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Analysis of L-citrulline and L-arginine in *Ficus deltoidea* leaf extracts by reverse phase high performance liquid chromatography

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Background: *Ficus deltoidea* (FD) is one of the native plants widely distributed in several countries in Southeast Asia. Previous studies have shown that FD leaf possess antinociceptive, wound healing and antioxidant properties **.** These beneficial effects have been attributed to the presence of primary and secondary metabolites such as polyphenols, amino acids and flavonoids. **Objective:** The aim was to develop a reverse phase high-performance liquid chromatography method with ultraviolet detection that involves precolumn derivatisation with *O*-phthaladehyde for simultaneous analysis of two amino acids L-citrulline and L-arginine in FD leaf extracts. **Materials and Methods:** An isocratic elution program consisting of methanol: acetonitrile: Water at 45:45:10 v/v (solvent A) and 0.1 M phosphate buffer pH 7.5 (solvent B) at A: B v/v ratio of 80:20 on Zorbax Eclipse C18 SB-Aq column (250 × 4.6 mm, 5 µm) were used. The flow rate was set at 1 ml/min and detection was carried out at 338 nm with 30 min separation time. **Results:** Good linearity for L-citrulline and L-arginine was obtained in the range 0.1-1000 µg/ml at $R^2 \geq 0.998$. The limit of detection and limit of quantification values for both L-citrulline and L-arginine were 1 and 5 µg/ml, respectively. The average of recoveries was in the range 94.94-101.95%, with relative standard deviation (%RSD) less than 3%. Intra- and inter-day precision was in the range 96.36-102.43% with RSD less than 2%. **Conclusion:** All validation parameters of the developed method indicate the method is reliable and efficient for simultaneous determination of L-citrulline and L-arginine for routine analysis of FD.

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