

**THE COMPARISON OF MACERATION EXTRACTION METHODS AND
SOXHLETATION OF ANTIOXIDANT ACTIVITY OF TOBACCO LEAVES
ETHANOL EXTRACT (*Nicotiana tabacum* L)**

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ABSTRACT

Free radicals are atoms, molecules, or compounds that have unpaired electrons, making them highly reactive and unstable. Because of these unpaired electrons, free radicals tend to attack body cells and cause cell damage. Therefore, the body needs free radical scavengers, or antioxidants. This study aimed to compare the effectiveness of maceration and Soxhlet extraction methods in measuring the antioxidant activity of tobacco leaf extract (*Nicotiana tabacum* L).

The research method applied was a laboratory experiment with a quantitative analysis approach. The samples used were tobacco leaves (*Nicotiana tabacum*) obtained from Bandungan Village, Pakong District, Pamekasan Regency, Madura. *Nicotiana tabacum* leaf extract was obtained through maceration and soxhletation methods with ethanol as a solvent. This research was conducted in the Pharmacy Laboratory of Noor Huda Mustofa University. To test the antioxidant activity, the DPPH (1,1-diphenyl-2-picrylhydrazyl) method and rat tissue homogenate were used, with the aid of a UV-Vis spectrophotometer.

The results of this study showed that ethanol extract of *Nicotiana tabacum* leaves by the soxhletation method showed better antioxidant activity than with the maceration method. The antioxidant activity of the anti-DPPH extract showed an IC_{50} 105.19 ppm. while the antioxidant activity of the extract in rat tissues homogenate showed % Inhibition of the heart, liver and brain which were 29,9; 43,7 dan 31,8% respectively.

The suggestion for the next researcher is to continue the research by testing the antioxidant activity using other methods such as ABTS and FRAP and the samples used come from other parts such as roots and flowers.

Keywords: *Nicotiana tabacum*, Antioxidants, DPPH