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High Performance Liquid Chromatographic Determination of Pheophorbide-a and Its Related Chlorophyll Derivatives in Tea Leaves

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A simple method for the extraction of tea samples and conditions of HPLC analysis of pheophorbide-a (PB-a) and its related chlorophyll derivatives was developed. Tea samples were extracted with 85% acetone (v/v) with this solution injected directly into the HPLC column. The modified HPLC procedure developed included a gradient solvent system in which solvent A (95% ethanol (v/v) containing 0.005 M sodium chloride) and solvent B (80% ethanol (v/v) containing 0.005 M sodium chloride) were the mobile phase. PB-a, its derivatives and their C-10 epimers could be clearly separated and determined within 35 min. This analytical method could be routinely used to determine low levels of PB-a content (<10 mg/100g) and its related individual chlorophyll derivatives in green teas. Hence, it is applicable to the safety and quality control of green teas.

Keywords: [pheophorbide-a](#), [chlorophyll derivatives](#), [HPLC analysis](#), [tea leaves](#)

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