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유색미의 기능성물질과 이들의 생리활성

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Phytochemical Consituents of Black Rice (*Oryza Sativa L.*) and Evaluation for Their Biological Activity

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실험목적 (Objectives)

Phytochemicals of black rice (Josanghuchal, *Oryza sativa L.*) were isolated and analyzed through various chromatographic procedures and EIMS, FABMS, UV, IR, ^{1}H and ^{13}C-NMR, and 2D-NMR (COSY, HSQC, HMBC etc.) spectroscopic technique.

재료 및 방법 (Materials and Methods)

○ 실험재료 및 방법

As a result, the 80 % EtOH extracts of black rice yielded 12 phytochemicals, including five anthocyanins (cyanidin-3-O-glucoside, peonidin-3-O-glucoside, pelargonidin-3-O-glucoside, petunidin-3-O-glucoside, delphinidin-3-O-glucoside), three phytosterols (β-sitosterol, γ-oryzanol, campesterol), two primary fatty alcohol (1-octacosanol, myristyl alcohol), two polyphenols (isovitexin, coumaric acid). Antioxidant activities all compounds were evaluated by measuring their ability to scavenge 1,1-diphenyl-2-picrylhydrazyl(DPPH), 2,2-azino-*bis*-(3-ethylbenzthiazoline-6-sulfonicacid) (ABTS).

실험결과 (Results)

All compounds were investigated for its antioxidant effect using 1,1-diphenyl-2-picrylhydrazyl(DPPH), 2,2-azino-*bis*-(3-ethylbenzthiazoline-6-sulfonicacid) (ABTS), The C3G (Cyanidin-3-O-glucoside) was showed higher free radical scavenging activities against DPPH (IC_{50} = 21.4 μM) and ABTS (IC_{50} = 30.2 μM). In these result, Anthocyanins which was isolated black rice (Josanghuchal, *Oryza sativa L.*) were evaluated the high quality functional rice due to its high nutrition and anti-oxidant effect.

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