contents of total polyphenols of solvent fractions from *Houttuynia cordata Thunberg* .

Samples	Contents (mg/g)
Water	67.5
70% Ethanol	90.5

Table 3. The contents of total flavonoids of solvent fractions from *Houttuynia cordata Thunberg* .

Samples	Contents (mg/g)
Water	1.5
70% Ethanol	1.6

CONCLUSION

- 1.Antioxidant activities were be decided by electron donating and contents of total polyphenols, total flavonoids. on average, the antioxidative activity and superoxide dismutase of the 70% Ethanol extracts showed a higher than those of the water extracts.
- 2.Superoxide anion radical of solvent fractions was water extracts 87.3% and 70% ethanol 90.5% at a 1,000ppm.
- 3.Total phenolic contents of the water extracts and the 70% ethanol extracts were 67.5 mg/g and 90.5 mg/g, respectively at a 1,000ppm.
- 4.The total flavonoid contents was detected water extracts 5.5 mg/g, 70% ethanol extracts 8.2 mg/g at a 1,000ppm.

REFERENCE

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