



GRAVIOLA CAPSULES

100 capsules (600 mg each)

Retail price: \$18.95

Description: Some of the active ingredients documented, researched, and verified in graviola are a group of Annonaceous acetogenins which are only found in the Annonaceae family to which graviola belongs. These phytochemicals are being researched and patented around the world for their active biological actions and uses.* For more complete information on this powerful rainforest plant, please see the Raintree Nutrition internet website and the online [Tropical Plant Database](#).

Traditional Uses:* for cancer (all types); as a broad-spectrum internal and external antimicrobial to treat bacterial and fungal infections; for internal parasites and worms; for high blood pressure; for depression, stress, and nervous disorders

Ingredients: Each capsule contains 600 mg of pure 100% graviola leaf and stem (*Annona muricata*). No binders, fillers or other additives are used.

Suggested Use: Take 3 capsules three to four times daily.

Contraindications:

- Not to be used during pregnancy or breast-feeding.
- Graviola has demonstrated hypotensive, vasodilator, and cardiodepressant activities in animal studies. People with low blood pressure should monitor their blood pressure accordingly.

Drug Interactions: None have been reported; however, based on animal studies, graviola may potentiate antihypertensive and cardiac depressant drugs.

Other Practitioner Observations:

- Graviola has demonstrated *in vitro* antimicrobial properties. Chronic, long-term use of this plant might lead to some die-off of friendly bacteria in the digestive tract. Supplementing the diet with probiotics and digestive enzymes may be helpful to counteract this possible effect.
- Graviola has demonstrated emetic properties in one animal study with pigs. Large single dosages may cause nausea or vomiting. Reduce the usage accordingly or take with a meal if nausea occurs.
- Drinking plenty of water (at least 8 glasses a day) is helpful to reduce Herxheimer reactions and flush dead and dying cells from the body.
- One of three documented mechanisms of action of graviola is by decreasing energy to abnormal cells (called an ATP-inhibitor). Taking supplements that increase cellular energy (like CoQ10) will counteract or disable this one mechanism of action of graviola (however, the other two mechanisms of action will be unaffected).

Clinical Documentation and Research:* This Raintree product has not been the subject of any clinical research. Available third-party documentation and clinical research on graviola be found at the [Raintree website](#) and at PubMed/Medline. A partial listing of the third-party published research on graviola is shown below:

Anticancerous & Antitumor Actions:

Marshall, J.A., et al. "ABC synthesis and antitumor activity of a series of Annonaceous acetogenin analogs with a threo, trans, threo, trans, threo-bis-tetrahydrofuran core unit." *Bioorg. Med. Chem. Lett.* 2007 Feb 15;

Kojima, N. "Systematic synthesis of antitumor Annonaceous acetogenins" *Yakugaku Zasshi.* 2004; 124(10): 673-81.

Tormo, J. R., et al. "*In vitro* antitumor structure-activity relationships of threo/trans/threo mono-tetrahydrofuranic acetogenins: Correlations with their inhibition of mitochondrial complex I." *Oncol. Res.* 2003; 14(3): 147-54.

Yuan, S. S., et al. "Annonacin, a mono-tetrahydrofuran acetogenin, arrests cancer cells at the G1 phase and causes cytotoxicity in a Bax- and caspase-3-related pathway." *Life Sci.* 2003 May; 72(25): 2853-61.

- Liaw, C. C., et al. "New cytotoxic monotetrahydrofuran Annonaceous acetogenins from *Annona muricata*." *J. Nat. Prod.* 2002; 65(4): 470-75.
- Gonzalez-Coloma, A., et al. "Selective action of acetogenin mitochondrial complex I inhibitors." *Z. Naturforsch.* 2002; 57(11-12): 1028-34.
- Chang, F. R., et al. "Novel cytotoxic Annonaceous acetogenins from *Annona muricata*." *J. Nat. Prod.* 2001; 64(7): 925-31.
- Jaramillo, M. C., et al. "Cytotoxicity and antileishmanial activity of *Annona muricata* pericarp." *Fitoterapia.* 2000; 71 (2): 183-6.
- Betancur-Galvis, L., et al. "Antitumor and antiviral activity of Colombian medicinal plant extracts." *Mem. Inst. Oswaldo Cruz.* 1999; 94(4): 531-35.
- Kim, G. S., et al. "Muricoreacin and murihexocin C, mono-tetrahydrofuran acetogenins, from the leaves of *Annona muricata*." *Phytochemistry.* 1998; 49(2): 565-71.
- Kim, G. S., et al. "Two new mono-tetrahydrofuran ring acetogenins, anomuricin E and muricapentocin, from the leaves of *Annona muricata*." *J. Nat. Prod.* 1998; 61(4): 432-36.
- Nicolas, H., et al. "Structure-activity relationships of diverse Annonaceous acetogenins against multidrug resistant human mammary adenocarcinoma (MCF-7/Adr) cells." *J. Med. Chem.* 1997; 40(13): 2102-6.
- Zeng, L., et al. "Five new monotetrahydrofuran ring acetogenins from the leaves of *Annona muricata*." *J. Nat. Prod.* 1996; 59(11): 1035-42.
- Wu, F. E., et al. "Two new cytotoxic monotetrahydrofuran Annonaceous acetogenins, anomuricins A and B, from the leaves of *Annona muricata*." *J. Nat. Prod.* 1995; 58(6): 830-36.
- Oberlies, N. H., et al. "Tumor cell growth inhibition by several Annonaceous acetogenins in an *in vitro* disk diffusion assay." *Cancer Lett.* 1995; 96(1): 55-62.
- Wu, F. E., et al. "Additional bioactive acetogenins, anomutacin and (2,4-trans and cis)-10R-annonacin-A-ones, from the leaves of *Annona muricata*." *J. Nat. Prod.* 1995; 58(9): 1430-37.
- Wu, F. E., et al. "New bioactive monotetrahydrofuran Annonaceous acetogenins, anomuricin C and muricatocin C, from the leaves of *Annona muricata*." *J. Nat. Prod.* 1995; 58(6): 909-5.
- Wu, F. E., et al. "Muricatocins A and B, two new bioactive monotetrahydrofuran Annonaceous acetogenins from the leaves of *Annona muricata*." *J. Nat. Prod.* 1995; 58(6): 902-8.
- Sundarrao, K., et al. "Preliminary screening of antibacterial and antitumor activities of Papua New Guinean native medicinal plants." *Int. J. Pharmacog.* 1993; 31(1): 3-6.

Antimicrobial Actions:

- Takahashi, J.A., et al. "Antibacterial activity of eight Brazilian Annonaceae plants." *Nat. Prod. Res.* 2006; 20(1): 21-6.
- Betancur-Galvis, L., et al. "Antitumor and antiviral activity of Colombian medicinal plant extracts." *Mem. Inst. Oswaldo Cruz* 1999; 94(4): 531-35.
- Antoun, M. D., et al. "Evaluation of the flora of Puerto Rico for *in vitro* cytotoxic and anti-HIV activities." *Pharmaceutical Biol.* 1999; 37(4): 277-280.
- Padma, P., et al. "Effect of the extract of *Annona muricata* and *Petunia nyctaginiflora* on Herpes simplex virus." *J. Ethnopharmacol.* 1998; 61(1): 81-3.
- Sundarrao, K., et al. "Preliminary screening of antibacterial and antitumor activities of Papua New Guinean native medicinal plants." *Int. J. Pharmacog.* 1993; 31(1): 3-6.
- Misas, C. A. J., et al. "Contribution to the biological evaluation of Cuban plants. IV." *Rev. Cubana Med. Trop.* 1979; 31(1): 29-35.

Antidepressant & Antistress Actions:

- Padma, P., et al. "Effect of *Annona muricata* and *Polyalthia cerasoides* on brain neurotransmitters and enzyme monoamine oxidase following cold immobilization stress." *J. Natural Remedies* 2001; 1(2): 144-46.
- Hasrat, J. A., et al. "Screening of medicinal plants from Suriname for 5-HT 1A ligands: Bioactive isoquinoline alkaloids from the fruit of *Annona muricata*." *Phytomedicine.* 1997; 4(20): 133-140.
- Padma, P., et al. "Effect of alcohol extract of *Annona muricata* on cold immobilization stress induced tissue lipid peroxidation." *Phytother. Res.* 1997; 11(4): 326-327.
- Hasrat, J. A., et al. "Isoquinoline derivatives isolated from the fruit of *Annona muricata* as 5-HTergic 5-HT1A receptor agonists in rats: unexploited antidepressive (lead) products." *J. Pharm. Pharmacol.* 1997;

49(11): 1145–49.

Hypotensive & Cardiodepressant Actions

Carbajal, D., et al. "Pharmacological screening of plant decoctions commonly used in Cuban folk medicine." *J. Ethnopharmacol.* 1991; 33(1/2): 21–4.

Feng, P. C., et al. "Pharmacological screening of some West Indian medicinal plants." *J. Pharm. Pharmacol.* 1962; 14: 556–61.

Meyer, T. M. "The alkaloids of *Annona muricata*." *Ing. Ned. Indie.* 1941; 8(6): 64.

Anticonvulsant, Antispasmodic, & Smooth Muscle Relaxant Actions:

N'gouemo, P., et al. "Effects of ethanol extract of *Annona muricata* on pentylenetetrazol-induced convulsive seizures in mice." *Phytother. Res.* 1997; 11(3): 243–45.

Feng, P. C., et al. "Pharmacological screening of some West Indian medicinal plants." *J. Pharm. Pharmacol.* 1962; 14: 556–61.

Antiparasitic, Antimalarial, & Insecticidal Actions:

Osorio, E., et al. "Antiprotozoal and cytotoxic activities in vitro of Colombian Annonaceae." *J. Ethnopharmacol.* 2007 Jan 18;

Luna, J. S., et al. "Acetogenins in *Annona muricata* L. (Annonaceae) leaves are potent molluscicides." *Nat. Prod. Res.* 2006; 20(3): 253-7.

Jaramillo, M. C., et al. "Cytotoxicity and antileishmanial activity of *Annona muricata* pericarp." *Fitoterapia.* 2000; 71(2): 183–6.

Alali, F. Q., et al. "Annonaceous acetogenins as natural pesticides; potent toxicity against insecticide-susceptible and resistant German cockroaches (*Dictyoptera: Blattellidae*)." *J. Econ. Entomol.* 1998; 91(3): 641-9.

Antoun, M. D., et al. "Screening of the flora of Puerto Rico for potential antimalarial bioactives." *Int. J. Pharmacog.* 1993; 31(4): 255–58.

Heinrich, M., et al. "Parasitological and microbiological evaluation of Mexican Indian medicinal plants (Mexico)." *J. Ethnopharmacol.* 1992; 36(1): 81–5.

Bories, C., et al. "Antiparasitic activity of *Annona muricata* and *Annona cherimolia* seeds." *Planta Med.* 1991; 57(5): 434–36.

Gbeassor, M., et al. "*In vitro* antimalarial activity of six medicinal plants." *Phytother. Res.* 1990; 4(3): 115–17.

Tattersfield, F., et al. "The insecticidal properties of certain species of *Annona* and an Indian strain of *Mundulea sericea* (Supli)." *Ann. Appl. Biol.* 1940; 27: 262–73.

This product is sold through [Raintree Nutrition](#) and in retail stores. Please contact a health professional concerning other observations and/or effects of this product and/or if you have any disease, condition, or illness for which you are seeking treatment or products for.

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