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ANTIOXIDANT ACTIVITIES OF HOMNIL RICE (*ORYZA SATIVA* L.) SEED AND BRAN EXTRACTS FOR COSMETIC APPLICATION

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Homnil (*Oryza sativa* L.) is a pigmented rice (black rice) and has been regarded as a health-promoting food due to its abundant anthocyanins [1]. It has been exhibited antimicrobial, anticancer, anti-inflammatory and antioxidant properties [2]. Anthocyanins can be considered to use in food, nutraceutical, pharmaceutical and cosmetic products.

This research aimed to optimize the best Homnil rice extraction using maceration, determine antioxidant activity using the ferric-reducing antioxidant power (FRAP) assay and ABTS radical scavenging activity (ABTS) assay .In addition, each extract was also evaluated total phenolic content, total flavonoid content and total anthocyanins content .Homnil rice seeds and brans were extracted by maceration with different solvents including 95 %ethanol, 50 %ethanol and 0.1 M citric acid in water . The results showed that 50 %ethanolic extracts from Homnil rice seeds (50SE) and brans (50BE) exhibited higher antioxidant activity than other extracts .The 50SE and 50BE showed FRAP value as 2 .41 ± 0 .02 and 0 .96 ± 0 .03 mM FeSO4 /g extract by FRAP assay and presented IC50 value as 2 .74 ± 0 .92 and 10 .86 ± 0 .50 mg /ml by ABTS assay .The good antioxidant activity of Homnil rice extracts related to the high total phenolic, total flavonoid and total anthocyanins contents .The 50SE and 50BE showed high total phenolic content as 79 .67 and 44 .41 µg GAE /1 mg extract, total flavonoid content as 0 .54 and 0 .51 µg RE /1 mg extract and total anthocyanins content as 486 .46 and 210 .48 mg CGE /1 g extract .

In conclusion, 50 %ethanolic Homnil rice seeds extract was the best extract with good antioxidant activity that appropriate for further using in cosmetic product.

References

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6-12