



## NTENSE-2

**120 capsules (700 mg) per bottle.**

**Retail Price: \$31.95**

A combination of 8 plants which have been independently documented around the world with active pharmacological actions.\* For more complete information on these unique rainforest plant ingredients, please see the Raintree Nutrition internet website and the online [Tropical Plant Database](#).

**Ingredients:** A proprietary blend of mullaca (*Physalis angulata*), anamu (*Petiveria alliacea*), vassourinha (*Scoparia dulcis*), simarouba (*Simarouba amara*), picão preto (*Bidens pilosa*), suma (*Pfaffia paniculata*), cat's claw (*Uncaria tomentosa*), and espinheira santa (*Maytenus ilicifolia*).

**Suggested Use:** Take 3-4 capsules three times daily or as directed by a healthcare professional.

### **Contraindications:**

- Not to be used during pregnancy or while breast-feeding.
- Several plants in this formula have demonstrated immunostimulant effects therefore this formula is contraindicated before or following any organ or bone marrow transplant or skin graft.

**Drug Interactions:** None reported.

**Clinical Documentation and Research:\*** This formulated product has not been the subject of any clinical research. Available third-party documentation and clinical research on each ingredient in this formula can be found at the Raintree website. A partial listing of published research on these plant ingredients is shown below:

### **Mullaca (*Physalis angulata*)**

Chiang, H. et al. "Inhibitory effects of physalin B and physalin F on various human leukemia cells *in vitro*." *Anticancer Res.* 1992; 12(4): 1155-62.

Kawai, M., et al. "Cytotoxic activity of physalins and related compounds against HeLa cells [leukemia]." *Pharmazie* 2002; 57(5): 348-50.

Ausseil, F., et al. "High-throughput bioluminescence screening of ubiquitin-proteasome pathway inhibitors from chemical and natural sources." *J. Biomol. Screen.* 2006 Dec 14;

Kuo, P. C., et al. "Physanolide A, a novel skeleton steroid, and other cytotoxic principles from *Physalis angulata*." *Org. Lett.* 2006 Jul; 8(14): 2953-6.

Ichikawa, H., et al. "Withanolides potentiate apoptosis, inhibit invasion, and abolish osteoclastogenesis through suppression of nuclear factor-kappaB (NF-kappaB) activation and NF-kappaB-regulated gene expression." *Mol. Cancer Ther.* 2006; 5(6): 1434-45.

Magalhaes, H. I., et al. "In-vitro and in-vivo antitumour activity of physalins B and D from *Physalis angulata*." *J. Pharm. Pharmacol.* 2006; 58(2): 235-41.

Jacobo-Herrera, N. J., et al. "Physalins from *Witheringia solanacea* as modulators of the NF-kappaB cascade." *J. Nat. Prod.* 2006; 69(3): 328-31.

Hsieh, W. T., et al. "*Physalis angulata* induced G2/M phase arrest in human breast cancer cells." *Food Chem Toxicol.* 2006; 44(7): 974-83.

Lee, C. C., et al. "Cytotoxicity of plants from Malaysia and Thailand used traditionally to treat cancer." *J. Ethnopharmacol.* 2005 Sep; 100(3): 237-43.

Wu, S. J., et al. "Antihepatoma activity of *Physalis angulata* and *P. peruviana* extracts and their effects on apoptosis in human Hep G2 cells." *Life Sci.* 2004 Mar; 74(16): 2061-73.

Leyon, P. V., et al. "Effect of *Withania somnifera* on B16F-10 melanoma induced metastasis in mice." *Phytother. Res.* 2004; 18(2): 118-22.

Ismail, N., et al. "A novel cytotoxic flavonoid glycoside from *Physalis angulata*." *Fitoterapia.* 2001 Aug. 72(6): 676-79.

Lee, Y. C., et al. "Integrity of intermediate filaments is associated with the development of acquired thermotolerance in 9L rat brain tumor cells." *J. Cell. Biochem.* 1995; 57(1): 150-62.

Perng, M. D., et al. "Induction of aggregation and augmentation of protein kinase-mediated phosphorylation of purified vimentin intermediate filaments by withangulatin A." *Mol. Pharmacol.* 1994; 46(4): 612-17.

Chiang, H., et al. "Antitumor agent, physalin F from *Physalis angulata* L." *Anticancer Res.* 1992; 12(3): 837-43.

Kusumoto, I., et al. "Inhibitory effect of Indonesian plant extracts on reverse transcriptase of an RNA tumour virus (I)." *Phytother. Res.* 1992; 6(5): 241-44.

Lee, W. C., et al. "Induction of heat-shock response and alterations of protein phosphorylation by a novel topoisomerase II inhibitor, withangulatin A, in 9L rat brain tumor cells." *Cell Physiol.* 1991; 149(1): 66-67.

Chen, C. M., et al. "Withangulatin A, a new withanolide from *Physalis angulata*." *Heterocycles*. 1990; 31(7): 1371–75.

Basey, K., et al. "Phygrine, an alkaloid from *Physalis* species." *Phytochemistry*. 1992; 31(12): 4173–76.

Juang, J. K., et al. "A new compound, withangulatin A, promotes type II DNA topoisomerase-mediated DNA damage." *Biochem. Biophys. Res. Commun.* 1989; 159(3): 1128–34.

Anon. "Biological assay of antitumor agents from natural products." Abstr.: Seminar on the Development of Drugs from Medicinal Plants Organized by the Department of Medical Science Department at Thai Farmer Bank, Bangkok, Thailand 1982; 129.

Antoun, M. D., et al. "Potential antitumor agents. XVII. physalin B and 25,26-epidihydrophysalin C from *Witheringia coccoloboides*." *J. Nat. Prod.* 1981; 44(5): 579–85.

#### **Anamu (*Petiveria alliacea*)**

Mata-Greenwood, E., et al. "Discovery of novel inducers of cellular differentiation using HL-60 promyelocytic [leukemia] cells." *Anticancer Res.* 2001; 21(3B): 1763-70.

An, H., et al. "Synthesis and anti-tumor evaluation of new trisulfide derivatives." *Bioorg. Med. Chem. Lett.* 2006 Sep; 16(18): 4826-9.

Williams, L. A., et al. "In vitro anti-proliferation/cytotoxic activity of sixty natural products on the human SH-SY5Y neuroblastoma cells with specific reference to dibenzyl trisulphide." *West Indian Med. J.* 2004 Sep; 53(4): 208-19.

Ruffa, M. J., et al. "Cytotoxic effect of Argentine medicinal plant extracts on human hepatocellular carcinoma cell line." *J. Ethnopharmacol.* 2002; 79(3): 335-39.

Rosner, H., et al. "Disassembly of microtubules and inhibition of neurite outgrowth, neuroblastoma cell proliferation, and MAP kinase tyrosine dephosphorylation by dibenzyl trisulphide." *Biochem. Biophys. Acta* 2001; 1540(2): 166-77.

Jovicevic, L., et al. "In vitro antiproliferative activity of *Petiveria alliacea* L. on several tumor cell lines." *Pharmacol. Res.* 1993; 27(1): 105-06.

Rossi, V., et al. "Antiproliferative effects of *Petiveria alliacea* on several tumor cell lines." *Pharmacol. Res. Suppl.* 1990; 22(2): 434.

Yan, R., et al. "Astilbin selectively facilitates the apoptosis of interleukin-2-dependent phytohemagglutinin-activated Jurkat cells." *Pharmacol. Res.* 2001; 44(2): 135-39.

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Bassi, A. M., et al. "Comparative evaluation of cytotoxicity and metabolism of four aldehydes in two hepatoma cell lines." *Drug Chem. Toxicol.* 1997 Aug; 20(3): 173-87.

#### **Vassourinha (*Scoparia dulcis*)**

Noda, Y., et al. "Enhanced cytotoxicity of some triterpenes toward leukemia L1210 cells cultured in low pH media; possibility of a new mode of cell killing." *Chem. Pharm. Bull.* 1997; 45(10): 1665–70.

Kessler, J. H., et al. "Broad in vitro efficacy of plant-derived betulinic acid against cell lines derived from the most prevalent human cancer types." *Cancer Lett.* 2006 Dec 12;

Mukherjee, R., et al. "Betulinic acid derivatives as anticancer agents: structure activity relationship." *Anticancer Agents Med. Chem.* 2006 May; 6(3): 271-9.

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Kasperczyk, H., et al. "Betulinic acid as new activator of NF-kappaB: molecular mechanisms and implications for cancer therapy." *Oncogene*. 2005 Oct; 24(46): 6945-56.

Fulda, S., et al. "Sensitization for anticancer drug-induced apoptosis by betulinic acid." *Neoplasia*. 2005; 7(2): 162-70.

Garg, A. K., et al. "Chemosensitization and radiosensitization of tumors by plant polyphenols." *Antioxid. Redox. Signal.* 2005; 7(11-12): 1630-47.

Wada, S., et al. "Betulinic acid and its derivatives, potent DNA topoisomerase II inhibitors, from the bark of *Bischofia javanica*." *Chem. Biodivers.* 2005 May; 2(5): 689-94.

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Hayashi, R. J., et al. "A cytotoxic flavone from *Scoparia dulcis* L." *Chem. Pharm. Bull.* 1988; 36: 4849–51.

### **Simarouba (Simarouba amara)**

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

### **Picão Preto (Bidens pilosa)**

- Chang, J. S., et al. "Antileukemic activity of *Bidens pilosa* L. var. *minor* (Blume) Sherff and *Houttuynia cordata* Thunb." *Am. J. Chin. Med.* 2001; 29(2):303-12.
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- Sundararajan, P., et al. "Studies of anticancer and antipyretic activity of *Bidens pilosa* whole plant." *Afr. Health Sci.* 2006 Mar; 6(1): 27-30.
- Wu, L. W., et al. "Polyacetylenes function as anti-angiogenic agents." *Pharm. Res.* 2004; 21(11): 2112-9.
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### **Suma (Pfaffia paniculata)**

- Watanabe, T., et al. "Effects of oral administration of *Pfaffia paniculata* (Brazilian ginseng) on incidence of spontaneous leukemia in AKR/J mice." *Cancer Detect. Prev.* 2000; 24(2): 173-8.
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- Matsuzaki, P., et al. "Effect of *Pfaffia paniculata* (Brazilian ginseng) on the Ehrlich tumor in its ascitic form." *Life Sci.* 2003 Dec; 74(5): 573-9.

### **Cat's Claw (Uncaria tomentosa)**

- Bacher, N., et al. "Oxindole alkaloids from *Uncaria tomentosa* induce apoptosis in proliferating, G0/G1-arrested and bcl-2-expressing acute lymphoblastic leukaemia cells." *Br. J. Haematol.* 2006 Mar; 132(5): 615-22.
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**Espinheira Santa (Maytenus ilicifolia)**

Nakao, H., et al. "Cytotoxic activity of maytanprine isolated from *Maytenus diversifolia* in human leukemia K562 cells." *Biol. Pharm. Bull.* 2004; 27(8): 1236-40.

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Ohsaki, A., et al. "Four new triterpenoids from *Maytenus ilicifolia*." *J. Nat. Prod.* 2004; 67(3): 469-71.

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This formula is sold through health practitioners, retail stores, and [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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