

ABSTRACT

DETERMINATION OF EGCG IN LEAF TEA, BLACK TEA, AND GREEN TEA USING HPLC METHOD FROM WONOSARI GARDEN TEA LAWANG

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Popularity of tea (*Camellia sinensis*) increases with the benefits in the areas of health, including heart disease, cancer, antihypertension, atherosclerosis, and hypercholesterolemia (Kim *et al.*, 2011). EGCG is the major catechin in tea that act as antioxidants, antimutagenic, anticancer, anti-allergy, and anti-atherosclerotic properties (Snitsarev *et al.*, 2013). Tea can be processed into green tea (unfermented) and black tea (fully fermented) (Kim *et al.*, 2011). Black tea is a product which is widely consumed, and green tea can improve health. leaf tea, black tea and green tea selected to determine differences in the levels of EGCG. The purpose of the study is to determine the differences in the levels of EGCG by HPLC method on tea leaves, green tea and black tea taken from Wonosari, Lawang, East Java, Indonesia. The HPLC condition was as follows : RP C-18 μ Bondapak 10 μ m, 3,9 x 300 mm column, the mobile phase of metanol : water : acetic acid (2%) = 20 : 75 : 5 (v/v/v), flow rate 1,0 ml/min, and detection monitored at 273,0 nm with spectrophotometry diode array detector. From this study, there were different levels of EGCG in tea leaves, green tea and black tea from Wonosari (Lawang). The level of EGCG in tea leaf samples was $5.04 \pm 0.46\%$, on a sample of black tea and $1.46 \pm 0.01\%$, while green tea $3.26 \pm 0.06\%$ of dry weight.

Keywords : Tea leaves, black tea, green tea, Epigallocatechin gallate (EGCG), HPLC.