



SIMAROUBA EXTRACT

2 Fluid Ounces (60 ml)

Retail price: \$23.00

Description: The main active group of chemicals in simarouba are called quassinoids. The antiprotozoal and antimalarial properties of these chemicals have been documented for many years.* Several of the quassinoids found in simarouba, such as ailanthinone, glaucarubinone, and holacanthone, are considered the plant's main therapeutic constituents and are the ones documented to be antiprotozoal, anti-amebic, antimalarial, and even toxic to cancer and leukemia cells.* Raintree's simarouba extract uses proprietary extraction methods which provide the equivalent of 500 mg simarouba bark per milliliter of extract. For more complete information on this unique rainforest plant, please see the Raintree Nutrition internet website and the online [Tropical Plant Database](#).

Traditional Uses:* for dysentery (amebic and bacterial) and diarrhea; for intestinal worms and internal parasites; for malaria; as an astringent to stop bleeding internally (stomach ulcers, hemorrhages, etc) and externally for wounds; for viral infections

Ingredients: Pure 100% simarouba bark (*Simarouba amara*) extracted in distilled water and ethanol. This plant has been sustainably wild harvested in the Brazilian Amazon (without any fertilizers or pesticides) and is non-irradiated and non-fumigated.

Suggested Use: Take 60 drops 2 - 3 times daily or as needed. Can also be applied topically to the skin as desired.

Contraindications:

- Reported side effects at high dosages (approx. 5 times the suggested use) include increased perspiration and urination, nausea, and/or vomiting.

Drug Interactions: None reported.

Clinical Documentation and Research:

This Raintree product has not been the subject of any clinical research. Available third-party research on simarouba can be found at the Raintree website. A partial listing of published research on simarouba is shown below:

Antimalarial, Antiparasitic, & Antiamebic Actions:

Francois, G., et al. "Antimalarial and cytotoxic potential of four quassinoids from *Hannoa chlorantha* and *Hannoa klaineana*, and their structure-activity relationships." *Int. J. Parasitol.* 1998; 28(4): 635-40.

Franssen, F. F., et al. "*In vivo* and *in vitro* antiplasmodial activities of some plants traditionally used in Guatemala against malaria." *Antimicrob. Agents Chemother.* 1997; 41(7): 1500-3.

Wright, C. W., et al. "Quassinoids exhibit greater selectivity against *Plasmodium falciparum* than against *Entamoeba histolytica*, *Giardia intestinalis* or *Toxoplasma gondii* *in vitro*." *J. Eukaryot. Microbiol.* 1993; 40(3): 244-46.

Kirby, G. C., et al. "*In vitro* studies on the mode of action of quassinoids with activity against chloroquine-resistant *Plasmodium falciparum*." *Biochem. Pharmacol.* 1989; 38(24): 4367-74.

O'Neill, M. J., et al. "Plants as sources of antimalarial drugs, Part 6. Activities of *Simarouba amara* fruits." *J. Ethnopharmacol.* 1988; 22(2): 183-90.

O'Neill, M. J., et al. "The activity of *Simarouba amara* against chloroquine-resistant *Plasmodium falciparum* *in vitro*." *J. Pharm. Pharmacol.* 1987; Suppl. 39: 80.

Monjour, I., et al. "Therapeutic trials of experimental murine malaria with the quassinoid, glaucarubinone." *C. R. Acad. Sci. III.* 1987; 304(6): 129-32.

Trager, W., et al. "Antimalarial activity of quassinoids against chloroquine-resistant *Plasmodium falciparum* *in vitro*." *Am. J. Trp. Med. Hyg.* 1981; 30(3): 531-37.

Duriez, R., et al. "Glaucarubin in the treatment of amebiasis." *Presse Med.* 1962; 70: 1291.

Spencer, C. F., et al. "Survey of plants for antimalarial activity." *Lloydia* 1947; 10: 145-74.

Cuckler, A. C., et al. "Efficacy and toxicity of simaroubidin in experimental amoebiasis." *Fed. Proc.* 1944; 8: 284.

Shephard, S., et al. "Persistent carriers of *Entameba histolytica*." *Lancet* 1918: 501.

Antimicrobial Actions:

Morre, D. J., et al. "Effect of the quassinoids glaucarubolone and simalikalactone D on growth of cells permanently infected with feline and human immunodeficiency viruses and on viral infections." *Life Sci.* 1998; 62(3): 213-9.

Rahman, S., et al. "Anti-tuberculosis activity of quassinoids." *Chem. Pharm. Bull.* 1997; 45(9): 1527-9.

Kaif-A-Kamb, M., et al. "Search for new antiviral agents of plant origin." *Pharm. Acta Helv.* 1992; 67(5-6): 130-147.

Caceres, A. "Plants used in Guatemala for the treatment of gastrointestinal disorders. 1. Screening of 84 plants against enterobacteria." *J. Ethnopharmacol.* 1990; 30(1): 55-73.

May, G., et al. "Antiviral activity of aqueous extracts from medicinal plants in tissue cultures." *Arzneim-Forsch* 1978; 28(1): 1-7.

Anticancerous & Antileukemic Actions:

Rivero-Cruz, J. F., et al. "Cytotoxic constituents of the twigs of *Simarouba glauca* collected from a plot in Southern Florida." *Phytother. Res.* 2005; 19(2): 136-40.

Mata-Greenwood, E., et al. "Novel esters of glaucarubolone as inducers of terminal differentiation of promyelocytic HL-60 cells and inhibitors of 7,12-dimethylbenz[a]anthracene-induced preneoplastic lesion formation in mouse mammary organ culture." *J. Nat. Prod.* 2001; 64(12): 1509-13.

Morre, D. J., et al. "Mode of action of the anticancer quassinoids--inhibition of the plasma membrane NADH oxidase." *Life Sci.* 1998; 63(7) :595-604.

Valeriotte, F. A., et al. "Anticancer activity of glaucarubinone analogues." *Oncol Res.* 1998; 10(4): 201-8.

Ohno, N., et al. "Synthesis of cytotoxic fluorinated quassinoids." *Bioorg. Med. Chem.* 1997; 5(8): 1489-95.

Klocke, J. A., et al. "Growth inhibitory, insecticidal and antifeedant effects of some antileukemic and cytotoxic quassinoids on two species of agricultural pests." *Experientia.* 1985 Mar 15; 41(3): 379-82.

Handa, S. S., et al. "Plant anticancer agents XXV. Constituents of *Soulamea soulameoides*." *J. Nat. Prod.* 1983; 46(3): 359-64.

Polonsky, J. "The isolation and structure of 13,18-dehydroglaucarubinone, a new antineoplastic quassinoid from *Simarouba amara*." *Experientia.* 1978; 34(9): 1122-23.

Ghosh, P. C., et al. "Antitumor plants. IV. Constituents of *Simarouba versicolor*." *Lloydia.* 1977; 40(4): 364-69.

Ogura, M. et al. "Potential anticancer agents VI. Constituents of *Ailanthus excelsa* (Simaroubaceae)." *Lloydia.* 1977; 40(6): 579-84.

Antipsoriatic Actions:

Bonte, F., et al. "*Simarouba amara* extract increases human skin keratinocyte differentiation." *J. Ethnopharmacol.* 1996; 53(2): 65-74.

This product is distributed through health food stores, health practitioners and by [Raintree Nutrition](#). 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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*The statements contained herein have not been evaluated by the Food and Drug Administration.
This product is not intended to treat, cure, or prevent any disease.