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Identification of the Major Polyphenols in Boysenberry Leaves and Their Suppressive Effect on Carbon Tetrachloride-Induced Liver Injury in Mice

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Seven polyphenols were isolated from leaves of New Zealand boysenberry. On the basis of spectroscopic analysis, the structures of these compounds were elucidated to be quercetin 3-*O*-glucuronide, quercetin 3-*O*-glucoside, quercetin 3-*O*-arabinoside, kaempferol 3-*O*-glucuronide, kaempferol 3-*O*-arabinoside, kaempferol 3-*O*-(6″-*O*-*p*-coumaroyl)-glucoside, and ellagic acid. Increases in plasma aspartate aminotrasferase and alanine aminotrasferase activities in mice, induced with liver injury by the injection of carbon tetrachloride, were suppressed by oral administration of the polyphenol fraction prepared from the leaves, with ellagic acid as its effective component. Thus polyphenol fraction contained in boysenberry leaves may be effective in suppressing liver injury.

Keywords: boysenberry, polyphenol, flavonoid, liver injury, aspartate aminotrasferase, alanine aminotrasferase

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