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HerbalScience Research Identifies Key Bioactives in Nettle Extract That Inhibit Inflammation Associated with Seasonal Allergies

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NAPLES, Fla., Aug. 26 /PRNewswire/ -- Most people might think of nettle as simply a common and aggressive weed that can sting and cause skin irritation. But nettle has also been used for hundreds of years to treat seasonal allergies and other inflammatory diseases, although the precise nature of its anti-inflammatory effect was unknown. Now, scientists with HerbalScience have identified specific bioactives in nettle leaf extracts that inhibit in vitro receptors and enzymes known to be key in generating symptoms of allergic rhinitis, or hay fever.

An article detailing the research, titled "Nettle Extract (Urtica dioica) Affects Key Receptors and Enzymes Associated with Allergic Rhinitis," has been published in the July 2009 issue of Phythotherapy Research, a peer-reviewed scientific journal. The authors are affiliated with HerbalScience Group LLC, a Naples, Florida, and Singapore-based company dedicated to applying advanced science and technology to the production of botanical drugs and nutraceuticals, and the University of Miami Leonard M. Miller School of Medicine, Miami, Florida.

"More than 20 million people in the United States suffer from seasonal allergies," said Randall S. Alberte, Ph.D., Chief Scientific Officer of HerbalScience and one of the authors of the published study. "While there are many effective over-the-counter and prescription allergy medications on the market, the fact that some may cause undesirable side effects in some patients means there is an ongoing need to seek potential new treatments. Our research results provide, for the first time, an understanding of how nettle extracts reduce allergic responses in vitro, which could lead to new standardized botanical, non-drug therapies that are safe and effective, and that have no side effects."

The study utilized a proprietary nettle extract prepared using HerbalScience's patented extraction technologies, which standardize the chemical profile of any selected botanical in order to deliver a compositionally and functionally consistent product, batch to batch. Separate assays were conducted to determine the extent of anti-inflammatory activities of the nettle extract in targeting key cellular-level processes that generate the symptoms of allergic rhinitis. The results showed the nettle extract has multiple anti-inflammatory activities that include:

H1 receptor inactivation and inhibition, which blocks histamine production and release;

Tryptase inhibition, which blocks mast cell degranulation and the subsequent release of cytokines and chemokines that cause allergy symptoms such as sneezing, nasal congestion, and itchy and watery eyes;

COX-1 and COX-2 (pro-inflammatory enzymes) inhibition, which blocks the formation of prostaglandin, known inflammatory mediators that trigger many responses associated with allergies and arthritis; and

Hematopoietic Prostaglandin D2 Synthase (HPGDS) inhibition, which specifically blocks Prostaglandin D2 production, a primary pro-inflammatory mediator in allergic rhinitis.

In addition to documenting the anti-inflammatory activities of the nettle extract, the study used advanced DART (Direct Analysis in Real Time) time-of-flight mass spectrometry technology to identify a number of specific bioactive compounds in the nettle extract that provided inhibition activities. The results suggest that the synergistic interactions of the many functional bioactives present address multiple steps in the pro-inflammatory cascade associated with seasonal allergies and other inflammatory disorders.

The article detailing the study appears in the July 2009 issue of Phytotherapy Research [Volume 23, Issue 7]. Its authors are Bill Roschek Jr., Ryan C. Fink, Matthew McMichael, and Randall S. Alberte. Dr. Fink is affiliated with the Department of Biochemistry and Molecular Biology at the University of Miami Leonard Miller School of Medicine, Miami, Florida, while the three other authors are all affiliated with HerbalScience Group LLC.

HerbalScience is a privately-held life sciences company headquartered in Naples, Florida, with facilities in Singapore. HerbalScience is engaged in the discovery, development, manufacture, and marketing of proprietary botanical

compounds for human health in the U.S. and international markets. The company has prominent alliances with prestigious university laboratories and prominent researchers in the U.S., as well as research institutions in China.

SOURCE HerbalScience

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