

Studies on Cosmeceutical Activity of Polyphenol in *Smilax china*.

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Abstract

The solvent extracts of *Smilax china* were investigated for the activities of antioxidant. The *Smilax china* was extracted with water at 80°C (SCW), 70% ethanol (SCE), 70% acetone (SCA) 70% methanol (SCM). The electron donating ability of *Smilax china* extracts were above water, acetone and methanol extracts took effect over 60% at 1000 ug/ml. The ABTS radical cation scavenging ability of *Smilax china* extracts were above water and methanol extracts took effect over 90% at 100 ug/ml. The superoxide anion radical inhibitory effect of *Smilax china* extract was about SCW (64.11% at 1000 ug/ml), SCE (68% at 1000 ug/ml), SCA (69.24% at 1000 ug/ml), SCM (80.55% at 1000 ug/ml). The contents of total poly phenol in *Smilax china* were SCW (126.5 mg/ml), SCE (110.6 mg/ml), SCA (134 mg/ml), SCM (133.9 mg/ml). These results suggest that *Smilax china* may have antioxidant activity.

Materials & Method



- Polyphenol contents : measured by A.O.A.C¹) method
- Electron donating ability (EDA) : measured by Blois²) method
- ABTS cation radical scavenging activity assay : measured by ABTS+ cation decolorization³) assay
- Superoxide anion radical scavenging inhibition effect : measured by nitroblue tetrazolium (NBT)⁴) method
- Mushroom tyrosinase inhibition effect : measured by Yagi⁵) method

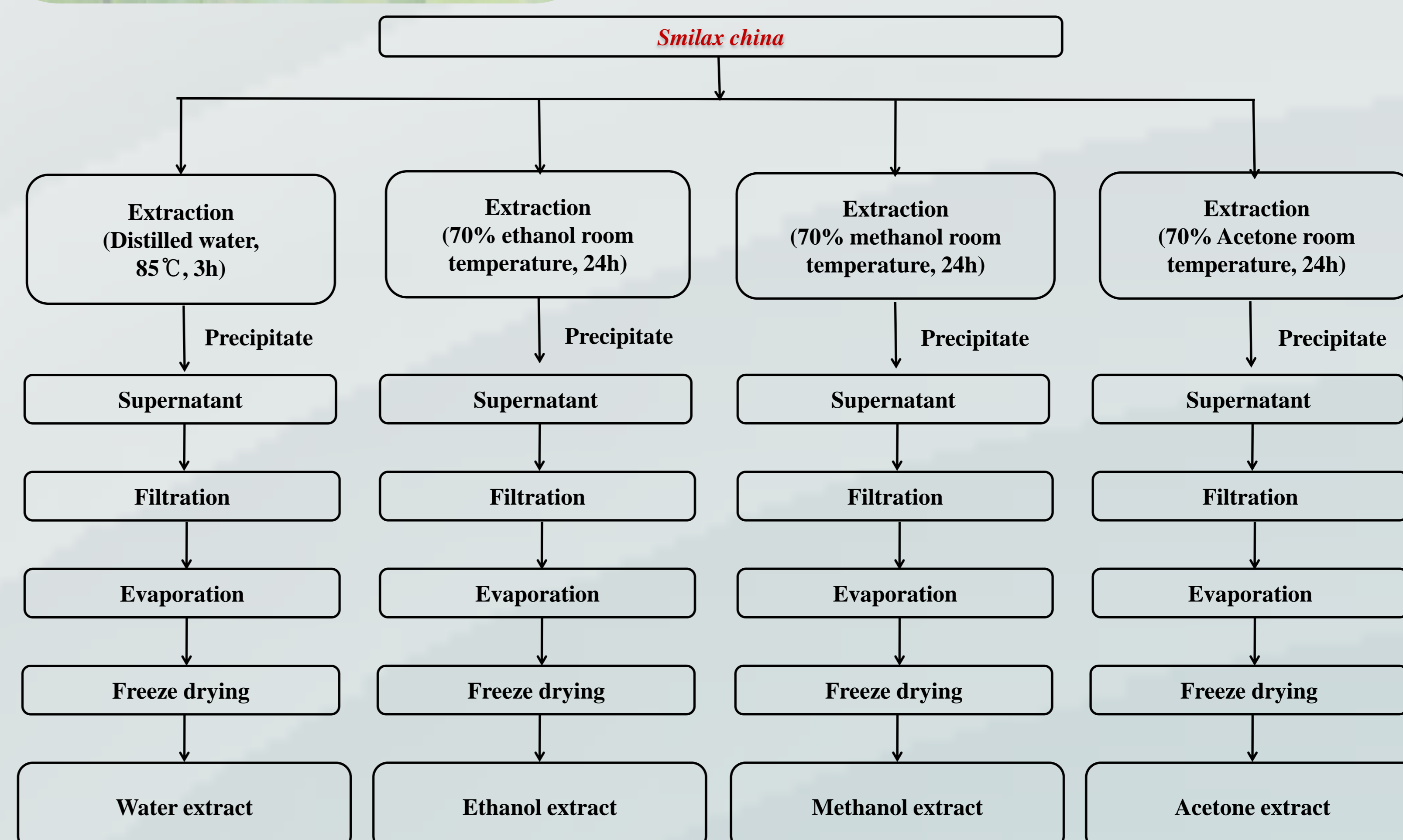


Fig. 1. The procedure for extraction *Smilax china*.

Results

Table. 1. Experimental data on total yield of *Smilax china*.

Samples	Yields(mg/g)
Water	0.29
70% Ethanol	0.27
70% Acetone	0.25
70% Methanol	0.27

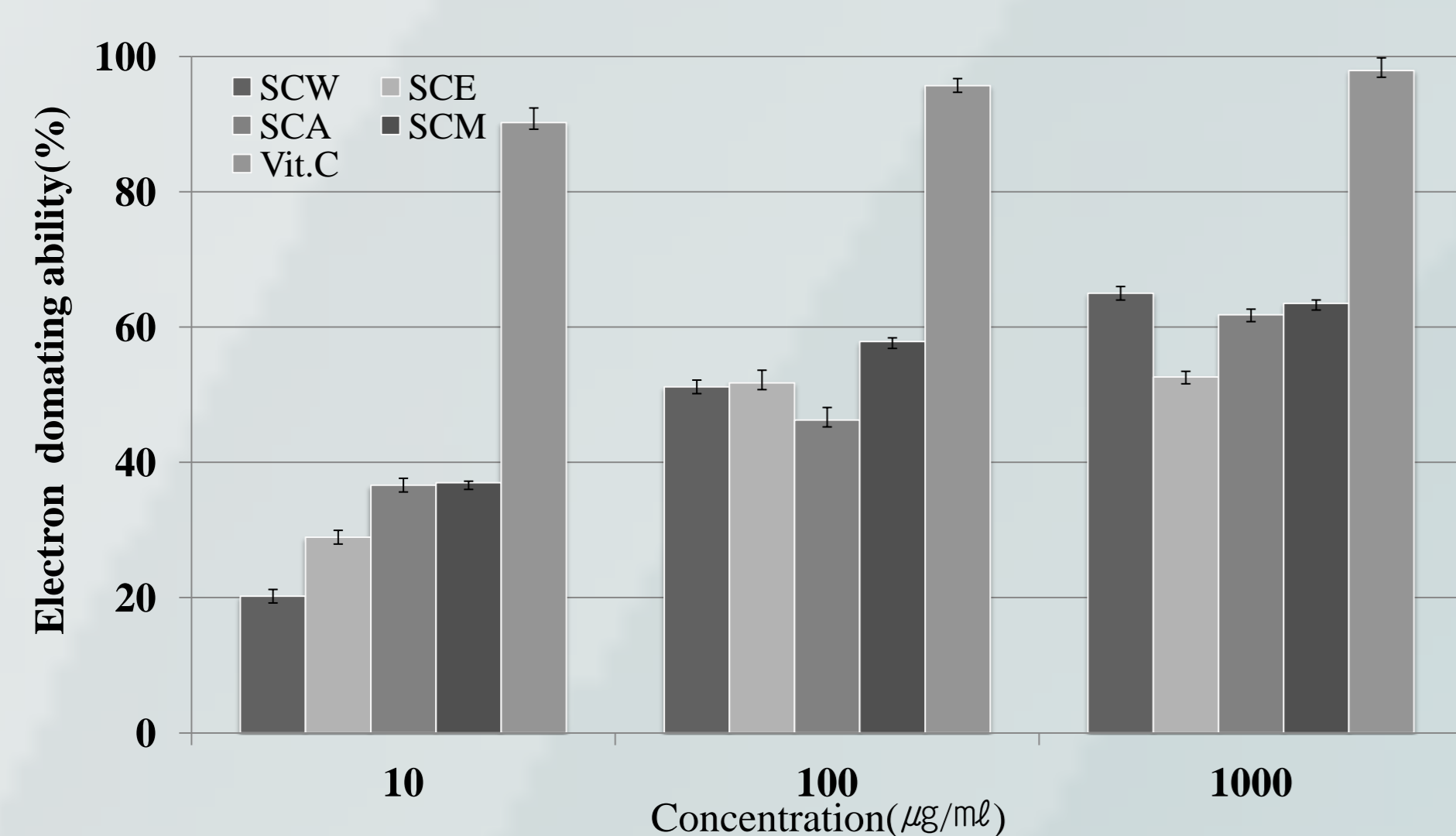


Fig. 2. Electron donating ability of *Smilax china* extract.

- SCW : *Smilax china* water extracts
- SCE *Smilax china* ethanol extracts
- SCA *Smilax china* Acetone extracts
- SCM : *Smilax china* methanol extracts
- Vit.C : Ascorbic acid

Result are means ± S.D. of triplicate data.:

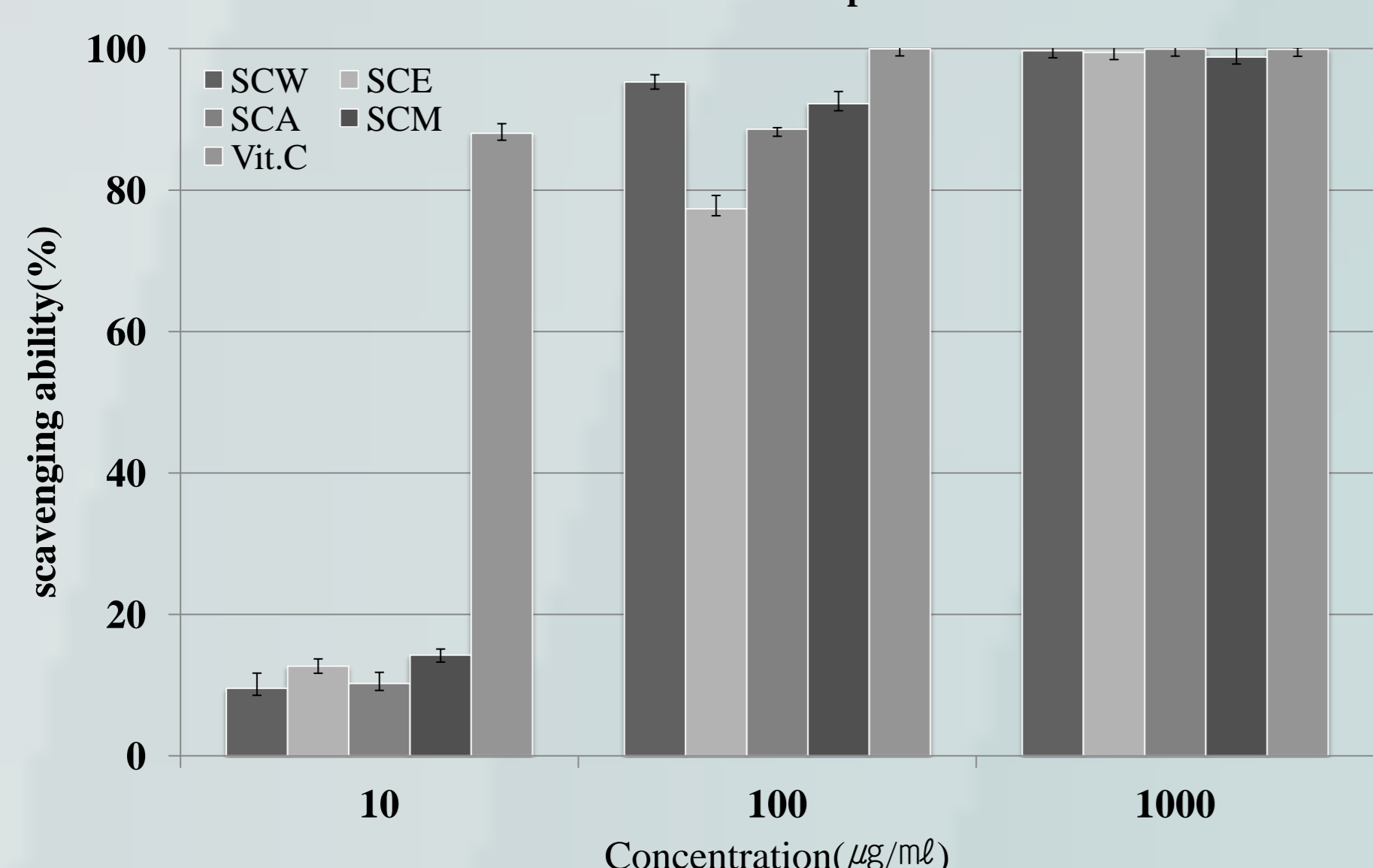


Fig. 3. ABTS radical cation scavenging ability of *Smilax china* extract.

- SCW : *Smilax china* water extracts
- SCE *Smilax china* ethanol extracts
- SCA *Smilax china* Acetone extracts
- SCM : *Smilax china* methanol extracts
- Vit.C : Ascorbic acid

Result are means ± S.D. of triplicate data.:

Table. 1. Experimental data on total phenolic contents of *Smilax china*.

Samples	Total phenolic(mg/g)
Water	126.50
70% Ethanol	110.62
70% Acetone	134
70% Methanol	133.98

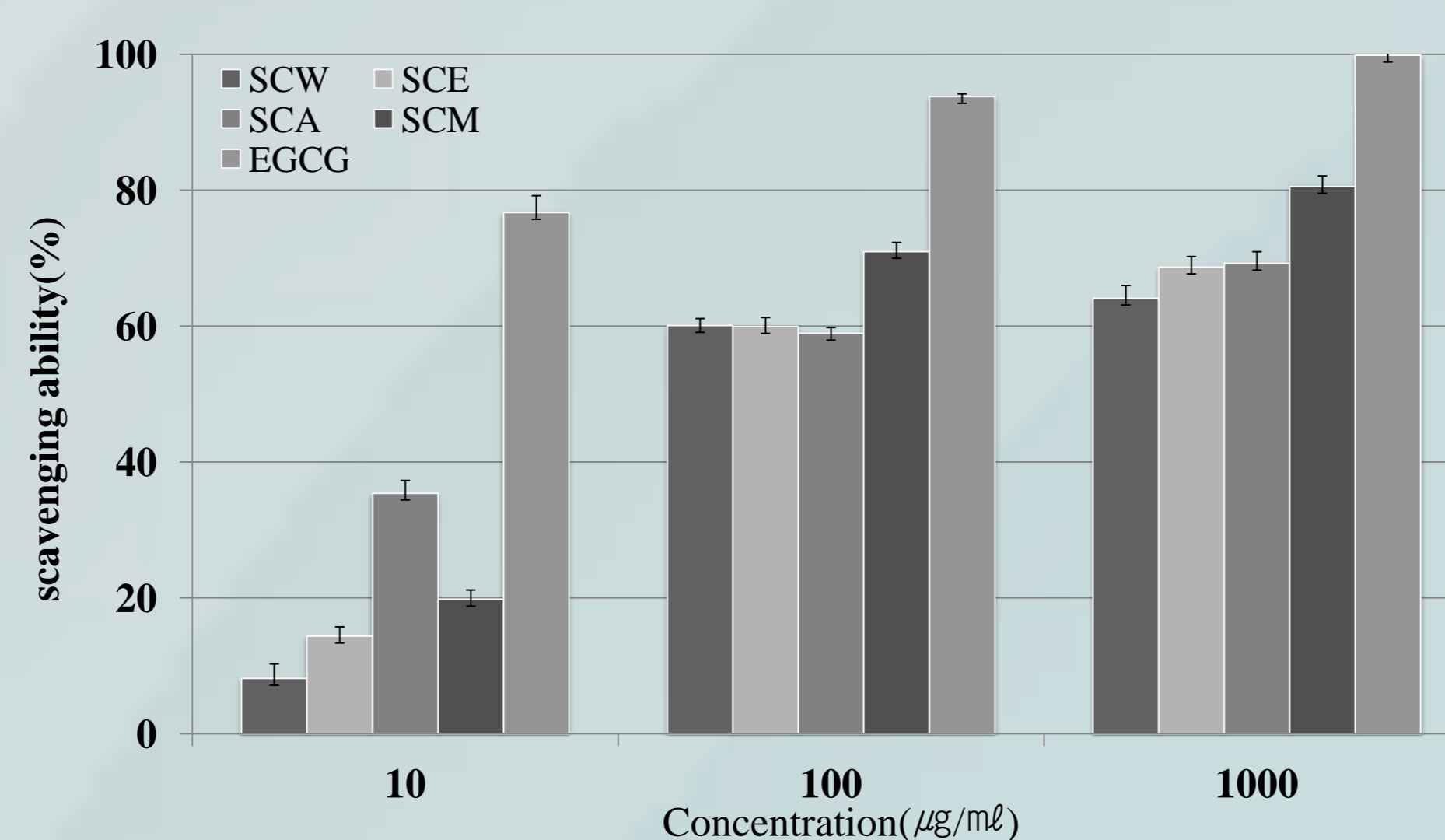


Fig. 4. Superoxide anion radical of *Smilax china* extract.

- SCW : *Smilax china* water extracts
- SCE *Smilax china* ethanol extracts
- SCA *Smilax china* Acetone extracts
- SCM : *Smilax china* methanol extracts
- EGCG : (-)-epigallocatechin-3-o-gallate

Result are means ± S.D. of triplicate data.:

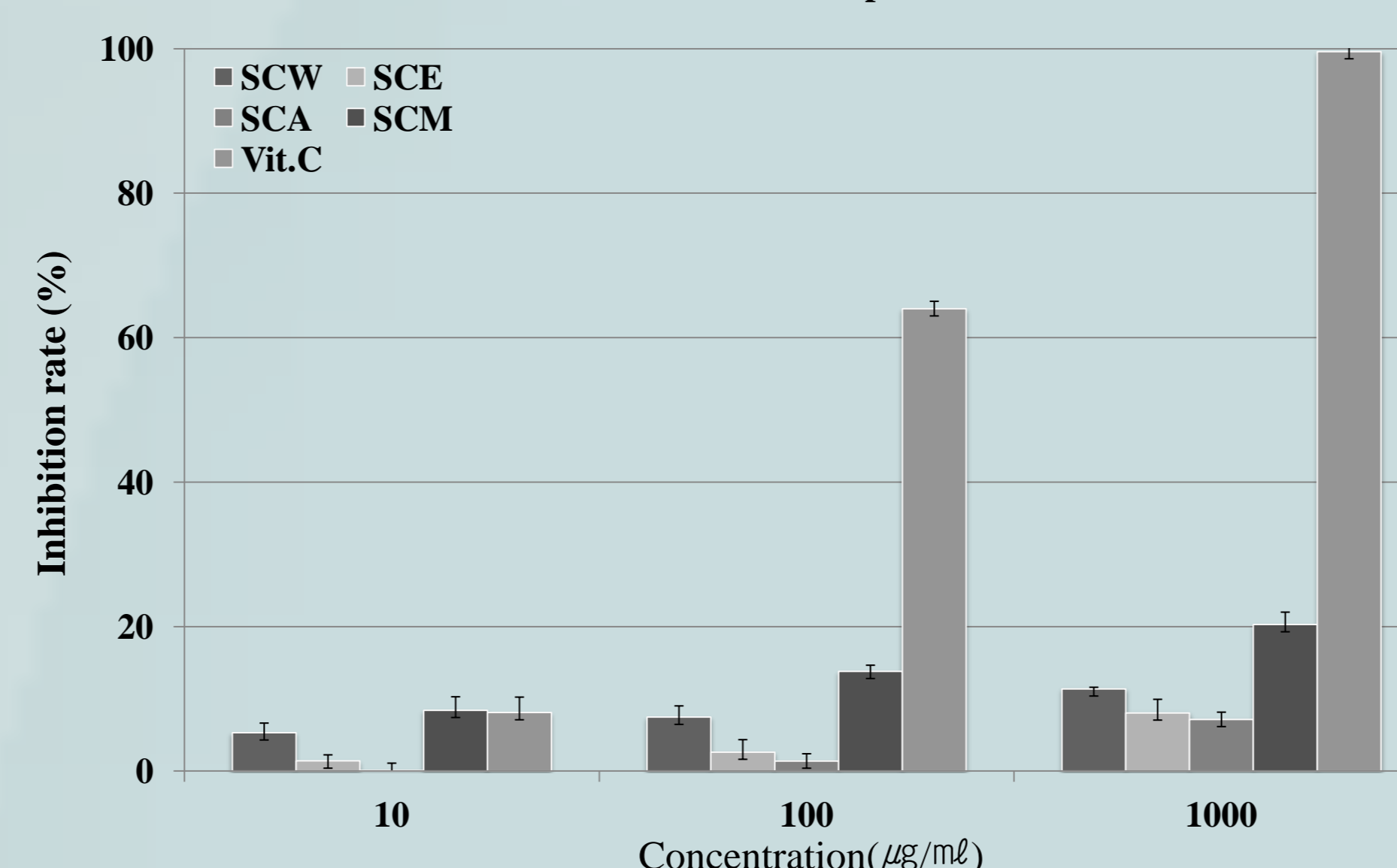


Fig. 4. Inhibition rate activity of *Smilax china* extracts on mushroom tyrosinase.

- SCW : *Smilax china* water extracts
- SCE *Smilax china* ethanol extracts
- SCA *Smilax china* Acetone extracts
- SCM : *Smilax china* methanol extracts
- Vit.C : Ascorbic acid

Result are means ± S.D. of triplicate data.:

Conclusion

1. The antioxidant activities of methanol extracts showed a highest those of hot water extracts, 70% acetone extracts and 70% ethanol extracts. The electron donating ability of the water, ethanol, acetone and methanol extracts took effect over 60% at 1000ug/ml.
2. The ABTS radical cation scavenging activity water, ethanol, acetone and methanol extracts took effect over 95% at 1000ug/ml.
3. The superoxide anion radical scavenging inhibition effect was methanol extract showed about 80.5% at 1000ug/ml.
4. Tyrosinase inhibition effect was methanol extract showed about 20.27% at 1,000ug/ml, water extract showed 11.38% at 1000ug/ml.

Reference

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