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Abstract

Mulberry (*Morus alba* L.) is a plant distributed into the temperate and subtropic zones, and has been cultivated as a nutrition for silkworms. With the downhill of sericulture, this plant has not been spread so well as before in Japan. However, the anti-diabetic activity of deoxynojirimycin in the leaf fraction, antioxidative activity of anthocyanins in the fruit body, and the abundance of minerals has drawn our attention. We report here the component analysis and antioxidant activity of mulberry juice. The concentrations of polyphenols, anthocyanins and chlorogenic acid isomers were determined by Folin-Denis method and HPLC, the radical scavenging activity against DPPH, superoxide anion and hydroxyl, NO radical by absorbance and ESR, anti-HIV activity by MTT method, and the lipid peroxide determined by d-ROMs test, respectively. Anthocyanins and chlorogenic isomers present in the Mulberry juice seemes to be the major contributors for the antioxidant activity. Oral intake of Mulberry juice supernatant free from fiber prevented the elevation of plasma lipid peroxide level induced in mice by loading the water immersion restraint stress. Lignin fraction prepared from the precipitating fibers enhanced both the superoxide and hydroxyl radical scavenging activity of vitamin C.