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Simultaneous determination of nine isoflavones in commercial soybeans

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【Aim】 Isoflavones are a group of plant secondary metabolites that occur mostly in the subfamily Papilionoideae of the Leguminosae. Soybean (*Glycine max*) is the most abundant source of isoflavones. Because of their physiological benefits, isoflavones have been widely used as dietary supplements, cosmetic ingredients and nutraceutical products. In this study, we report a high-performance liquid chromatographic method to determine the quantities of soy isoflavones at nine commercial soybean.

【Method】 The quantitation was performed in a Discovery HS C18 (4mm x 250mm, 5 μ m) by linear gradient elution using 0.01% (v/v) TFA- acetonitrile (0 min, 95: 5; 55 min, 40: 60; 56min, 95: 5; 66min, 95: 5) as the mobile phase at a flow-rate of 1.0 ml/min, and detection at 254 nm.

【Results】 In conclusion, we established a HPLC quantitative analysis method and demonstrated that the results of the inter day or intra day, the coefficient of variation were less than 5%, and the results of recovery were between 112~133%. On the aspect of quantitative analysis, the calibration curve of the correlation coefficient (r^2) was greater than 0.999 indicating a good linear relationship.