Studies on Cosmeceutical Effect of Persimon Wine Pellet Extracts.

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Abstract

In this study, the antioxidant and whitening effects of the solvent fraction from 70% acetone extracts of persimmon wine pellet. The 70% acetone extracts of sequentially fractionated with ethyl acetate, butanol and water. The electrondonating ability of persimmon wine pellet ethyl acetate, butanol, water fraction showed each over 76%, 39%, 66% at a 1000 μg/ml concentration. The superoxide dismutase ability of persimmon wine pellet ethyl acetate fraction showed 46% at a 1000 μg/ml concentrate. ABTS+cation radical scavenging ability of persimmon wine pellet. Three fraction showed over 90% at a 1000 μg/ml concentration. Superoxide anion radical ability assay of persimmon wine pellet. ethyl acetate, butanol, water fraction showed each over 92%, 82%, 56% at a 1000 μg/ml concentration. The tyrosinase inhibition effect of persimmon wine pellet. Ethyl acetate fraction showed 15% at a 1000 μg/ml concentration. As a result, persimmon wine pellet extracts showed the possibility for antioxidant and whitening effect properties.

Materials&Methods

1. **Electron donating ability (EDA)**
   : measured by Blois[1)] method.
2. **Superoxide dismutase (SOD)-like activity**
   : measured by Marklund[2)] method.
3. **ABTS+ cation radical scavenging activity**
   : measured by ABTS+ cation decolorization[3)] assay
4. **Tyroniase inhibition effect**
   : measured by Yagi[4)] method .

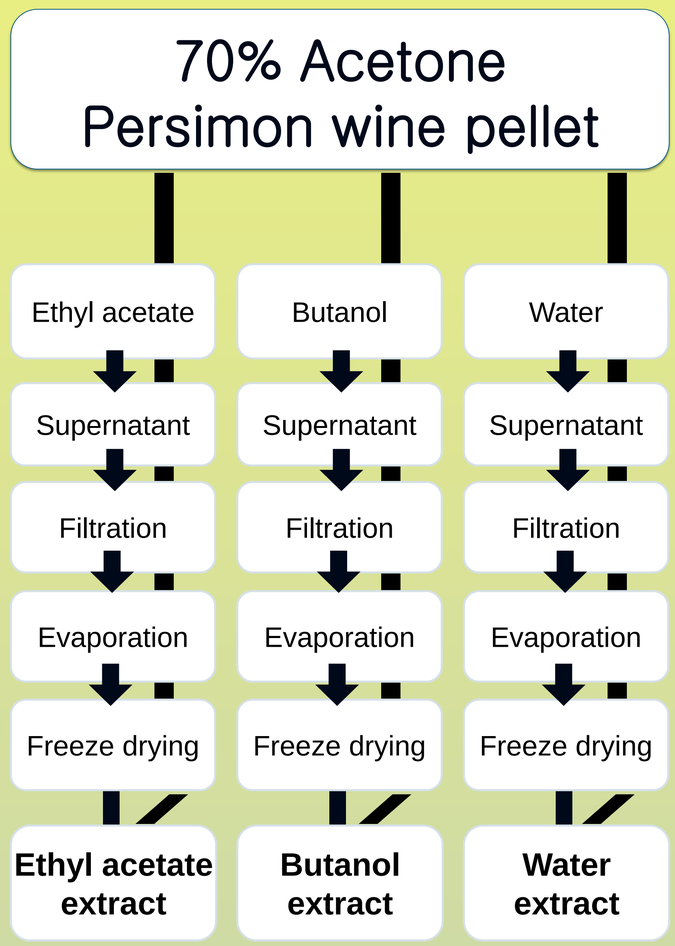

Fig. 1. The procedure for extraction from Persimon wine pellet.

Results

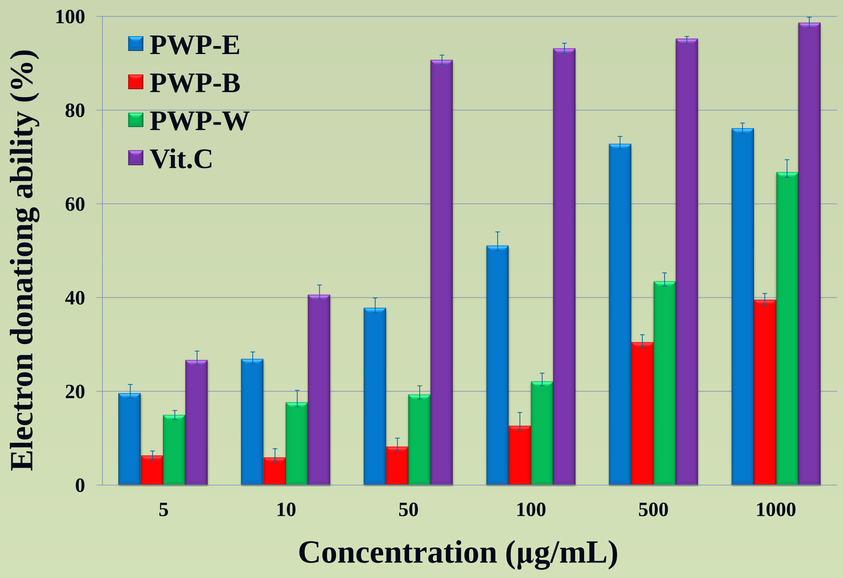

Fig. 2. Electron donating ability of solvent fractions from Persimon Wine pellet.

PWP-E : Ethyl acetate extracted from Persimon wine pellet.

PWP-B : Butanol extracted from Persimon wine pellet.

PWP-W : Water extracted from Persimon wine pellet.

Vit.C : L-ascorbic acid

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

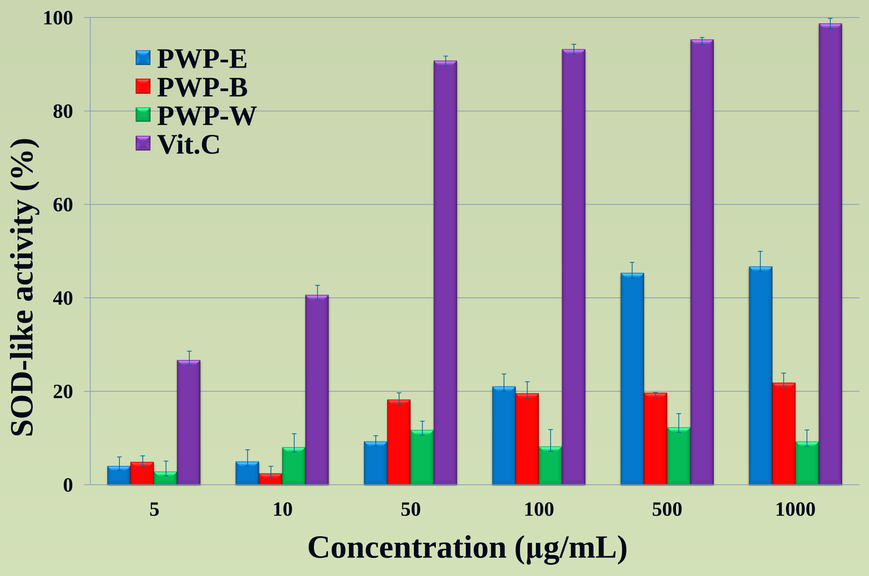

Fig. 3. SOD-like of solvent fraction from Persimon wine pellet.

PWP-E : Ethyl acetate extracted from Persimon wine pellet.

PWP-B : Butanol extracted from Persimon wine pellet.

PWP-W : Water extracted from Persimon wine pellet.

Vit.C : L-ascorbic acid

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

Conclusion

1) **The electron donating ability of persimmon wine pellet ethyl acetate, butanol, water fraction showed each over 76%, 39%, 66% at a 1000 μg/ml concentration.**

2) **The superoxide dismutase ability of persimmon wine pellet ethyl acetate fraction showed 46% at a 1000 μg/ml concentrate.**

3) **ABTS+ cation radical scavenging ability of persimmon wine pellet. Three fraction showed over 90% at a 1000 μg/ml concentration.**

4) **The tyrosinase inhibition effect of persimmon wine pellet. Ethyl acetate fraction showed 15% at a 1000 μg/ml concentration.**

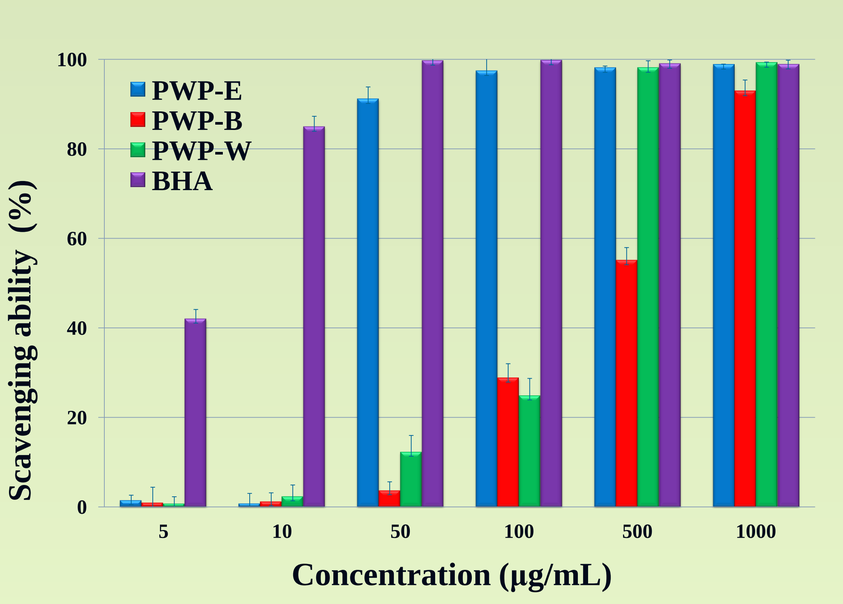

Fig. 4. ABTS+ cation radical scavenging activity of solvent fraction from Persimon wine pellet.

PWP-E : Ethyl acetate extracted from Persimon wine pellet.

PWP-B : Butanol extracted from Persimon wine pellet.

PWP-W : Water extracted from Persimon wine pellet.

BHA : Butylated hydroxyanisole

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

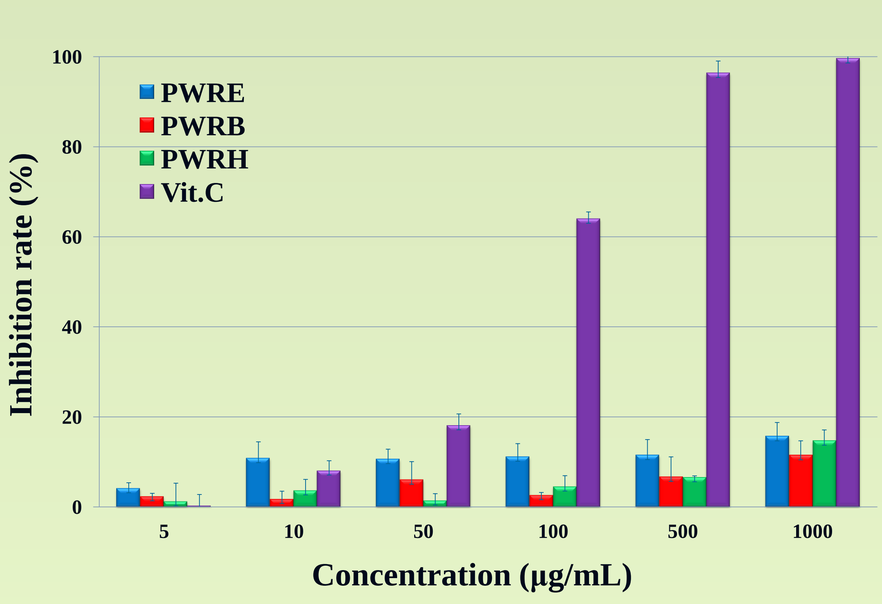

Fig. 5. Inhibition rate activity of solvent fractions from Persimon wine pellet extracts on mushroom tyrosinase.

PWP-E : Ethyl acetate extracted from Persimon wine pellet.

PWP-B : Butanol extracted from Persimon wine pellet.

PWP-W : Water extracted from Persimon wine pellet.

Vit.C : L-ascorbic acid

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

Reference

1) **Blois MS. Antioxidant determination by the use of a stable free radical. *Nature.* 1958;26:1199-1120.**

2) **Marklund S, Marklund G. (1974) Involvement of the superoxide anion radical in the autoxidation of pyrogallol and a convenient assay for superoxide dismutase. *Eur J Biochem.* 47(3), 469-474**

3) **Roberta R, Nicoletta P, Anna P, Ananth P, Min Y and Catherine RE. (1999) Antioxidant activity applying an improved ABTS radical cation decolorization assay. *Free radical biology & Medicine.* 26(9/10), 1231-1237.**

4) **Yagi A, Kanbara T and Morinobu N. (1986) The effect of tyrosinase inhibition for aloe. *Planta Media.* 3981, 517-519**