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## **New study of Human Genome Screen Shows Basis of 5-LOXIN's Anti-inflammatory Effects**

MORRISTOWN, NJ (April 28, 2005) PL Thomas (PLT), in alliance with Laila Nutraceuticals (Laila Group), India today jointly announced the results of a new study using their exclusive dietary supplement ingredient, 5-LOXIN®. The study identifies the anti-inflammatory and collagen sparing mechanisms associated with this novel and patent-pending dietary supplement, 3-acetyl-11-keto-beta boswellic acid (AKBA). Published in the April 2005 issue of *DNA and Cell Biology*, the study looked at the human genome and inflammatory pathways and compared 5-LOXIN® to ibuprofen in an animal model.

Researchers at Ohio State University, Georgetown University, Laila Impex Research Center, India, and Creighton University conducted the first whole genome screen for TNF $\alpha$ -inducible genes in human microvascular endothelial cells (HMEC). HMEC were exposed to TNF $\alpha$ , one of the most widely recognized mediators of inflammation. Of the over 47,000 transcripts screened, including the entire human genome, 522 were identified as TNF $\alpha$ -sensitive genes. Of the 522 genes, 113 were protected by 5-LOXIN®. These genes were identified as being involved in inflammation, cell adhesion and protein degradation.

The genes identified in the study were further processed to identify signaling pathways. 5-LOXIN® was shown to inhibit the expression of matrix metalloproteinase (MMP), enzymes that selectively destroy peptide bonds and structural proteins such as collagen and cartilage.

Most strikingly, however, the induced expression of VCAM and ICAM (adhesion molecules which are involved in recruiting the white blood cells to the area of inflammation and the associated swelling and pain), was significantly inhibited by 5-LOXIN®.

The findings led the researchers to test the efficacy of 5-LOXIN® in vivo. Using a recognized model of inflammation, carrageenan-induced rodent paw swelling, and the proven anti-

inflammatory agent ibuprofen as a control, the researchers concluded that 5-LOXIN® was shown to effectively diminish inflammation.

According to the authors, “These findings warrant further research aimed at identifying the signaling mechanisms by which *Boswellia* extract exerts its anti-inflammatory effects.”

*For more information on this study please contact PL Thomas: phone: 973-984-0900, fax: 973-984-5666, e-mail: [info@plthomas.com](mailto:info@plthomas.com) or [www.PLThomas.com](http://www.PLThomas.com)*

### **About Laila Nutraceuticals (LN)**

LN is a division of Laila Group, the largest producer of herbal extracts in India. LN works with Laila Impex Research Center to develop, manufacture and commercialize standardized herbal extracts & phytochemicals worldwide, and supports this work with patents and publications.

### **About PLT**

PL Thomas & Co., a New Jersey-based ingredient supplier, offers fifty years of innovation in securing reliable, high quality raw materials for the food/functional food and nutrition industries. PLT successfully champions nutritional products and technologies “Where Food & Health Meets.”

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