

APPLICATIONS

- Immune System Support
- Inflammatory Response Support
- Cardiovascular Support
- Neurological Support
- Blood Glucose and Metabolic Support
- Antioxidant Support
- Microbial Support



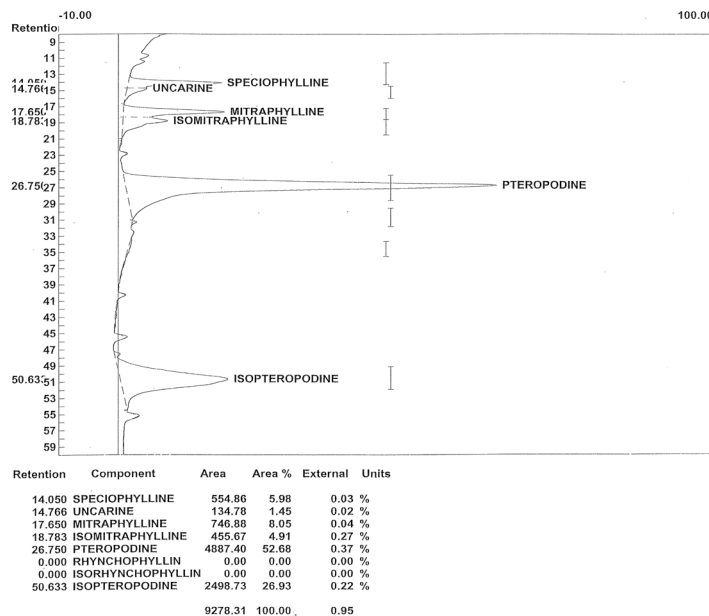
INTRODUCTION

Samento is a hydro-ethanol extract from the bark of pentacyclic chemotype *Uncaria tomentosa*, also known as Cat's Claw. The proprietary hydro-ethanolic extraction and enhancement process maximizes the bioavailability of phenolics, alkaloids, and other beneficial constituents. *U. tomentosa* is traditionally used for health promotion by indigenous tribes of the Peruvian Amazon, and ongoing research continues to elucidate its health-supporting effects.¹ *U. tomentosa* exists in two chemotypes, one of which contains more tetracyclic oxindole alkaloids (TOA) and the other of which contains more pentacyclic oxindole alkaloids (POA). **Samento** is made from the bark of this rare pentacyclic phenotype. **Samento** is verified by independent 3rd party HPLC testing to be free of TOAs, with levels in trace amounts or undetectable.² **Samento** not only meets but exceeds the standards of the U.S. Pharmacopeia (USP 42) for *U. tomentosa*, which requires no less than 0.3% of POAs and no more than 0.05% TOAs.³

U. tomentosa (bark) includes other active constituents such as esters (ex. carboxyl alkyl), glycosides (ex. quinovic acid), organic acids (ex. oleanolic, ursolic, palmitoleic), procyanidins, sterols (ex. sitosterol), and triterpenes, as well as catechin, rutin, 3,4-dehydro-5-carboxystrictosidine, and many others.⁴ **Samento** liquid extract is made at our U.S. manufacturing facility using a specialized proprietary extraction process that optimizes the constituents of the herb in its original, unprocessed state to obtain broad-spectrum concentration. Because our extracts are made in our own facility, we control all aspects of quality, including stringent ID testing, microbial testing, and heavy metal testing. **NutraMedix** rigorously follows current good manufacturing practices (cGMP), as do our suppliers. **Samento** is currently the only commercially available, naturally occurring TOA-free *U. tomentosa*.

WHY PENTACYCLIC CHEMOTYPE MATTERS (POAS VS. TOAS)

U. tomentosa (bark) most commonly contains both Pentacyclic Oxindole Alkaloids (POAs) and Tetracyclic Oxindole Alkaloids (TOAs). The POAs include speciophylline, uncarine F, mitraphylline, isomitraphylline, pteropodine, and isopteropodine, while the TOAs include rhynchophylline and isorhynchophylline.⁵ The preferred chemotype contains only POAs, which are recognized for helping to support immune system homeostasis.* POAs contribute to immune support by helping to maintain lymphocyte-proliferation-regulating factor levels already within the normal range.^{5,6} Alternatively, TOAs block the effects of POAs, negating their support of immune health.^{3,6}



IMMUNE SYSTEM SUPPORT

U. tomentosa (pentacyclic chemotype) may help to support immune system homeostasis.* Research suggests that POAs help to maintain lymphocyte-proliferation-regulating factor levels already within the normal range,⁵ CD4 + CD25 + Foxp3 + levels already within the normal range, and Th2 levels already within the normal range.⁷ It should be noted that TOAs inhibit the effect of POAs on lymphocyte-proliferation-regulating factor in a dose-dependent manner, thus TOA-free *U. tomentosa* is required for adequate immune support.^{7,4} The specific POA mitraphylline may help to support healthy neutrophil function and maintain levels of Th1, Th2, and Th17 already within the normal range.^{8,9} Mitraphylline may also help to support healthy apoptosis.¹⁰

INFLAMMATORY RESPONSE SUPPORT

U. tomentosa (pentacyclic chemotype) may help to maintain and support a healthy inflammatory response.^{11,12} *U. tomentosa* may help to support NF-kappaB levels already within the normal range in a dose-dependent manner,^{13,14} thus supporting both TNF-alpha and IL-1-beta already within the normal range.¹⁴ *U. tomentosa* and its most prevalent POA alkaloid, mitraphylline, may help to maintain levels of IL-1-alpha, IL-2, IL-4, IL-6, IL-8, and IL-17 already within the normal range,^{15,16,17,18} in addition to supporting healthy function of the MAP kinase pathway.^{14,18}

OTHER USES

Cardiovascular Support

U. tomentosa may help to maintain blood pressure already within the normal range, attributed to the constituent hirsutine.^{*19}

Neurological Support

U. tomentosa may help to support neurological health and help to maintain healthy neurocognitive function,^{20,21} potentially due to the POA mitraphylline.^{*22}

Blood Glucose and Metabolic Support

U. tomentosa may help to support healthy insulin levels and to maintain blood glucose levels already within the normal range.^{*7,23}

Antioxidant Support

U. tomentosa may give antioxidant support, helping to maintain levels of oxidative stress already within the normal range,²⁴ attributed to the constituent flavan-3-ol monomers, alkaloids, and polyphenols.^{*4}

Microbial Support

U. tomentosa may assist with a broad range of microbial support.^{*25,26,27}

SAFETY AND CAUTIONS

U. tomentosa (bark) is generally well tolerated. Gastrointestinal effects such as nausea, vomiting, constipation or diarrhea have been reported.²⁸ It should be avoided in those taking immunosuppressants, as it may interfere with immunosuppressant therapy.²⁹ *U. tomentosa* may inhibit P450 CYP3A4 enzymes and therefore may slow the metabolism of drugs metabolized by CYP3A4.³⁰ *U. tomentosa* may have additive effects with anticoagulants, generally attributed to the TOAs rhynchophylline and isorhynchophylline,³¹ as well as additive effects with antihypertensive drugs, generally attributed to the TOAs rhynchophylline and isorhynchophylline.^{32,33} As a reminder, **Samento** is TOA-free, with levels in trace amounts or undetectable.

Safety not documented in breastfeeding or pregnant women, or in children under 3 years of age due to insufficient safety research.

*** These statements have not been evaluated by the Food and Drug Administration. This product is not intended to treat, cure, or prevent any diseases.**



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