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Anthocyanin Compounds in Japanese Ginger (*Zingiber officinale* Roscoe) and Their Quantitative Characteristics

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Two types of anthocyanin, cyanidin 3-*O*-β-D-glucopyranoside (cyanidin 3-glucoside) and peonidin 3-*O*-(6-*O*-α-L-rhamnopyranosyl-β-D-glucopyranoside) (peonidin 3-rutinoside) were isolated from ginger rhizomes by various chromatographic methods. A comparison of the content of these compounds showed their presence in many kinds of Japanese ginger, but not in Chinese ginger. In particular, peonidin 3-rutinoside, which we identified for the first time in the ginger rhizome, was the main anthocyanin constituent at 0.67–2.38 mg/100 g of fresh ginger rhizome, and its concentration was 2.0–43.4 times higher than that of cyanidin 3-glucoside. These two anthocyanins were only present in the lower stem and rhizome in the ginger plant, and their proportions in the lower stem were different from those in the rhizome, cyanidin 3-glucoside being much more abundant than peonidin 3-rutinoside in the lower stem. These results suggest that the anthocyanin formation in ginger varies according to its variety, the part of the plant, and the place of cultivation.

Keywords: ginger (*Zingiber officinale* Roscoe), anthocyanin, cyanidin 3-glucoside, peonidin 3-rutinoside

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