Parasite Therapy I

ADVANCED Naturals

PRODUCT MONOGRAPH

Product composition

Medicinal Ingredients:

Each capsule contains:

Wormwood Leaf (*Artemisia absinthium*) 4:1 extract.....200mg (equivalent to 800 mg)

Quassia Wood (*Quassia amara*) 4:1 extract.....60mg (equivalent to 240 mg)

Undecylenic acid (calcium undecylenate).....75mg

Caprylic Acid (magnesium caprylate).....75mg

Garlic Bulb (*Allium sativum*) 3500ppm allicin (3:1 extract).....65mg (equivalent to 195 mg)

Clove Bud (*Syzygium aromaticum*).....25mg

Pippli Seed (*Piper longum*).....10mg

Thyme leaf (*Thymus vulgaris*) 4:1 extract 130mg

Non-medicinal ingredients: Vegetable cellulose

Recommended dose: Adult: Take 3 capsules with 250ml (8 oz) of water, once in the morning and once at night.

Duration of use: For prolonged use, consult a health care practitioner.

Indication:

- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine as vermifuges for the elimination of parasites.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine as anthelmintics to eliminate parasites.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine as antiparasitic herbs for the elimination of parasites.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine to eliminate parasites, and to improve digestive function.

Contraindications: Do not use if you are pregnant, breastfeeding, have stomach hyperacidity, gastric and/or duodenal ulcers, pemphigus or prior to surgery.

Warnings: Keep out of reach of children.

Consult a health care practitioner prior use if you are taking blood thinners, cholesterol-lowering medication or EPA in fish oils, have a blood clotting disorder or diabetes. Consult a health care practitioner if heartburn, flatulence, gastro-intestinal irritation persist.

Precautions: Not to be used by children.

Adverse Effects: Discontinue use if skin hypersensitivity such as skin or mucous membrane irritation occurs.

Overdose: For management of suspected product overdose it is recommended to contact your physician.

Symptoms of Overdose: Has not been investigated nor any reports have been filed.

Supporting Research and Traditional Evidence

Wormwood Leaf (*Artemisia absinthium*) 4:1 extract (equivalent to 800 mg)

Wormwood, consisting of the dried basil leaves or slightly leafy flowering tops or a mixture of these parts, has been used traditionally for a wide range of conditions including as a bitter, carminative, antimicrobial, and as an anthelmintic. The herb is mainly used as a bitter to stimulate and invigorate the whole digestive process; it is helpful in indigestion, especially when due to a deficient quantity or quality of gastric juices. Wormwood is also a powerful remedy against worm infestations, especially roundworm and pinworm. (**Hoffman, 1994**)

The herb has been used for dyspeptic complaints including flatulence and mild gastrointestinal spasms, stimulation of weak and underactive digestion, biliary dyskinesia and loss of appetite. Wormwood is one of the bitterest herbs known. It reflexively stimulates the secretion of gastric, biliary and pancreatic secretions, thus improving digestive function. (**Bradley, 2006**)

The ingredient is one of the primary ingredients in the product, delivering a therapeutic dose in support of the claimed actions.

Quassia Wood (*Quassia amara*) 4:1 extract (equivalent to 240 mg)

Quassia wood, the dried stem-wood of Quassia amara L. and Picrasma excelsa, has been used traditionally for lack of appetite, anorexia, and dyspepsia. The quassinoid receptors cause a reflex increase in the secretion of saliva and gastric juice, thus stimulating the appetite. The herb also strengthens the contractility of smooth muscle such as the gallbladder, promoting bile flow. Quassia was once used in enemas for the expulsion of threadworms. (**Bradley, 2006**)

Quassinoids have insecticidal action properties and are used against malarial parasites. (**Wichtl, 2002**) The herb has also been used traditionally for nematode infestation (**Newall, 1996**)

The ingredient is one of the primary ingredients in the product, delivering a therapeutic dose in support of the claimed actions.

Undecylenic acid (Calcium undecylenate)

Undecylenic acid is the common name for the 11-carbon unsaturated fatty acid known as 10-undecenoic acid and is derived from natural castor oil. Undecylenic acid has anti-bacterial and anti-viral properties. In a 4-week double-blind study to assess undecylenic acid in tinea pedis, 150 patients with tinea pedis received either undecylenic acid 2% and zinc undecylenate 20% or placebo twice daily (in powder form). *Trichophyton rubrum* or *Trichophyton mentagrophytes* were isolated from pretreatment cultures in 85 patients; of these, 88% treated with active powder had negative cultures after 4 weeks versus 17% treated with placebo. Fungus was identified in potassium hydroxide (KOH)-treated skin scrapings at pretreatment in all patients; of these, 80% treated with active powder were KOH negative after 4 weeks versus 49% treated with placebo. Erythema and scaling were significantly improved by therapy with active powder, as were subjective evaluations of itching and burning. (**Chretien *et al,* 1980**)

Caprylic Acid (Magnesium caprylate)

Caprylic acid is the common name for the eight-carbon saturated fatty acid known by the systematic name octanoic acid. It is found naturally in the milk of various mammals, and it is a minor constituent of coconut oil and palm kernel oil. Due to its relatively short chain length, it easily penetrates fatty cell wall membranes, and consequently is used to combat certain lipid-coated bacteria such as Staphylococcus aureus and various species of Streptococcus. (**Nair *et al,* 2005**)

In a study to investigate the antimicrobial properties of caprylic acid when added to infant formula, 3 samples containing a mixture of 3 strains of *Cronobacter spp.* (10(7) to 10(8) CFU/ml) were prepared with various concentrations of caprylic acid (5, 10, 20, and 30 mM). Samples were then heated to 45, 50, and 55°C. The inhibitory effect of the combined treatment resulted in a synergistic effect; Cronobacter spp. numbers were reduced more rapidly with increased temperatures and concentrations of caprylic acid. Samples treated with 30 mM caprylic acid, showed a decrease in Cronobacter spp. cell numbers to 7.8 log CFU/mL at 60 min when heated to 45°C and at 10 min when heated to 55°C. The data showed that addition of caprylic acid may have potential use for controlling microbes prior to consumption at lower heating temperatures. (**Jang *et al,* 2009**)

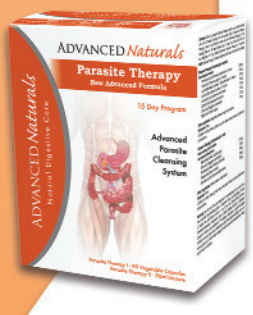
Garlic Bulb (*Allium sativum*) 3500ppm allicin (3:1 extract) (equivalent to 195 mg)

Garlic has been used traditionally to help relieve symptoms associated with upper respiratory tract infections and catarrhal conditions (inflammation of the mucus membranes), reduce elevated blood lipid levels/hyperlipidaemia in adults, and to help maintain cardiovascular health in adults. **(NHPD Monograph)**

Garlic has appetite stimulating properties and digestion promoting effects. Additionally, the herb has antimicrobial, anthelmintic, and insecticidal properties. Garlic has been used in folk medicine for gastrointestinal (GI) disorders, especially for flatulence and colic, to promote the flow of bile (cholagogue) and as an anthelmintic, among many other indications. Garlic also plays a large role in the prevention of intestinal infections, especially in warmer climates. **(Teuscher, 2006; Newall, 1996)**

In a study to investigate effects of garlic oil (GO) on H. Pylori, time-course viability experiments were undertaken to assess anti-H. pylori activity (16 and 32 microg ml(-1)) in simulated gastric environments. Rapid anti-H. pylori action was observed in artificial gastric juice in the presence of GO; anti-H. pylori activity of GO was noticeably affected by food materials and mucin. Researchers concluded that garlic oil may be useful as an alternative treatment against H. pylori, a major cause of gastrointestinal infections in humans. **(O'Gara *et al,* 2008)**

The anthelmentic (nematodes) activity of garlic was examined in a pre-clinical study using Swiss albino mice naturally infected with Aspiculuris tetraptera. Mice were administered either garlic (orally freshly crushed garlic homogenates), ivermectin (positive control; 0.2 mg/kg intramuscularly), or no treatment (control) for 7 days. Mice were sacrificed on Day 8, and results based on counts of intestinal



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parasites showed that garlic and ivermectin were effective against A. Tetraptera, 91.24% and 78.03%, respectively. Researchers concluded that garlic may be useful as an alternative treatment against nematode parasites in animals and humans. **(Ayaz *et al,* 2008)**
The ingredient is one of the primary ingredients in the product, delivering a therapeutic dose in support of the claimed actions.

Clove Bud (*Syzygium aromaticum*)
Clove has been used traditionally for digestive complaints such as flatulence, colic, abdominal bloating, languid digestion, nausea and emesis. The herb possesses spasmolytic, carminative, cholagogic, and antimicrobial properties. Clove also exhibits antimicrobial activity against a wide range of bacteria and the yeast Candida albicans. **(Bradley, 2006)** In folk medicine, cloves are decocted or chewed for bad breath; clove oil is used for dyspeptic complaints and also used for fighting nausea. **(Teuscher, 2006)**
In a study to investigate the effects of clove as an antibacterial agent, clove oil (dispersed 0.4% v/v in a concentrated sugar solution) was found to have a marked germicidal effect against various bacteria and Candida albicans. Staphylococcus aureus (five strains), Klebsiella pneumoniae, Pseudomonas aeruginosa, Clostridium perfringens, and Escherichia coli inoculated at a level of 10(7) cfu/ml, and C. albicans (inoculum 4.0 x 10(5) cfu/ml) were killed (greater than 99.999%) after 2-7 min in a laboratory broth supplemented with 63% (v/w) of sugar, and containing 0.4% (v/w) of essential oil of clove. Added organic matter (i.e. human or bovine serum) did not impair its antimicrobial activity. Sugar was not necessary for the antimicrobial activity of clove oil, but the concentrated sugar solution provided a good vehicle for obtaining an oil dispersion that is relatively stable for certain practical applications. **(Briozzo *et al,* 1989)**

Pippli Seed (*Piper longum*)
Pippli has been used traditionally as a digestive herb to eliminate pathogenic disharmony including food stagnation, abdominal pain, vomiting, and diarrhea. The herb is said to warm the middle and drive qi downward. **(Bensky, 2004)** The dried fruit spikes of pippli have stimulant, carminative, laxative and stomachic properties. The root is a stimulant and used in gout, rheumatism, and lumbago (low back pain). The whole plant is considered by tribal people in India to be useful in splenic disorders, cholera, dysentery, asthma, cough and bronchitis. The essential oil of P. longum shows antimicrobial action against a number of bacterial strains **(Williamson, 2002)**

Thyme leaf (*Thymus vulgaris*) 4:1 extract (equivalent to 520 mg)
Thyme has been used traditionally for GI ailments including dyspepsia, gastritis and flatulence, and as an expectorant, spasmolytic, antitussive, and carminative. The herb has strong antimicrobial properties and anti-inflammatory properties. **(Bradley, 2006)** It has been used traditionally for flatulent dyspepsia and colic, as an expectorant to help relieve the symptoms of bronchitis and catarrhs of the upper respiratory tract (anti-catarrh) and coughs. **(NHPD Monograph)** Thyme is used in folk medicine for its carminative properties and as a spasmolytic, stomachic, diuretic, urinary disinfectant and vermifuge. (Wichtl, 2002) Thyme also possesses antitussive, expectorant, bactericidal, anthelmintic, and astringent properties. **(Newall, 2006; Hoffman, 1994)**
In a study to investigate the effect of thyme on bacterial growth, different concentrations of an aqueous extract of thyme were tested on the growth of Streptococcus mutans. Further, adhesion of this bacterium to human buccal epithelial cells was compared against the effects of chlorhexidine digluconate. Exposure of S. mutans to thyme extract showed a time and concentration-dependent decrease in bacterial viability; the greatest effect was observed when S. mutans was exposed to 20% thyme extract for a period of 48 hours, resulting in 96% inhibition of bacterial growth. Adhesion of S. mutans to buccal epithelial cells was reduced when either buccal epithelial cells or S. mutans had been pre-incubated with different concentrations of aqueous thyme extracts (83-98% and 75-89% inhibition, respectively). There was also greater reduction in the adherence of bacterial cells to buccal epithelial cells after mouth rinsing with 20% aqueous thyme extract compared to rinsing with chlorhexidine digluconate (45% and 89% inhibition of bacterial adhesion, respectively). **(Hammad M *et al,* 2007)**
The ingredient is one of the primary ingredients in the product, delivering a therapeutic dose in support of the claimed actions.

Ingredient Summary:

Wormwood Leaf (*Artemisia absinthium*) 4:1 extract (equivalent to 800 mg)
- Traditionally used in Herbal Medicine as vermifuges for the elimination of parasites.
- Traditionally used in Herbal Medicine as anthelmintics to eliminate parasites.
- Traditionally used in Herbal Medicine as antiparasitic herbs for the elimination of parasites.
- Traditionally used in Herbal Medicine as a stomachic for the improvement of digestive function.

Quassia Wood (*Quassia amara*) 4:1 extract (equivalent to 240 mg)
- Traditionally used in Herbal Medicine as vermifuges for the elimination of parasites.
- Traditionally used in Herbal Medicine as anthelmintics to eliminate parasites.
- Traditionally used in Herbal Medicine as antiparasitic herbs for the elimination of parasites.
- Traditionally used in Herbal Medicine as a stomachic for the improvement of digestive function.

Undecylenic acid (Calcium undecylenate)
- Undecylenic acid is included in the formulation as a supportive ingredient.

Caprylic Acid (Magnesium caprylate)
- Caprylic acid is used in the formulation as a supportive ingredient.

Garlic Bulb (*Allium sativum*) 3500ppm allicin (3:1 extract) (equivalent to 195 mg)
- Traditionally used in Herbal Medicine as vermifuges for the elimination of parasites.
- Traditionally used in Herbal Medicine as anthelmintics to eliminate parasites.
- Traditionally used in Herbal Medicine as antiparasitic herbs for the elimination of parasites.
- Traditionally used in Herbal Medicine as a stomachic for the improvement of digestive function.

Clove Bud (*Syzygium aromaticum*)
- Clove has been used traditionally for digestive complaints such as flatulence, colic, abdominal bloating, languid digestion, nausea and emesis.

Pippli Seed (*Piper longum*)
- Pippli seed has been used traditionally as a digestive herb to eliminate pathogenic disharmony including food stagnation, abdominal pain, vomiting, and diarrhea.

Thyme leaf (*Thymus vulgaris*) 4:1 extract (equivalent to 520 mg)
- Traditionally used in Herbal Medicine as vermifuges for the elimination of parasites.
- Traditionally used in Herbal Medicine as anthelmintics to eliminate parasites.
- Traditionally used in Herbal Medicine as antiparasitic herbs for the elimination of parasites.
- Traditionally used in Herbal Medicine as a stomachic for the improvement of digestive function.

References

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ADVANCED Naturals

PRODUCT MONOGRAPH

Parasite Therapy II

Product composition
Medicinal Ingredients:
Each ½ ml drop contains:
Black Walnut hulls (*Juglans nigra*) ..62.5mg/0.5ml
Clove bud (*Syzygium aromaticum*) 25mg/0.5ml
Marshmallow root (*Althaea officinalis*) .....
.....25mg/0.5ml
Orange Peel (*Citrus sinensis*).....25mg/0.5ml
Wormwood leaf and stem (*Artemisia absinthium*)..
.....25mg/0.5ml

Non-medicinal ingredients: Filtered water, ethyl alcohol

Recommended dose: Adult: Take 1ml in the morning and 2ml in the evening. Note: dropper dispenses 0.5 ml when filled to line indicated.

Duration of use: None.

Indication:

- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine as vermifuges for the elimination of parasites.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine as anthelmintics to eliminate parasites.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine as antiparasitic herbs for the elimination of parasites.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine to eliminate parasites.
- Parasite Therapy Kit provides Wormwood which is traditionally used in Herbal Medicine as a stomachic for the improvement of digestive function.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine for the elimination of parasites.
- Parasite Therapy Kit provides Wormwood and Quassia which are traditionally used in Herbal Medicine for improving digestive function.
- Parasite Therapy Kit provides Wormwood, Quassia, Garlic and Thyme which are traditionally used in Herbal Medicine to eliminate parasites, and to improve digestive function.

Contraindications: Do not use if you are pregnant, breastfeeding, have stomach hyperacidity, gastric and/or duodenal ulcers.

Warnings: Keep out of reach of children.
Consult a health care practitioner prior use if you have diabetes.

Precautions: Not to be used by children.

Adverse Effects: None observed.

Overdose: For management of suspected product overdose it is recommended to contact your physician.

Symptoms of Overdose: Has not been investigated nor any reports have been filed.

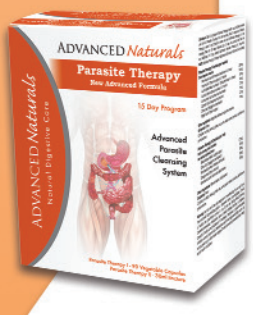
Supporting Research and Traditional Evidence

The ingredients included in Parasite Therapy Kit 2 are minor supportive ingredients for anthelmic, vermifuge, antiparasitic, antimicrobial, and digestive support, and demulcent use, when taken together with Parasite Therapy Kit 1.

Black Walnut hulls (*Juglans nigra*)
Black walnut has been used traditionally for worm infestation; the herb has anthelmintic and depurative actions. (**Mills, 2005**) Walnut hull preparations have also been used for catarrhs of the gastrointestinal tract, skin diseases, abscesses, inflammation of the eyes, in combinations for diabetes, gastritis, for blood purification, blood poisoning, and anemia. (**Blumenthal, 1998**)

Clove bud (*Syzygium aromaticum*)
Clove has been used traditionally for digestive complaints such as flatulence, colic, abdominal bloating, languid digestion, nausea and emesis. The herb possesses spasmolytic, carminative, cholagogic, and antimicrobial properties. Clove also exhibits antimicrobial activity against a wide range of bacteria and the yeast Candida albicans. (**Bradley, 2006**) In folk medicine, cloves are decocted or chewed for bad breath; clove oil is used for dyspeptic complaints and also used for fighting nausea. (**Teuscher, 2006**)

In a study to investigate the effects of clove as an antibacterial agent, clove oil was found to have a marked germicidal effect against various bacteria and Candida albicans. Staphylococcus aureus (five strains), Klebsiella pneumoniae, Pseudomonas aeruginosa, Clostridium perfringens, and Escherichia coli inoculated at a level of 10(7) cfu/ml, and C. albicans (inoculum 4.0 x 10(5) cfu/ml) were killed (greater than 99.999%) after 2-7 min in a laboratory broth supplemented with 63% (v/w) of sugar, and containing 0.4% (v/w) of essential oil of clove. Added organic matter (i.e. human or bovine serum) did not impair its antimicrobial activity. Sugar was not necessary for the antimicrobial activity of clove oil, but the



concentrated sugar solution provided a good vehicle for obtaining an oil dispersion that is relatively stable for certain practical applications. (**Briozzo *et al,* 1989**)

Marshmallow root (*Althaea officinalis*)
Marshmallow root has been used traditionally for gastro-enteritis, peptic and duodenal ulceration, common and ulcerative colitis, and enteritis. Its pharmacological effects are due to its content of mucilage, soothing irritation and inflammation. (**Bradley P, 1992**) Marshmallow is stated to possess demulcent, expectorant, emollient, diuretic, antilithic, and vulnerary properties. It has been used internally for the treatment of respiratory catarrh and cough, peptic ulceration, inflammation of the mouth and pharynx, enteritis, urethritis and urinary calculus. (**Newall, 1996**)

Orange Peel (*Citrus sinensis*)
Orange peel has been used traditionally for its bitter principles, for loss of appetite and dyspeptic ailments. (**Blumenthal, 1998**) In TCM, orange peel is used to break up stagnant qi and reduce accumulation: for epigastric or abdominal pain and distention or indigestion with focal distention or gas. The herb is also used with other qi-tonifying herbs for gastriectasis. (**Bensky *et al,* 2004**)

Wormwood leaf and stem (*Artemisia absinthium*)
Wormwood, consisting of the dried basil leaves or slightly leafy flowering tops or a mixture of these parts, has been used traditionally for a wide range of conditions including as a bitter, carminative, antimicrobial, and as an anthelmintic. The herb is mainly used as a bitter to stimulate and invigorate the whole digestive process; it is helpful in indigestion, especially when due to a deficient quantity or quality of gastric juices. Wormwood is also a powerful remedy against worm infestations, especially roundworm and pinworm. (**Hoffman, 1994**)

The herb has been used for dyspeptic complaints including flatulence and mild gastrointestinal spasms, stimulation of weak and underactive digestion, biliary dyskinesia and loss of appetite. Wormwood is one of the bitterest herbs known. It reflexively stimulates the secretion of gastric, biliary and pancreatic secretions, thus improving digestive function. (**Bradley, 2006**)

The ingredient is included in this formulation as a minor supportive ingredient for anthelmic / vermifuge / antiparasitic / antimicrobial / digestive support and demulcent use.

Ingredient Summary:

Black Walnut hulls (*Juglans nigra*)
- Traditionally used as an anthelmintic.

Clove bud (*Syzygium aromaticum*)
- Clove has been used traditionally for digestive complaints such as flatulence, colic, abdominal bloating, languid digestion, nausea and emesis.

Marshmallow root (*Althaea officinalis*)
- Traditionally used as a demulcent.

Orange Peel (*Citrus sinensis*)
- Traditionally used as an antibacterial and antifungal agent.

Wormwood leaf and stem (*Artemisia absinthium*)
- Traditionally used in Herbal Medicine as vermifuges for the elimination of parasites.
- Traditionally used in Herbal Medicine as anthelmintics to eliminate parasites.
- Traditionally used in Herbal Medicine as antiparasitic herbs for the elimination of parasites.
- Traditionally used in Herbal Medicine as a stomachic for the improvement of digestive function.

References

1. Bensky D, Clavey S, Stoger E. Chinese Herbal Medicine: Materia Medica. 3rd Ed. Seattle: Eastland Press;2004.
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3. Bradley PR, editor. British Herbal Compendium: A Handbook of Scientific Information on Widely Used Plant Drugs, Volume 2. Bournemouth (UK): British Herbal Medicine Association; 2006.
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