

# N-TENSE TOPICAL

2 ounces (60 ml)

Retail Price: \$21.95



A powerful formula of rainforest botanicals which are used by the herbal healers in South America in a concentrated liquid extract for topical use on the skin.\* This is similar to our popular N-Tense capsules which are taken internally. 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 sangre de grado, copaiba, graviola, espinheira santa, suma, bellaco caspi, huacapu, pau d'arco, mullaca, vassourinha, and mutamba extracted in distilled water and alcohol.

**Suggested Use:** Shake well and apply liberally on the skin several times daily. Allow to dry completely before covering with clothing.

**Clinical Documentation and Research:**\* This Raintree 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 ingredients is shown below:

## [Sangre de Grado \(Croton lechleri\)](#)

- Rossi, D., et al. "Evaluation of the mutagenic, antimutagenic and antiproliferative potential of *Croton lechleri* (Muell. Arg.) latex." *Phytomedicine*. 2003 Mar; 10(2-3): 139-44.
- Sandoval, M., et al. "Sangre de grado (*Croton palanostigma*) induces apoptosis in human gastrointestinal cancer cells." *J. Ethnopharmacol.* 2002; 80(2-3): 121-9.
- Chen, Z. P., et al. "Studies on the anti-tumour, anti-bacterial, and wound-healing properties of dragon's blood." *Planta Med.* 1994; 60(6): 541-45.
- Pieters, L., et al. "Isolation of a dihydrobenzofuran lignan from South American dragon's blood (*Croton sp.*) as an inhibitor of cell proliferation." *J. Nat. Prod.* 1993; 56(6): 899-906.
- Itokawa, H., et al. "A cytotoxic substance from sangre de grado." *Chem. Pharm. Bull.* 1991; 39(4): 1041-42.

## [Copaiba Resin \(Copaifera sp.\)](#)

- Cavalcanti, B. C., et al. "Genotoxicity evaluation of kaurenoic acid, a bioactive diterpenoid present in Copaiba oil." *Food Chem. Toxicol.* 2006; 44(3): 388-92.
- Krauchenco, S., et al. "Three-dimensional structure of an unusual Kunitz (STI) type trypsin inhibitor from *Copaifera langsdorffii*." *Biochimie.* 2004; 86(3): 167-72.
- Lima, S. R., et al. "In vivo and in vitro studies on the anticancer activity of *Copaifera multijuga* Hayne and its fractions." *Phytother. Res.* 2003 Nov; 17(9): 1048-53.
- Costa-Lotufo, L. V., et al. "The cytotoxic and embryotoxic effects of kaurenoic acid, a diterpene isolated from *Copaifera langsdorffii*." *Toxicol.* 2002; 40(8): 1231-34.
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- Ohsaki, A., et al. "The isolation and in vivo potent antitumor activity of clerodane diterpenoids from the oleoresin of Brazilian medicinal plant *Copaifera langsdorffii* Desfon." *Bioorg. Med. Chem. Lett.* 1994; 4: 2889-92.

## [Graviola \(Annona muricata\)](#)

- 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-tetrahydro-furanic 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.

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.

### **Espinheira Santa (*Maytenus ilicifolia*)**

Liu, Z., et al. "Metabolism studies of the anti-tumor agent maytansine and its analog ansamitocin P-3 using liquid chromatography/tandem mass spectrometry." *J. Mass. Spectrom.* 2005; 40(3): 389-99.

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.

Cassady, J. M., et al. "Recent developments in the maytansinoid antitumor agents." *Chem. Pharm. Bull.* 2004; 52(1): 1-26.

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

Horn, R. C., et al. "Antimutagenic activity of extracts of natural substances in the Salmonella/microsome assay." *Mutagenesis.* 2003 Mar; 18(2): 113-8.

Buffa Filho, W., et al. "Quantitative determination for cytotoxic Friedo-nor-oleanane derivatives from five morphological types of *Maytenus ilicifolia* (Celastraceae) by reverse-phase high-performance liquid chromatography." *Phytochem. Anal.* 2002 Mar-Apr; 13(2): 75-8.

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### **Suma (*Pfaffia paniculata*)**

da Silva, T. C., et al. "Inhibitory effects of *Pfaffia paniculata* (Brazilian ginseng) on preneoplastic and neoplastic lesions in a mouse hepatocarcinogenesis model." *Cancer Lett.* 2005 Aug; 226(2): 107-13.

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Takemoto, T., et al. "Antitumor pfaffosides from Brazilian carrots." Japanese patent no. 84/184,198. October 19, 1984.

### **Bellaco-caspi (*Himatanthus sukuuba*)**

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Bolzani, V., et al. "Search for antifungal and anticancer compounds from native plant species of cerrado and Atlantic Forest." *An. Acad. Bras. Cienc.* 1999; 71(2): 181-7.

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Wood, C. A., et al. "A bioactive spiro lactone iridoid and triterpenoids from *Himatanthus sukuuba*." *Chem. Pharm. Bull.* 2001; 49(11): 1477-1478.

De Silva, J. R., et al. "Triterpenic esters from *Himatanthus sukuuba* (Spruce) Woodson." *Quimica Nova* 1998; 21(6): 702-704.

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### **Huacapu (*Minquartia guianensis*)**

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### **Pau d'arco (*Tabebuia impetiginosa*)**

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

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

- 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.
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### **Mutamba (Guazuma ulmifolia)**

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This product 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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