



# HerbClip™

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**FILE: ■ Kan Jang**  
**■ Andrographis (*Andrographis paniculata*)**  
**■ Upper Respiratory Infections**

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**RE: Kan Jang and Andrographis May Boost Immune Response**

Panossian A, Davtyan T, Gukassyan N, Gukasova G, Mamikonyan G, Gabrielian E, Wikman G. Effect of andrographolide and Kan Jang—fixed combination of extract SHA-10 and extract SHE-3—on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. *Phytomedicine* 2002; 9:598-605.

The leaves and aerial parts of andrographis (*Andrographis paniculata*), a shrub native to India, have been used in traditional systems of medicine for the treatment of hepatitis, bronchitis, colitis, coughs, fevers, mouth ulcers, sores, tuberculosis, bacillar dysentery, and venomous snake bites. These parts of the herb have also been used in the prophylactic and symptomatic treatment of upper respiratory infections such as the common cold, sinusitis, bronchitis, pharyngotonsillitis, lower urinary tract infections, and acute diarrhea. Little is known about the mode of action of andrographolide and other active compounds of andrographis, though it is known to have immunostimulating and anti-inflammatory actions. Eleuthero (*Eleutherococcus senticosus*), classified as an adaptogen, is known to improve non-specific immune response in humans and animals, affecting mainly T-lymphocytes. Furthermore, the herb has been demonstrated to have pronounced effects on common colds and influenza-like diseases.

Kan Jang® tablets, 400 milligrams (Swedish Herbal Institute, Göteborg, Sweden), containing a standardized fixed combination of andrographis and eleuthero extracts, have been used in 10 randomized, controlled clinical studies for upper uncomplicated respiratory tract infections, yielding statistically significant results.

The present study investigated the effects of Kan Jang tablets and an andrographolide (Swedish Herbal Institute) solution on spontaneous and mitogen-induced proliferation of human peripheral blood lymphocytes (PBL); production of cytokines, immune activation markers, and soluble receptors of interleukin-2 in whole blood cell cultures. One tablet

was dissolved in 61 milliliters of water to obtain a stock solution of Kan Jang, which was then diluted (1:10, 1:20, or 1:50). The concentrations of Kan Jang extract in test solutions added to incubation media were 280, 700, and 1,400 micrograms/ milliliter, which corresponds to 20, 50, and 100  $\mu\text{M}$  andrographolide, respectively.

Andrographolide (0.7 milligrams) was dissolved in 10 milliliters of water to obtain 200  $\mu\text{M}$  stock solution, which was then diluted (1:10, 1:20 or 1:50) before adding to test samples. PBLs were isolated from the blood of eight healthy donors and used for the experiments.

The results demonstrated an overall higher effect on activation and proliferation of immune competent cells in vitro on human peripheral blood lymphocytes by andrographolide and Kan Jang in combination than did andrographolide alone. Andrographolide and Kan Jang stimulate the production of key cytokines and immune activation markers (INF – gamma, TNF – alpha, Bs MG, and neopterin). Consequently, the two might have immunomodulatory effects and may influence the induction of cellular and humoral immune responses in vivo and modulating viral and bacterial induced inflammatory processes. These findings, combined with the consistency of clinical efficacy in other studies, indicate that the activity of the combination of herbal extracts in Kan Jang may be from synergism or the presence of other active constituents. Clinicians facing increasing epidemics of viral illnesses could consider use of Kan Jang as adjunctive therapy for the common cold.

*--Densie Webb, PhD*

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