

# PurgeParasitis



Parasites are organisms that produce toxic waste inside our bodies and compete against our own cells for resources and energy. Food and resources get consumed by parasites, making them stronger while making our own cells weaker. Parasitic infections can occur while traveling and from drinking contaminated water, by eating undercooked meats or fish, or from eating contaminated fruits and vegetables. People with weakened immune systems or who are taking immunosuppressive drugs are also at a higher risk of infection. While some parasites cause obvious signs and symptoms, others can survive in the body, creating chronic and debilitating illness. New Roots Herbal's **PurgeParasitis** includes twelve powerful traditional antiparasitic herbs that can rid up to 72 different parasites and decrease inflammation. These powerful antiparasitic herbs have no major side effects and don't interact with drugs.

## Ingredients

Each vegetable capsule contains:

Oregano ( <i>Origanum</i> spp.) 30% carvacrol	40 mg
Garlic ( <i>Allium sativum</i> ) powder	63.12 mg
Cloves ( <i>Syzygium aromaticum</i> )	31.56 mg
Grapefruit seed extract	31.56 mg
Goldenseal ( <i>Hydrastis canadensis</i> ) root	7.89 mg
Ginger ( <i>Zingiber officinale</i> )	7.89 mg
Aloe vera	5.52 mg
Quassia ( <i>Quassia amara</i> )	5.52 mg
Oregon-grape ( <i>Mahonia/Berberis aquifolium</i> ) root	13.41 mg
Mandrake ( <i>Podophyllum peltatum</i> )	5.52 mg
Sage ( <i>Salvia officinalis</i> )	5.52 mg
Wormwood ( <i>Artemisia absinthium</i> )	94.68 mg
Black walnut ( <i>Juglans nigra</i> ) hulls	126.24 mg
Black walnut ( <i>Juglans nigra</i> ) leaves	31.56 mg

Contains no: Preservatives, artificial flavor or color, sugar, dairy, starch, wheat, gluten, corn, soy or yeast.

## Dosage

As a dietary supplement, take 2 capsules before meals, three times a day. Continue for 15 days. Stop for 5 days. Repeat for 15 days. To remove dead or dying parasites, take Fiber Ultra Rich (Plantago or Psyllium) from New Roots Herbal once or twice daily with 2 Acidophilus Ultra enteric-coated capsules.

## Warnings<sup>(1)</sup>

- Not intended for children.
- Not recommended during pregnancy and breast-feeding.
- Do not use within 2 hours of another medicine.
- Firm adherence to the instruction is strongly recommended. During the first 3–5 days of this program, the body will experience a strong detoxification. This is due to the die-off period. Numerous parasites are killed, leaving behind large amounts of toxins. This may temporarily cause slight irritability, headaches, mild dizziness, nausea, or flatulence.
- Caution is suggested for people who have a kidney disorder or are taking cardiovascular medication.

## Indication

**PurgeParasitis** is a natural herbal formula designed to eliminate intestinal parasites.

## Purity, cleanliness and stability

Third party testing is performed on finished product to ensure **PurgeParasitis** is free of heavy metals, solvent residues, pesticides and other impurities.



# PurgeParasitis Monograph

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## Oregano (*Origanum* spp.)

### 30% carvacrol

#### Pharmacodynamic

In an human study, oregano oil completely eradicated various parasites, including *Blastocystis hominis*, *Entamoeba hartmanni*, and *Endolimax nana*.<sup>(2)</sup> Oregano oil resulted in an inhibition of epimastigote growth and an increase in trypomastigote lysis in *Trypanosoma cruzi* in vitro.<sup>(3)</sup>

#### Pharmacokinetic

No studies on the pharmacokinetics of oregano in humans have been conducted. Carvacrol administered to rats by gavage at a dose of 1 mM/kg was excreted unchanged or as its glucoronide and sulphate conjugates.<sup>(4)</sup> In rabbits, 22 h after an oral dose of 1.5 g, 30% of the dose was still in the gastrointestinal tract and 25% of the dose was excreted in the urine at that time.

## Garlic (*Allium sativum*) powder

#### Pharmacodynamic

Based on laboratory study, garlic hexane extract showed effectiveness against the *Caillaria* species.<sup>(5)</sup> It is indicated that garlic oil has broad-spectrum activity against *Trypanosoma*, *Plasmodium*, *Giardia*, *Leishmania*, and *Cochlospermum planchonii*.<sup>(6, 7, 8, 9)</sup> In animal models, allicin decreased *Plasmodium* infections.

#### Pharmacokinetic

Addition of allicin to fresh whole blood results in conversion of allicin to allyl mercaptan, diallyl trisulfide, and ajoene. Sulfur-containing compounds such as diallyl sulfate, allyl sulfate and mercapturic acid have been identified in human urine after ingestion of garlic. The elimination half-life of allylmercapturic acid was estimated at about 6 h.<sup>(10)</sup>

## Cloves (*Syzygium aromaticum*)

#### Pharmacodynamic

The main constituents of the essential oil are phenylpropanoids such as carvacrol, thymol, eugenol and cinnamaldehyde. Cloves have been shown to have acaricidal activity towards *Dermatophagoides farinae* and *D. pteronyssinus*.<sup>(11)</sup>

#### Pharmacokinetic

Volunteers were given 12 gingersnaps, which were high in methyleugenol (a constituent of cloves).<sup>(12)</sup> The mean standard deviation fasting level of methyleugenol

in serum was  $16.2 \pm 4.0$  pg/g of wet weight. Peak blood levels were found at 15 min, followed by a rapid decline; the half-life of elimination was about 90 min.

## Grapefruit Seed Extract

#### Pharmacodynamic

Results from an in vitro study have shown grapefruit seed extract (GSE), rich in flavonoids and polyphenols, to have antimicrobial properties against a wide range of Gram-negative and Gram-positive organisms,<sup>(13)</sup> a common cause of infections from contaminated drinking water. The mechanism of action includes disruption of the bacterial membrane and liberation of the cytoplasmic contents.

#### Pharmacokinetic

Flavonoids are taken up and metabolized by the gastrointestinal tract where, once absorbed, they get converted to conjugates and metabolites, their bioactive form. Cells from the small intestine transfer the flavonoids from the gut lumen to the portal vein, where they are further metabolized. The polyphenols, once conjugated and metabolized, are then ready to enter the systemic circulation and the liver.<sup>(14)</sup> Microflora from the colon also degrades the flavonoids into small phenolic acids, which can then be used. These metabolites, when not absorbed by the cells, are excreted through urine.

## Goldenseal (*Hydrastis canadensis*) root

#### Pharmacodynamic

Berberine is a plant alkaloid found in *Hydrastis canadensis*, or goldenseal, that is responsible for the antiprotozoal and anthelmintic effects.<sup>(15)</sup> Studies have shown berberine to markedly decrease parasitic load and rapidly improve hematologic parameters in infected animals. In vitro results also indicate berberine to inhibit multiplication, respiration, and macromolecular biosynthesis of amastigote forms of the parasite, to interfere with the nuclear DNA of the promastigote form, and to inhibit organism maturation.<sup>(16)</sup> Other mechanisms of action of berberine include inhibition of bacterial enterotoxin formation, inhibition of intestinal fluid accumulation and ion secretion, inhibition of smooth muscle contraction, and reduction of inflammation.<sup>(15)</sup> Berberine sulfate has been shown to possess antimicrobial activity against protozoal organisms in vitro through inhibition of RNA and protein synthesis.<sup>(17)</sup> In vitro, a methanol extract of

# PurgeParasitis Monograph

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berberine has demonstrated parasitocidal activity against *Trichomonas vaginalis*, *Giardia lamblia*, and *Entamoeba histolytica*.<sup>(18)</sup> An in vitro study has demonstrated the ability of berberine to completely inhibit the growth of promastigotes at a concentration of 5 mcg/mL, possibly by inhibiting endogenous respiration of the organism and inhibiting nucleic acid and protein synthesis.<sup>(19)</sup> Berberine chloride appears to interact with *Leishmania donovani*'s nuclear DNA, inhibiting the multiplication of amastigotes in macrophage culture in vitro and decreasing parasitic load in animals.<sup>(18)</sup>

## Ginger (*Zingiber officinale*)

### Pharmacodynamic

An in vitro study found significant anti-*Toxoplasma gondii* RH strain activity was observed with *Zingiber officinale* extracts ( $EC_{50} = 0.18$  mg/mL), which displayed a highly selective toxicity.<sup>(20)</sup> Another in vitro study demonstrates larvicidal activity of the constituents of ginger against *Anisakis simplex*, a parasitic nematode found in fish and mammals that also causes infections in humans.<sup>(21)</sup>

### Pharmacokinetic

Oral administration of a 240 mg/kg dose of a ginger extract containing 53% [6]-gingerol resulted in rapid absorption in the plasma with the maximal concentration (4.23 mcg/mL) reached after 10 minutes.<sup>(18)</sup> [6]-Gingerol was well-distributed to the brain, heart, lung, spleen, liver, kidney, stomach, and small-intestine tissues, with the highest concentrations found in the gastrointestinal tract, and maximal concentrations of [6]-gingerol reached in most tissues 0.5 h after dosing. The elimination half-life was 1.77 h and total body clearance of 40.8 L/h. [6]-gingerol is partially eliminated by the liver, and metabolites of zingerone are excreted in the urine, mainly as glucuronide and/or sulphate conjugates.<sup>(18)</sup>

## Aloe Vera

### Pharmacodynamic

In a *Leishmania donovani* mouse model, oral administration of aloe vera leaf exudate (15 mg/kg bw  $\times$  5 d) reduced parasitemia by >90% in the liver, spleen, and bone marrow without impairment of hepatic and renal functions.<sup>(22)</sup> The authors conclude that aloe vera leaf shows promising antileishmanial activity and may provide a new leading agent in the treatment of leishmaniasis.

### Pharmacokinetic

Anthraquinone glycosides, which are absorbed well only after digestion by intestinal bacteria, are eliminated in the urine, bile, feces, and breast milk.<sup>(18)</sup> The half-life of aloe-emodin in animal study is approximately 48–50 h.<sup>(23)</sup>

## Quassia (*Quassia amara*)

### Pharmacodynamic

An in vitro study has found that quassia demonstrates highly antiprotozoal effects against *Trypanosoma cruzi*, *Leishmania infantum*, and *Plasmodium falciparum* K1.<sup>(24)</sup>

## Oregon-grape (*Mahonia/Berberis aquifolium*) root

### Pharmacodynamic

The plant alkaloid berberine of *Mahonia/Berberis aquifolium*, or Oregon-grape, root is responsible for the antiprotozoal and anthelmintic effects.<sup>(15)</sup> Berberine extracts and salts have demonstrated growth inhibition of *Giardia lamblia*, *Entamoeba histolytica*, *Trichomonas vaginalis*, and *Leishmania donovani*, with crude extracts being more effective than berberine salts. Studies have shown berberine to markedly decrease parasitic load and rapidly improve hematologic parameters in infected animals. In vitro results also indicate berberine to inhibit multiplication, respiration, and macromolecular biosynthesis of amastigote forms of the parasite, to interfere with the nuclear DNA of the promastigote form, and to inhibit organism maturation.<sup>(16)</sup>

## Mandrake (*Podophyllum peltatum*)

### Pharmacodynamic

The flavonoids, lignans, and resins are the active constituents found in mandrake. Traditionally, native Americans have used mandrake rhizome to remove intestinal worms.<sup>(25)</sup>

## Sage (*Salvia officinalis*)

### Pharmacodynamic

An in vitro study found that sage constituents (caffeic acid and salvianolic acids) had antileishmanial activities against intracellular amastigote stages of *Leishmania* parasites within macrophage-like cells.<sup>(26)</sup> The antiparasitic effects may have been due to the release of tumor necrosis factor and interleukin-6 from the cultured

# PurgeParasitis Monograph

cells. Increased release of an interferon-like activity was also determined.

## Pharmacokinetic

*Alpha*- and *beta*-thujones are metabolized in the liver, and the hydroxylated metabolites undergo glucuronidation.<sup>(18)</sup>

## Wormwood (*Artemisia absinthium*)

### Pharmacodynamic

Traditional medicines have described antiparasitic and anthelmintic uses of wormwood.<sup>(27)</sup> The active ingredients in wormwood, responsible for the antiparasitic effects, are thujone and artemisinin. An animal study found a significant decrease in fecal egg number of a nematode *Toxocara cati*, with *Artemisia absinthium*.<sup>(28)</sup> No changes in kidney or liver markers were observed, and the authors conclude that wormwood may be an alternative choice for the treatment of parasitic disease.

### Pharmacokinetic

Healthy male volunteers received 1 L of tea prepared from 9 g of *Artemisia annua* leaves (containing 94.5 mg of artemisinin); the mean standard deviation maximum plasma concentration of artemisinin was  $240 \pm 75$  ng/mL, and the mean standard deviation area under the plasma-concentration time curve was  $336 \pm 71$  ng/mL  $\times$  h.<sup>(29)</sup> Bioavailability of artemisinin was similar between tea and oral solid dosage forms. Another study including 12 healthy male volunteers consuming a single 500 mg oral dose of artemisinin found the elimination half-life of  $2.59 \pm 0.55$  h.<sup>(30)</sup> Peak concentrations of artemisinin were sufficient.

## Black walnut (*Juglans nigra*) hulls and leaves

### Pharmacodynamic

The constituent juglone found in black walnut has been used for ringworm infection. The proposed cytotoxic effect of this quinone may be due to two mechanisms; redox cycling and a reaction with glutathione (GSH). Redox cycling results in the generation of the corresponding semiquinone radicals, generating hydrogen peroxide and resulting in the oxidation of GSH, therefore decreasing intracellular GSH levels.<sup>(31)</sup>

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