

**ISOLASI MINYAK BIJI KETUMBAR (*Coriandrum sativum* L.),  
ESTERIFIKASI DENGAN KATALIS HOMOGEN DAN UJI AKTIVITAS  
MINYAK BIJI KETUMBAR TERHADAP MENCIT (*Mus musculus*)  
TERINDUKSI HIPERLIPIDEMIA**

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**INTISARI**

Telah dilakukan penelitian dengan tujuan isolasi minyak biji ketumbar, esterifikasi hasil isolasi dengan katalis homogen dan uji aktivitas minyak biji ketumbar hasil isolasi metode distilasi uap air terhadap mencit terinduksi hiperlipidemia (kelainan berupa kadar lipid yang tinggi dalam darah). Metode yang dilakukan melalui tahap isolasi minyak ketumbar dengan metode distilasi uap, ekstraksi Soxhlet dengan pelarut etanol dan n-heksana, tahap esterifikasi minyak ketumbar hasil distilasi uap terhadap asam asetat glasial dan asam propanoat melalui katalis homogen HCl 37% dan H<sub>2</sub>SO<sub>4</sub> pekat, dan tahap terakhir adalah uji bioaktivitas minyak biji ketumbar terhadap mencit terinduksi hiperlipidemia. Hasil yang diperoleh berupa minyak biji ketumbar hasil distilasi uap air dan ekstraksi Soxhlet dengan pelarut etanol, pelarut n-heksana dan pelarut campuran etanol:n-heksana 4:1, masing-masing dengan rendemen 0,4%, 2,7%, 1,4%, dan 3,3%. Hasil esterifikasi minyak biji ketumbar dengan reagen asam asetat glasial melalui katalis HCl 37% dan H<sub>2</sub>SO<sub>4</sub> pekat masing-masing adalah linalil asetat dengan rendemen 62,34% dan 28,72%. Uji bioaktivitas ditunjukkan dengan adanya penurunan kadar kolesterol total dalam serum darah mencit yang terinduksi hiperlipidemia sebesar 10,37 %.

Kata kunci: minyak biji ketumbar, esterifikasi, hipolipidemia, FTIR, GC-MS

***ISOLATION OF CORIANDER SEED OIL (*Coriandrum sativum* L.),  
ESTERIFICATION WITH HOMOGENOUS CATALYST AND BIOACTIVITY  
ASSAY OF CORIANDER SEED ESSENTIAL OIL TO HYPERLIPIDEMIA  
INDUCED MICE (*Mus musculus*)***

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**ABSTRACT**

Experiments have been conducted to isolate coriander seed oil, esterification of isolation product with homogen catalyst and bioactivity assay of coriander seeds essential oil on mice induced hyperlipidemia disease. The method was divided into three steps. The first step was to isolate of coriander seed oil through water-steam distillation process, *Soxhlet* extraction using ethanol, n-hexane and mixture of both with 4:1 ratio as solvent. The second step was to perform esterification reaction of coriander seed oil from water-steam distillation against acetic acid glacial through homogenous catalyst of HCl 37% and concentrated H<sub>2</sub>SO<sub>4</sub>. The third step was to conduct bioactivity assay on coriander seed essential oil on mice induced hyperlipidemia disease. The percentage yields of coriander seed oil obtained water-steam distillation method and Soxhlet extraction using ethanol, n-hexane and mixture of both method were 0,4%, 27,%, 1,4% and 3,3%, respectively. The yield of esterification synthesis of acetic glacial acid with HCl 37% and H<sub>2</sub>SO<sub>4</sub> catalyst were linalyl acetate and the percentage were 62,34% and 28,72%, respectively. Bioactivity assay showed the decreasing of cholesterol total in blood serum from mice induced hyperlipidemia as much as 10,37%.

Keywords: coriander essential oil, esterification, hypolipidemia, FTIR, GC-MS