

# Flavonoid Content and Total Antioxidant Capacity of Coriander (*Coriandrum sativum L.*) Seed Extract in Different Level Polarity of Solvent

Novi Silvia Hardiany<sup>1\*</sup>, Fadilah<sup>2</sup>, Filda Vionita Irene de Lima<sup>3</sup>, Syarifah Dewi<sup>1</sup>, Irah Namirah<sup>4</sup>

<sup>1</sup>Department of Biochemistry & Molecular Biology, Faculty of Medicine Universitas Indonesia

<sup>2</sup>Department of Medical Chemistry, Faculty of Medicine Universitas Indonesia

<sup>3</sup>Magister Program of Biomedical Science, Faculty of Medicine Universitas Indonesia

<sup>4</sup>Doctoral Program of Biomedical Science, Faculty of Medicine Universitas Indonesia

\*Corresponding author: [novi.silvia@ui.ac.id](mailto:novi.silvia@ui.ac.id), [novish98@gmail.com](mailto:novish98@gmail.com)

## Introduction

Coriander seeds are widely used as anti-pain, anti-inflammatory, anti-hyperglycemia and anti-hyperlipidemia in the traditional medical field. As an antioxidant, coriander seeds are also able to reduce the formation of free radicals due to the presence of polyphenolic compounds. In several studies it is known that coriander is capable of being a good radical scavenger in extracts in various solvents, however different solvents probably produce different phytochemical component. This study aimed to analyze the phytochemical components and total antioxidant activity of coriander seed extract in different level polarity of solvents.

## Method



- Coriander seed was derived from “Balai Penelitian Tanaman Obat dan Rempah (Balitro)”
- Maceration and extraction of coriander seeds was carried out using polar (ethanol), semipolar (ethyl acetate), and nonpolar (n-hexane) solvents.
- Phytochemical analysis, total flavonoid content, and total antioxidant capacity were performed on each extract.
- Statistical analysis was conducted using one-way ANOVA test.

## Result

### Phytochemical Analysis

Solvent	Tanin	Flavonoid	Saponin	Glycoside	Terpenoid	Alkaloid
Ethanol	-	√	-	-	√	√
Ethyl Acetate	-	√	-	√	√	√
n-hexane	-	√	-	√	√	√

### Flavonoid Content

Solvent	Concentration
Ethanol	178.62 mgQE/g
Ethyl Acetate	152.37 mgQE/g
n-hexane	127.38 mgQE/g

## Conclusion

Flavonoid content and total antioxidant capacity in Coriander seed extract is influenced by polarity of the solvent. Ethanol solvent for Coriander seed extract produce the highest flavonoid content and total antioxidant capacity.

### Total Antioxidant Capacity

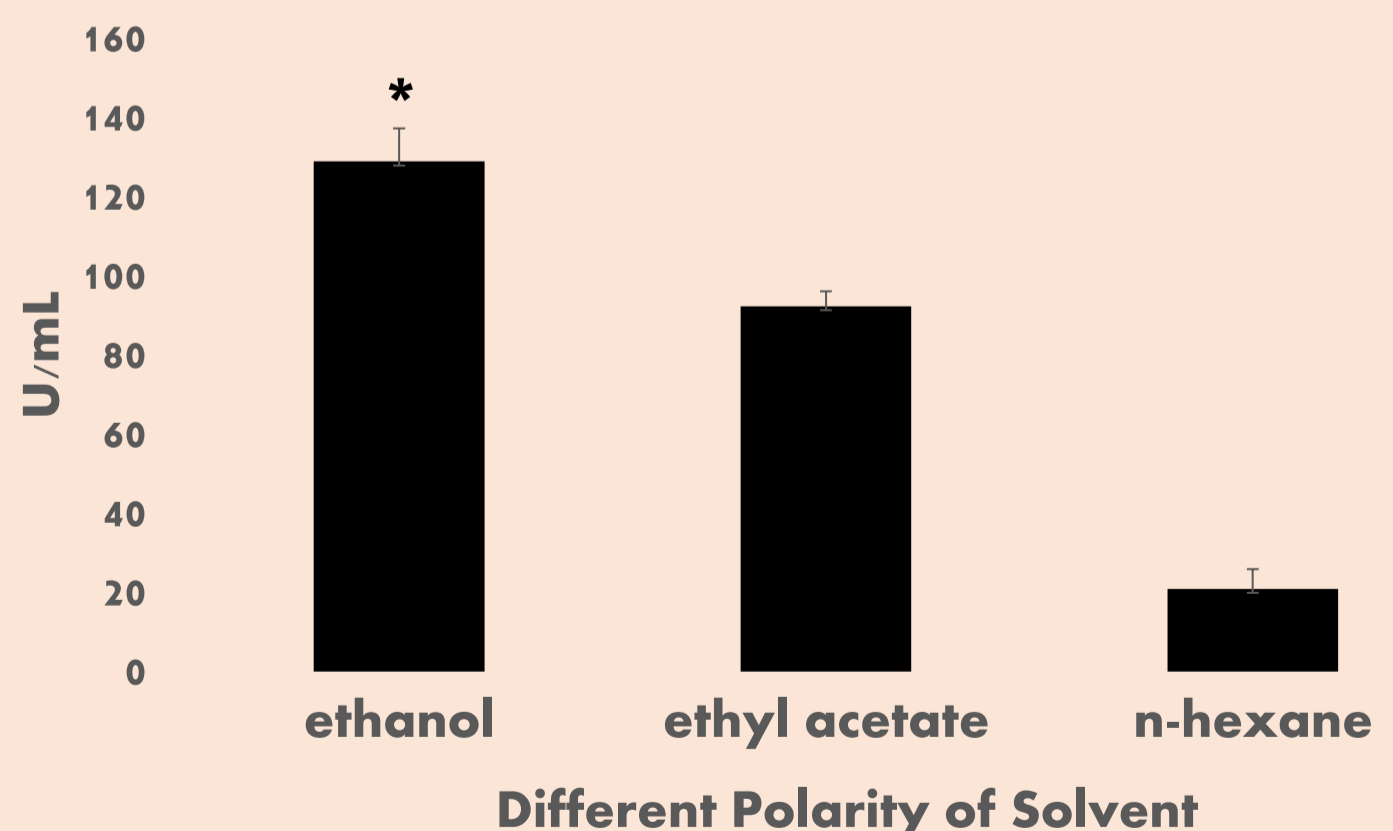


Figure 1. The highest total antioxidant capacity was found in the ethanol extract ( $128.86 \pm 8.37$  U/mL) compared to the ethyl acetate extract ( $92.28 \pm 3.8$  U/mL) and n-hexane extract ( $20.82 \pm 5.06$  U/mL), \*  $p < 0.001$

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