

ABSTRACT

DETERMINATION OF EPIGALLOCATECHIN GALLATE (EGCG) IN GREEN TEA PRODUCT USING HPLC

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Tea is widely consumed because of their benefits for health. Catechin in tea are known as antioxidant, antimicrobial, and prevent cardiovascular disease and cancer. *Epigallocatechin gallate* (EGCG) is the major compound in green tea. In previous study it was stated that there are several factors that influence the composition of tea such as species, plucking time (Lin *et al.*, 2003), geographical location, environmental condition (soil, climate, agricultural practices) and production process (Jigisha *et al.*, 2012). The aim of this research is determine the difference of EGCG content in three samples of green tea bag product that sold in Surabaya using HPLC method. Samples were extracted with chloroform and ethyl acetate, followed by evaporation of ethyl acetate. Dried sample dissolved using a methanol solvent: water (50: 50) and injected into the HPLC instrument. The HPLC condition was as follows methanol : water : acetic acid (35: 60: 5 v / v / v) as mobile phase, the flow rate was 0.45 ml / min, with RP C-18 μ bondapak 10 μ m 3.9 x 300 mm as column. Samples were detected using Photo Diode-Array detector at 276.0 nm. Based on this study, there were difference EGCG content in three samples of green tea bag products. The EGCG content of sample A, B, and C were 5.86 \pm 0.66%; 2.85 \pm 0.25% and 3.61 \pm 0.18% of dried weight, respectively.

Keywords: Green tea, Epigallocatechin gallate (EGCG), HPLC