

## ABSTRAK

Reaksi peroksidasi lipid dalam tubuh mengakibatkan berbagai penyakit degeneratif. Antioksidan mampu mengurangi kecepatan peroksidasi lipid dengan memberikan satu atau lebih elektron kepada radikal bebas sehingga membentuk molekul normal kembali. Tanaman cabe jawa (*Piper retrofractum* Vahl.) diketahui memiliki potensi sebagai antioksidan, juga mengandung senyawa fenolik, antrakuinon, terpenoid, flavonoid dan lignin. Senyawa fenolik mampu bertindak sebagai antioksidan dengan menangkap spesies reaktif. Penelitian Risdian, *et al.* (2011) menunjukkan fraksi etil asetat memiliki IC<sub>50</sub> terendah dan kandungan fenolik total tertinggi, dimana menunjukkan fraksi etil asetat mampu mengikat agen antioksidan. Penelitian ini bertujuan untuk mengetahui kandungan fenolik total, serta aktivitas antioksidan dari fraksi etil-asetat daun cabe jawa. Kandungan fenolik total diuji dengan menggunakan metode Folin-Ciocalteu, dan aktivitas antioksidan pada tahap pertama peroksidasi lipid diuji menggunakan metode FTC (*ferric thiocyanate*). Hasil reaksi peroksidasi lipid tersebut selanjutnya dikonfirmasi dengan metode TBA (*thiobarbituric acid*). Hasil penelitian menunjukkan kadar fenolik total fraksi etil-asetat daun cabe jawa sebesar  $140,43 \pm 5,1219$  mg GAE/g. Metode FTC menunjukkan bahwa potensi antioksidan fraksi etil asetat daun cabe jawa yang dinyatakan dalam persen inhibisi peroksida lipid dan persen inhibisi *malondialdehid* dengan metode TBA berturut-turut sebesar  $2,1888 \pm 0,3246$  % dan  $90,2098 \pm 0,9083$  %.

**Kata Kunci :** Cabe Jawa, fenolik total, antioksidan, peroksidasi lipid, FTC, TBA.

**ABSTRACT**

The reaction of lipid peroxidation in body result various degenerative disease. Antioxidant can reduce the rate of lipid peroxidation by giving one or more electron to the free radicals so as forming the molecules back to normal. Javanese long pepper plant (*Piper retrofractum* Vahl.) that known has potential as an antioxidant, also containing phenolics, anthraquinones, terpenoids, flavonoids and lignin. Phenolic compound capable to act as antioxidant with scavenging a variety of reactive species. Risdian *et al.* (2011) research showing ethyl acetate fraction has lowest IC50 and highest total phenolic content, which showed the fraction capable to binding antioxidant agent. This study aims to determine the total phenolic contents and antioxidant activities of ethyl acetate fractions by Javanese Long Pepper leaves. The total phenolic contents was measured by Folin-Ciocalteu methods, and antioxidant activity on first step of lipid peroxidation was measured by FTC (ferric thiocyanate) method. Result of lipid peroxidation reaction further confirmed by TBA (thiobarbituric acid) method. The study result showed amount of phenolic contents  $140,43 \pm 5,1219$  mg GAE/ g in ethyl acetate fraction by Javanese Long Pepper leaves. The FTC methods showed antioxidant potential of ethyl acetate fraction by Javanese Long Pepper leaves that be avowed in percent inhibition of lipid peroxides and percent inhibition of malondialdehyd by using TBA methods continued in amount of  $2,1888 \pm 0,3246$  % and  $90,2098 \pm 0,9083$  %.

**Key Words** : Javanese Long Pepper, total phenolic, antioxidant, lipid peroxidation, FTC, TBA.