

**A MIRACULOUS HERBAL DRUG GINGER WITH ADDED  
THERAPEUTIC REMUNERATION**

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**ABSTRACT**

Ginger an age old wonder household remedy useful for cooking and baking has also left its foot prints in the field of therapeutics. Research has demonstrated its long list of useful properties in various fields such as an antiemetic, antimotion sickness, antidiarrhoeal, antibacterial, antiinflammatory, analgesic, cholinergic and antipyretic. It also

effectively reduces cholesterol levels and resists cholesterol build up as well as acts as a natural blood thinner that protects against strokes and blood clots. In addition, it is an inotropic and inhibits platelet aggregation there by promoting cardiovascular health. Ginger may also help alleviate chronic pain possibly by lowering levels of hormones that induce inflammation. Scientists have documented that ginger extract may slow the growth of colorectal and ovarian cancer cells and also inhibits cancer cell formation. Ginger also helps alleviate and minimizes mucous even helping asthmatics and also regarded as super food herb possessing antioxidant property. Keeping in mind the benefits of ginger can become a supportive measure in pharmacotherapy of various diseases.

**KEYWORDS:** Antimotion sickness, antidiarrhoeal, antibacterial, antiinflammatory, analgesic, cholinergic and antipyretic.

## INTRODUCTION

**Synonymn:** *Zingiber officinale*

**Family:** Zingiberaceae



**Chemical Constituents:** Terpenes, cineol, citral, borneol, ginerol, shogaol, zingerone, resinous matter, starch and mucilage.

**Common Names:** African ginger

Black ginger

Race ginger



## DESCRIPTION

It has a tuberous perennial root one inch or more in length. The root is flattened on its upper and under surfaces, irregularly branched and has a light ash color. It produces an annual leafy stem which is two to three feet in height. The leaves are lanceolate, oblong, smooth and five to six inches in length. They grow alternately along the length of the stem. A leafless flower stalk grows by the side of the stem and terminates in an oval, obtuse flower spike. The flowers range from dingy yellow to purple and yellow-spotted and have green bracts with yellow margins.

## INDICATIONS OF GINGER

### 1. Ginger root eliminates and prevents nausea

Ginger root, in the powdered, encapsulated form, has been found more effective than dimenhydrinate (Dramamine) in preventing the nauseating symptoms of motion sickness. Human subjects, spun in a chair, were given ginger root, dimenhydrinate, or placebo 20 minutes before the trial. The psychophysical method of magnitude estimation was used to record subjective impressions of stomach feelings during the session. The possible mechanism inferred is that shogaols and gingerols may increase digestive juices, which helps calm nausea.

Statistical analysis obtained from subjective estimations showed significant differences between all groups, with ginger root being clearly superior. Other field trials and pilot studies revealed for most people who are susceptible to motion sickness, two or three capsules one-half hour before a trip, two-three capsules at regular (1-2 hour) intervals during the trip is usually sufficient to prevent the nausea that often accompanies travel. It is recommended enough ginger root be ingested to cause a ginger aftertaste in the throat.

Powdered, encapsulated ginger root is effective in preventing and relieving nausea and diarrhea associated with several other conditions, including morning sickness (up to 75% success rate), stomach flu, dizziness and vertigo (40-50% success rate).

## **2. Ginger root is hypocholesterolemic**

Ginger root has a good hypocholesterolemic property. An oleoresin of ginger root, included in a hypercholesterolemic diet for rats at 0.5 to 1.0%, was significantly capable of preventing the rise in serum and hepatic cholesterol levels seen in control animals. It is thought the herb interferes in cholesterol absorption from the stomach through a bile acid sequestering ability.

## **3. Ginger root has good cardiovascular properties**

A crude methanol extract of ginger root has a powerful, dose-dependent, positive inotropic effect on the isolated left atria of experimental animals. It would therefore aid circulation by increasing the force of muscular contractions in the atria. Gingerols were determined to be the active constituents.

An aqueous extract of ginger has recently been shown to inhibit platelet aggregation *in vitro* in a dose-dependent manner. Platelet aggregation was induced by arachidonic acid, collagen, ADP, and epinephrine. Venous blood from healthy subjects was used. Ginger inhibit platelet aggregation induced by arachidonic and drastically reduced (by 73%) thromboxane B<sub>2</sub> formation. Platelet formation of TxB<sub>2</sub> and prostaglandin (PGF<sub>2</sub>-alpha, PGE<sub>2</sub> AND PGD<sub>2</sub>) was significantly reduced in the presence of the ginger extract. The researchers suggest ginger's primary focus of activity is to inhibit cyclooxygenase.

## **4. Ginger root supplementation lowers inflammatory markers to lower colon cancer risk**

A critical inflammation marker in the colon cancer is known to be PGE<sub>2</sub>, a naturally occurring prostaglandin also called dinoprostone. PGE<sub>2</sub> is the prostaglandin that ultimately induces fever, and is therefore an important marker researcher's monitor to determine

inflammatory levels in the body. Inflammation has been implicated in prior studies as a precursor to colon cancer, and ginger root supplementation effectively lowers blood levels of the prostaglandin to reduce colon cancer risk.

### **OTHER PHARMACOLOGICAL ACTIONS OF GINGER ROOT**

Several Chinese medicines were studied for their anti-inflammatory properties. The most effective contained ginger root.

In routine screenings of plants for antibacterial properties was made ginger root has often yielded positive results, against both gram negative and gram positive pathogens.

Ginger root oil has been found to increase capillary permeability and to induce transitory phagocytic activity of the capillary endothelium. Histamine has been considered a mediator of the defense mechanism because it appears quickly after any injury increases capillary permeability, and induces a locally-acquired transitory phagocytic activity in the endothelial cells of the skin capillaries. Thirty-five volatile oils or their components were tested for this activity. Of these, ginger oil and four others were effective (the others were linalool, citronellol, juniper oil and pine needle oil).

Water extracts of *Zingiber mioga* also have histaminergic properties; they are also cholinergic, i.e., they possess mild sedative and blood lowering properties. However, alcohol extracts of *Zingiber officinale*, containing the resinous fraction, stimulate the vasomotor and respiratory centers of anesthetized cats, and have a direct stimulating effect on the heart.

There is evidence that the fresh root of ginger may differ in pharmacology from the dried root. Fresh ginger root contains a large amount of gingerol and hardly any shogaol, but the dried root contains large amounts of both. While both compounds were found to have good analgesic and antipyretic properties, each effect was higher in the shogaol. This chemical also had antitussive and anticonvulsive properties not shared by the gingerol. shogaol inhibited gastric movement in situ in a dose-dependent manner when administered intravenously. In low doses both drugs produced depressor responses on the systemic blood pressure, but at high doses a three phase pattern was seen--fall immediately after administration and the marked rise and decrease. Interestingly, Chinese medicine has separate names and sets of

medicinal properties for fresh root (Shokyo), dried root (Kanshokyo), and dried steamed root (Kankyo).

Ginger also helps treat joint pain by stimulating blood circulation, and this effect may make it a useful treatment for rheumatoid arthritis and Raynaud's syndrome.

Ginger is also often used for treatment of flatulence, indigestion, diarrhea, and menstrual cramps. This is because ginger mimics some digestive enzymes used to process protein in the body, and is known to act as a gastrointestinal antispasmodic.

Ginger is also sometimes recommended for relief of cold symptoms—it helps to loosen phlegm and fight chills by spreading a warm feeling throughout the body. Pickled ginger is traditionally eaten with sushi, probably because of its ability to destroy parasites—it contains zingibain, a parasite-killing chemical that has been shown to kill the anisakid worm, a parasite sometimes contaminates raw fish.

### **SAFETY FACTORS AND TOXICITIES**

Large doses of zingerone, a constituent of ginger root, has produced experimental toxicity in lab animals, but the ingestion of zingerone as found in ginger root poses no threat to health.

Generally regard as safe by the FDA.

Ginger root has approval status by the German Commission E.

### **CONCLUSION**

Ginger an age old wonder household remedy useful for cooking and baking has also left its foot prints in the field of therapeutics. Keeping in mind the benefits of ginger can become a supportive measure in pharmacotherapy of various diseases.

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