

# Clinical Research Update

# Echinacea

**Human Gene Expression Gives Insight**

**into How Nutrilite Triple Guard Echinacea Works**



## AT A GLANCE:

- Study Goal: To utilize gene expression technology to examine Echinacea's effects in humans.
- Study Results: Following two days of supplementation with Nutrilite Triple Guard Echinacea, specific "anti-viral" gene activity increased, while the activity of several "pro-inflammatory" genes decreased.
- Conclusion: Supplementation with Nutrilite Triple Guard Echinacea had a visible effect on the expression of genes related to immunity.

Research suggests that echinacea supports the body's natural resistance. To better understand how Echinacea works, Nutrilite scientists utilized gene expression technology to examine Echinacea's effects in humans. In this study, six healthy men and women, 17-43 years of age, consumed Nutrilite Triple Guard Echinacea according to the label recommendation for two days and then again on the morning of the third day. Scientists studied a specific set of genes that are known to be involved in the immune response from blood samples taken before the subjects consumed Nutrilite Triple Guard Echinacea, and two and three days following supplementation.

Following consumption of Nutrilite Triple Guard Echinacea, a gradual and consistent elevation of the "anti-viral" gene IFN- $\alpha$ 2 was observed. As can be seen in the bottom panel of the figure at the right, this elevation remained 10 days after the product was discontinued.

Two to three days after taking the Triple Guard product, the expression of "pro-inflammatory" genes (IL-1 $\beta$ , TNF- $\alpha$ , COX-2, ICAM-1, and IL-8) was modestly decreased. The figures at the right show this distinct pattern.

These results were presented in April, 2002 at the International Scientific Conference for Complementary and Integrative Medicine Research in Boston, MA. This work received the Osher Award for Best Overall Poster Presentation at the conference. Findings from the study have been published in the journal of the Society for Experimental Biology and Medicine (Vol. 228, May 2003, pp. 1051-1056).

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