



CLINICAL APPLICATIONS

- Bacterial, Viral, Parasitic Infection
- Common Cold/Cough
- Gastroenteritis
- Inflammation

Virucidal™ is a potent herbal combination of three high quality ingredients in clinically relevant dosages to support immune response and reduce inflammation. The formula may be particularly helpful to support healthy lung tissue. Each of the three herbs is known to “clear heat”.

Virucidal™ is manufactured in a Federal Drug Registered and State Board Pharmacy cGMP laboratory

DISCUSSION

Andrographis Extract (standardized to 25% andrographalides). Among the many uses of this Aruveydic and TCM bitter herb are its antibacterial, antiviral, antiparasitic, immunostimulant properties, and its ability to reduce fever. The major active constituents are andrographalides. Besides the properties above, andrographalides are believed to protect the liver, prevent platelet aggregation, and stimulate bile secretion. Double-blinded research has demonstrated reduction of cold symptom severity in as few as 2 days after the start of treatment. A three-month study examining Andrographis as a prophylaxis against the common cold demonstrated a 2.1 times reduction compared to placebo. In clinical trials, 100 mg of a standardized extract of Andrographis taken two times per day was sufficient to treat the common cold.

Licorice Root Extract (standardized to 12% glycyrrhizin) Medicinal use of licorice dates back to the 2nd and 3rd centuries BC. Its properties are sweet and neutral. It is used in Virucidal™ for its antiinflammatory, expectorant, antibacterial, antiviral, antitussive, and soothing properties. Licorice root extract maintains healthy lung tissue and supports the adrenals. Glycyrrhizin is adaptogenic and has been shown to support the immune system by inducing interferon gamma and some other cytokines. TCM practitioners use licorice root for (among others): fatigue, sallow facial appearance, decreased food intake, musculoskeletal pain and soreness, swelling or pain in the throat. According to TCM licorice “tonifies the spleen, benefits qi, moistens the lungs and stops coughs.”

Isatis tinctoria. This Brassica family member is a commonly used herb in TCM mainly for infections including those in the upper respiratory tract. Its properties are bitter and very cold. Virucidal™ contains the entire herb because both the leaves and roots have been demonstrated to have strong, broad-spectrum antibacterial, antiviral and antifungal activity. In addition, the whole plant has anti-inflammatory properties. During the herb drying process tryptanthrin, a powerful COX 2 and 5 LOX inhibitor, is produced.

Isaindigoone, a root constituent, also inhibits 5 LOX and leukotriene B4 production and seems to be a superoxide scavenger. Isatis root contains salicylic acid and indirubin. Preliminary research demonstrates indirubin might inhibit influenza-provoked inflammation of the airways. Leaf extracts are used to clear heat and toxins from the blood (antipyretic). In TCM Isatis is contraindicated for patients who have deficiency and cold of the Spleen and Stomach. In Traditional Chinese Medicine, the isatis root is called Ban Lang Gen and the leaf is referred to as Da Qing Ye.*



Supplement Facts

Serving Size: 1 Capsule
Servings Per Container: 60

	Amount Per Serving	%Daily Value
Andrographis Extract (at 25% Andrographolides)	375 mg	**
Licorice Root Extract (at 12% glycyrrhizin)	165 mg	**
Isatis tinctoria	150 mg	**

** Daily Value not established.

Other Ingredients: None.

DOSING:

General dose is one capsule daily. However, within 72 hours or less of the onset of cold, flu or other upper respiratory infection symptoms, more appropriate dosing is 3-4 capsules per day for 5-7 days. Some people develop intestinal upset when taking Andrographis. If this occurs, reduce the amount taken or take it with meals.

REFERENCES

1. Bone K. The story of *Andrographis paniculata*, a new “immune system” herb. *Nutrition & Healing* 1998;Sept:3, 4, 8, 9 [review].
2. Cáceres DD, Hancke JL, Burgos RA, et al. Use of visual analogue scale measurements (VAS) to assess the effectiveness of standardized *Andrographis paniculata* extract SHA-10 in reducing the symptoms of common cold. A randomized double blind-placebo study. *Phytomedicine* 1999;6:217-23.
3. Melchior J, Palm S, Wikman G. Controlled clinical study of standardized *Andrographis paniculata* in common cold- a pilot trial. *Phytomedicine* 1996/97;3:315-318
4. Shibata S.A drug over the millennia: pharmacognosy, chemistry, and pharmacology of licorice. *Yakugaku Zasshi*. 2000 Oct;120(10):849-62 [PMID: 11082698]
5. Antibacterial compounds of licorice against upper airway respiratory tract pathogens. *J Nutr Sci Vitaminol (Tokyo)*. 2001 Jun;47(3):27-3 [PMID: 11575586]
6. Fukai T, Marumo A, Kaitou K, Kanda T, Terada S, Nomura T. Antimicrobial activity of licorice flavonoids against methicillin-resistant *Staphylococcus aureus*. *Fitoterapia*. 2002 Oct;73(6):536-9. [PMID: 12385884]
7. Chen JK, Chen TT. *Chinese Medical Herbology and Pharmacology*. City of Industry, CA: Art of Medicine Press, Inc., 2004.
8. Monograph: *Isatis tinctoria*. *Alt Med Rev*, 2002; 7(6)523-24
9. Danz H, Stoyanova S, Thomet OA, et al. Inhibitory activity of tryptanthrin on prostaglandin and leukotriene synthesis. *Planta Med* 2002;68:875-80.
10. Oberthur C, Graf H, Hamburger M. The content of indigo precursors in *Isatis tinctoria* leaves—a comparative study of selected accessions and post-harvest treatments. *Phytochemistry* 2004;65:3261-8 [www.NaturalDatabase.com] (Accessed 11.30.05)
11. Hamburger M. *Isatis tinctoria* - From the rediscovery of an ancient medicinal plant towards a novel anti-inflammatory phytopharmaceutical. *Phytochemistry Reviews* 2002;1:333-44. [www.NaturalDatabase.com] (Accessed 11.30.05)
12. Molina P, Tarraga A, Gonzalez-Tejero A, et al. Inhibition of leukocyte functions by the alkaloid isaindigotone from *Isatis indigotica* and some new synthetic derivatives. *J Nat Prod* 2001;64:1297-300. [www.NaturalDatabase.com] (Accessed 11.30.05)
13. Mak NK, Leung CY, Wei XY, et al. Inhibition of RANTES expression by indirubin in influenza virus-infected human bronchial epithelial cells. *Biochem Pharmacol* 2004;67:167-74. [www.NaturalDatabase.com] (Accessed 11.30.05)

Additional references available upon request .

PRECAUTIONS

Do not use if pregnant. There is not sufficient reliable information to know the safety during lactation. Not clinically tested on children. Bitter herbs may aggravate ulcers and heartburn. *Isatis* is contraindicated for patients who have deficiency and cold of spleen and stomach. However, short term use of Virucidal™, as it is intended should not be detrimental to these individuals. Individuals allergic to aspirin, sulfonyleurea antidiabetic drugs (e.g. tolbutamide, glipizide, glyburide) or sulfonamide antibiotics (e.g. sulfadiazine, sulfisoxazole, sulfamethoxazole, trimethoprim/sulfamethoxazole and erythromycin/sulfisoxazole) may be allergic to the ingredient, *Isatis tinctoria*.

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

