

Elettaria cardamomum

TAXONOMICAL CLASSIFICATION:^[1]

- *Kingdom: Plantae*
- *Phylum: Spermatophyta*
- *Subphylum: Angiospermae*
- *Class: Monocotyledonae*
- *Order: Zingiberales*
- *Family: Zingiberaceae*
- *Genus: Elettaria*
- *Species: Elettaria cardamomum*



INTRODUCTION:^[2,3]

Small cardamom, well known as the ‘queen of spices’, belongs to the family Zingiberaceae, order Scitaminae. It is a rich spice obtained from the seeds of a perennial plant, *Elettaria cardamomum* Maton, locally known as “elaichi”. It is a perennial herb, indigenous to India, Pakistan, Burma and Sri Lanka. In India it is mainly found in evergreen forests of Kerala and Karnataka. It is a shade loving plant cultivated at an altitude of 600 to 1200 m above MSL with an annual rainfall of 1500 to 4000 mm and a temperature range of 10 to 35°C. It is one of the highly prized spices of the world and is the third most expensive spice after saffron and vanilla. World production of cardamom is estimated at 30,000 MT. Currently, the major producer is Guatemala, recording an average annual production of 18,000–20,000 MT. India is the second largest producer, with an average production of 11,000–12,000 MT. Indian cardamom is considered a superior quality in the international markets. The pericarp of Cardamom fruits contains a small amount of volatile oil. The seeds contain 2 to 8 percent of volatile oil, 1 to 2 percent fixed oil, resin, and starch. The chief constituents of the volatile oil are cineole, borneol, and limonene. The waxes identified were n-alkanes (C₂₁, C₂₃, C₂₅, C₂₇, C₂₉, C₃₁, and C₃₃) and n-alkenes (C₂₁, C₂₃, C₂₅, C₂₇, C₂₉, C₃₁, and C₃₃). In the sterol fraction β -sitosterone and γ -sitosterol are newly reported. Phytol and traces of eugenyl acetate were also identified in cardamom.

SIDE EFFECTS OF EXCESS CONSUMPTION:^[6]

When taken by mouth: Cardamom is **LIKELY SAFE** when taken in amounts commonly found in food. It is **POSSIBLY SAFE** when taken in the larger amounts found in medicine.

When inhaled: It is **POSSIBLY SAFE** to breathe the vapor from cardamom essential oil as aromatherapy.

DOSAGE:^[7]

- Cardamom Powder - 250 mg twice a day or as prescribed by the doctor.
- Cardamom Oil - 2-5 drops or as per your requirement.

RESEARCH:

1. The study pertained to the susceptibilities of some clinically significant bacterial species to various crude extracts of *Elettaria cardamomum* Maton (Chhoti elaichi) dry fruits by agar well diffusion assay. Minimum inhibitory concentrations (MIC) of extracts were further evaluated against these bacteria. The study indicated that **antibacterial activity** of this plant is dependent on the type of extract and the organism evaluated. Ethanol extract was found to have comparatively higher activity than other organic and aqueous extracts. Gram-positive bacteria showed competent but variable susceptibilities to all the tested extracts. MIC data showed hopeful results as some of the extracts exhibited significant inhibitions of bacteria even at concentrations as low as 512 µg/mL. Overall, *E. cardamomum* seems to have significant antibacterial activity and to be very useful in the discovery of novel antibiotic.^[8]
2. *Elettaria cardamomum* is an aromatic spice (cardamom) native to the humid Asian areas, which contains some compounds with a **potential anticonvulsant activity**. Various pharmacological properties such as anti-inflammatory, analgesic, antioxidant, and antimicrobial effects have been related to this plant. This research was conducted to examine the probable protective impact of the essential oil and methanolic extract of *E. cardamomum* against chemically (pentylenetetrazole)- and electrically (maximal electroshock)-induced seizures in mice. In addition, neurotoxicity, acute lethality, and phytochemistry of the essential oil and methanolic extract were estimated. The TLC method showed the presence of kaempferol, rutin, and quercetin in the extract, and the concentration of quercetin in the extract was 0.5 µg/mL. The major compounds in the essential oil were 1,8-cineole (45.6%), α -terpinyl acetate (33.7%), sabinene (3.8%), 4-terpinen-4-ol (2.4%),

and myrcene (2.2%), respectively. The extract and essential oil showed significant neurotoxicity in the rotarod test at the doses of 1.5 g/kg and 0.75 mL/kg, respectively. No mortalities were observed up to the doses of 2 g/kg and 0.75 mL/kg for the extract and essential oil. The essential oil was effective in both the pentylenetetrazole and maximal electroshock models; however, the extract was only effective in the pentylenetetrazole model. The study suggested that *E. cardamomum* methanolic extract had no significant lethality in mice. Both the essential oil and methanolic extract showed movement toxicity. Anticonvulsant effects of *E. cardamomum* were negligible against the seizures induced by pentylenetetrazole and maximal electroshock. [9]

PRECAUTIONS & WARNINGS: [6]

Pregnancy and breast-feeding: Cardamom is **POSSIBLY UNSAFE** when taken by mouth as a medicine during pregnancy. There is concern that taking cardamom might cause a miscarriage. There isn't enough reliable information to know if cardamom is safe to use when breast-feeding. Stay on the safe side and stick to food amounts.

Gallstones: If you have gallstones, do not take cardamom in amounts greater than those typically found in food. The cardamom seed can trigger gallstone colic (spasmodic pain).

INTERACTION: [7]

1. Cardamom may interfere with liver functioning. So, it is advised to monitor your liver enzymes regularly if you are taking Cardamom supplements along with hepatoprotective drugs.
2. Cardamom may increase the risk of bleeding. So, it is advisable to consult your doctor if you are on therapy of blood thinners

REFERENCES:

1. <https://www.cabi.org/isc/datasheet/22167>
2. Sharma, Shveta & Sharma, Jagmohan & Kaur, Gurpreet. (2018). INTERNATIONAL JOURNAL OF DRUG FORMULATION AND RESEARCH Therapeutic uses of *Elettaria cardomum*. 10.13140/RG.2.2.12210.91848.

3. <https://thepharmacognosy.com/cardamon/>
4. https://www.biotechashok.com/uploads/2/0/6/5/20652974/botany_traditional_uses_phytochem_cardamom.pdf
5. <https://www.jetir.org/papers/JETIRDW06156.pdf>
6. <https://www.webmd.com/vitamins/ai/ingredientmono-614/cardamom>
7. <https://www.1mg.com/ayurveda/cardamom-31>
8. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3863444/>
9. <https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0042-106971>



NISARGA BIOTECH
SINCE 1998