

**BIOACTIVITY STUDIES OF *Etlingera coccinea* (Blume)
S.Sakai & Nagam STEM AND LEAF EXTRACT AS
POTENTIAL NATURAL FOOD PRESERVATIVES IN
CHICKEN MEAT**

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(Dewey Caesar Payus)

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ABSTRACT

BIOACTIVITY STUDIES OF *Etlingera coccinea* (Blume) S.Sakai & Nagam STEM AND LEAF EXTRACT AS POTENTIAL NATURAL FOOD PRESERVATIVES IN CHICKEN MEAT

Food preservative is normally added into food products to lengthen their shelf life. Some of the artificial preservatives has negative effects on the consumers. Researchers are focusing on developing food preservatives from natural products such as from herbaceous plants. The bioactivity studies of *Etlingera coccinea* were investigated, which includes the quantification of the extraction yield of *Etlingera coccinea* stem and leaf by using various solvent systems of ethanol in water, analyzing the antioxidant properties of *Etlingera coccinea* stem and leaf extract using DPPH assay, and determine the total bacterial count in minced chicken treated with *Etlingera coccinea* leaf and stem extract. Aqueous solvent of both leaf and stem parts of the plant yields the highest extraction with 7.99 ± 0.06 g/50 g W⁰ in stem and 8.49 ± 0.05 g/50 g W⁰ in leaf. The aqueous extract of both stem and leaf showed higher antioxidant activity with value of value of 43.34 % and 28.15 % respectively, which is lower when compared to the standard which has value of 53.68%. Lower IC₅₀ value indicates higher DPPH scavenging activity. The microbial analysis shows that the aqueous extract of *Etlingera coccinea* stem and leaf have the least number of colony forming unit present which are 7.90×10^5 CFU/mL and 5.70×10^5 CFU/mL respectively. These values are in acceptable microbial limits for anaerobic bacteria. In conclusion, the aqueous extract of *Etlingera coccinea* (Blume) stem and leaf has the potential as natural food preservatives in chicken meat because it has antioxidant and antimicrobial properties.