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Antioxidant Activity of Extracts from Submerge-Cultured *Laetiporus sulphureus* Mycelia.

Min-Jeong Seo[1], Min-Jeong Kim[1], Hye-Hyeon Lee[1], Kang Byoung-Won[2], Hak-Seob Lim[3], Woo-Hong Joo[4] and Yong-Kee Jeong[1,2]*

[1]*Department of Medical Bioscience, Dong-A University, Busan 604-714, Korea*
[2]*BK21 Center for Silver Bioindustrialization, Dong-A, University, Busan, 604-714, Korea*
[3]*Department Bioinstitute, MILLENNIUM PROMISE CO., LTD., Gijang-gun, Busan 619-962, korea*
[4]*Department of Biology, Changwon National University, Changwon, 641-773, Korea*

Oxidative damage caused by free radicals may be related to aging and diseases. Antioxidants inhibit biological oxidation and contribute to preventing or curing oxidation-associated diseases, such as cancer, diabetes and aging. Recently, many natural products including medicinal plant and mushroom have been reported for antioxidant activity. In this study, *Laetiporus sulphureus* has long been regarded as a food and medicinal mushroom. Antioxidant activity was reported from *Laetiporus sulphureus* fruit bodies, but it was not reported to its mycelial culture. We examined antioxidant activity by *Laetiporus sulphureus* mushroom mycelial culture. The mycelia of *Laetiporus sulphureus* were cultured in a medium containing 2% Malt Extract, 1.5% soluble starch at initial pH 2 and temperature 25°C for 20 days. The mycelia and its culture medium were extracted with BuOH, EtOAc, MeOH, n-Hexane and water. BuOH extracts showed the most powerful scavenging activity against DPPH radical BuOH layer was seperated by flash chromatography. The final separated fraction showed the higher DPPH scavenging acticity of 85 ± 0.5% in a concentration dependent manner. These results suggested that *Laetiporus sulphureus* could be a natural antioxidative source containing antioxidative components.

Key words: *Laetiporus sulphureus,* antioxidant activity, DPPH

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Characterization of Whitening Agent from Rice Bran and Whitening Effect

Byoung-Won Kang[1], Min-Jeong Seo[2], Hye-Hyeon Lee[2], Min-Jeong Kim[2], Hak-Seob Lim[3], Woo-Hong Joo[4] and Yong-Kee Jeong[2,3]*

[1]*BK21 Center for Silver Bioindustrialization Project, Dong-A University, Busan 604-714, Korea,*
[2]*Department of Biotechnology, Dong-A University, Busan 604-714, Korea,*
[3]*Bioinstitute, MILLENNIUM PROMISE CO., LTD., Gijang-gun, Busan 619-961, Korea,*
[4]*Department of Biology, Changwon National University, Changwon City 641-773, Korea*

In order to examine the biofunctions of glycosylceramide which is representative of sphingolipid, monoglycosylceramide (cerebroside) was isolated from rice bran extract, and its inhibitory effect and tyrosinase activity on melanogenesis in B16 mouse melanoma cell was investigated. The structure of cerebroside was assigned as 1-*O*-b-D-glucopyranosyl-(2*S*,3*R*,4*E*,8*E*)-2-[(2-hydroxyicosan-oyl)amido]-4,8-octadecadiene-1,3-diol. This cerebroside was found to inhibit the melanin synthesis of B16 mouse melanoma cells by 29.2% at a concentration of 100 μg/ml without cytotoxicity, and the inhibition was stronger than that of other whitening substance such as vitamine C and albutin.

Key words: Melanogenesis, tyrosinase activity, cerebroside, rice bran, B16 mouse melanoma cell