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Modulatory Effects of Fermented Medical Plants (DuelBit) on Nitric Oxide Production in Macrophage RAW 264.7 Cells

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This study investigated the effects on the biological activities of fermented medical plants, Duel Bit (DB). Antioxidative activities of DB were measured by using DPPH radical scavenging and SOD-like activity. Antioxidative and SOD-like activities of DB showed 95% and 32% in 5% and 80% DB, respectively. Stimulation of the macrophages RAW264.7 cells with lipopolysaccharide (LPS) resulted in increased production of nitric oxide (NO) in the medium. However, DB showed marked inhibition of NO synthesis in a dose-dependent manner. These results showed that DB has a significant role for activation of immune system in the pathogenesis of inflammatory diseases.

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Specifically Expressed Genes in Various Developmental Stages of the Ectomycorrhizal Fungus *Tricholoma matsutake*

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Specifically expressed genes were screened from *Tricholoma matsutake* in various developmental stages. *T. matsutake* is a member of ectomycorrhizal fungi, and it is well known for its special tastes in Southern-East Asia. But it is impossible to form the fruit body of this mushroom in vitro. So we made a plan to screen the genes expressed in specific developmental stages to study in genetic aspects. Several sets of specifically designed primers were synthesized and those were used to screen the genes. Finally 12 kinds of genes were screened, those were oxaloacetate hydrolase class protein gene, low-affinity zinc ion transporter gene, 3 kinds of hypothetical protein gene, Beta-(1-6) glucan synthase gene, β -glucosidase gene, glutathione synthetase gene, C-4 methyl sterol oxidase gene, putative C-4 methyl sterol oxidase gene, Heat shock protein HSP1 gene, and endo-1,4- β -glucanase B gene. This study was supported by the 21C Frontier Microbial Genomics and Application Center Program, Ministry of Science & Technology (Grant M105KK000018-06K1101-01810), Republic of Korea.

Key words: Ectomycorrhizal fungus, *Tricholoma matsutake*, specific genes