P177

Establishment of Mass Production System And Inflammation-related Analysis of a Functional Traditional Wine, Makgelli Fermented by Mushroom

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In this study we developed a traditional wine, Makgelli fermented by mushroom mycelium, *Phellinus* sp and optimized a condition of small scale fermentation. Mass production system was established by scale-up. The wine contains several organic acids such as oxalic acid, citric acid, lactic acid, acetic acid, and malonic acid and vitamin B_1 and B_{12}. In functional analysis, the Makgelli reduced expression of inflammation-related proteins, such as iNOS, COX-2, and TNF-α in the liver of Sprague-Dawley rat. In Aspartate aminotransferase(AST) activity showed about 107.8, 1298, 115.8(IU/L) in blood of the control, ethanol(8%)-fed, the wine(8%)-fed rat, respectively. Additionally the activity of alanine aminotransferase(ALT) showed about 38.4, 42.5, and 39.8(IU/L) in blood of the control, ethanol(8%)-fed, the wine(8%)-fed rat, respectively. These results suggested that the Makgelli may be a functional alcoholic drink.

Key words: Traditional wine, Makgelli, mushroom, inflammation-related protein, *Phellinus* sp.

P178

Effects of Ethanol Extracts on Antioxidant Activity from Peel of *Citrus junos* and *Poncirus trifoliata*

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In this study, the antioxidant activity on ethanol extract from peel of *Citrus junos* (CJP) and *Poncirus trifoliata* (PTP) was investigated. Total phenolic and total flavonoids contents of the extracts from CJP were 75±1.13 mg/100 g and 42.05±0.21 mg/100 g, respectively. Also, total phenolic and total flavonoids contents of the extracts from PTP were 60.75±1.15 mg/100 g and 33.75±0.15 mg/100 g, respectively. DPPH radical scavenging activity, SOD-like activity, antioxidant activity of linoleic acid emulsion substrates and reducing power of the extracts from CJP and PTP at the concentration of 200 ㎍/㎖ showed 96%, 13%, 0.093, 2.8 (CJP) and 88%, 9%, 0.131, 2.2(PTP), respectively, These activities were increased concentration dependently. The antioxidant activities of CJP were higer than those of PTP. These results suggested that CJP and PTP may be healthful materials as antioxidative components.

Key word: Antioxidant, *Poncirus trifoliata, Citrus junos,* DPPH