

New Anti-inflammatory Drug From Ag Products

A new, natural product—a lipid discovered by scientists at ARS' Eastern Regional Research Center in Philadelphia—may join the ranks of nonsteroidal drugs that fight inflammation. And this lipid could be indirectly produced from agricultural products.

“A drug containing this new compound could offer several advantages over existing anti-inflammatory drugs, because it blocks only one biochemical pathway—that of lipoxin biosynthesis,” says Robert A. Moreau. He is a chemist in the ERRC's Plant Science and Technology Research Unit.

Moreau says that all of the currently used nonsteroidal anti-inflammatory drugs—including aspirin, acetaminophen, and ibuprofen—inhibit two pathways, leukotriene biosynthesis and lipoxin biosynthesis.

Pharmaceutical companies have been searching for a drug that blocks only the lipoxin pathway. It is thought that a drug with this property would work especially well in treating the types of inflammatory conditions associated with asthma and atherosclerosis.

The new lipid tested negative for fungicidal, herbicidal, and insecticidal properties in cooperative work performed with a chemical company under a formal Cooperative Research and Development Agreement.

In addition, a collaborative project with the National Cancer Institute in Frederick, Maryland, revealed that the compound was not toxic to several types of cancer cells or to HIV-infected cells.

“We believe the fact that our compound didn't exhibit any type of toxicity in these systems enhances its value for pharmacological uses,” Moreau says. “Compounds that are toxic to cancer cells can harm healthy cells as well.”

Because ERRC scientists are applying for a patent, the name and chemical structure of the compound are confidential. The scientists are looking for a partner company that is interested in collaborating on further research and development of this potentially valuable lipid.—By **Doris Stanley**, ARS.

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