

Researchers identify a new approach for lowering harmful lipids

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Xian-Cheng Jiang, PhD, professor of cell biology at SUNY Downstate Medical Center, has led a study identifying a new approach for lowering "bad" lipids in blood circulation, a critical means to combat devastating cardiovascular diseases such as atherosclerosis. The research was published in the online edition of *Gastroenterology*.

The team established that an enzyme called LPCAT3 (Lysophosphatidylcholine acyltransferase 3) is involved in the biosynthesis of phosphatidylcholine (PC), a type of compound lipid that is a major component of cell membranes. Dr. Jiang found that LPCAT3 deficiency significantly reduces polyunsaturated PC levels in the plasma membrane of the cells that line the intestines, which in turn reduces [lipid absorption](#) and decreases levels of lipids (cholesterol, triglyceride, and phospholipid) in circulation.

"Hyperlipidemia, or high levels of lipids, is a common disease and contributes significantly to cardiac related morbidity and mortality," explains Dr. Jiang. "Statin drug trials have provided the major evidence for the benefits of a therapy that lowers [low density lipoprotein](#) (LDL), the so called 'bad cholesterol,' and [statin therapy](#) is now the mainstay of clinical management of cardiovascular disease. However, there are many instances in which patients do not respond to or cannot tolerate statins."

Because of this, there is an urgent need for additional approaches to lower plasma lipid, preferably acting synergistically with statins.

"Our study is intended to provide a novel approach to reduce the 'bad' lipids in the blood. Although the study was conducted in a mouse model, the outcomes may be applicable to humans," explains Dr. Jiang.

More information: An abstract of the article, Li Z, Jiang H, Ding T, Lou C, Bui HH, Kuo M-S, Jiang X-C, Deficiency in Lysophosphatidylcholine Acyltransferase 3 Reduces Plasma Levels of Lipids by Reducing Lipid Absorption in Mice, *Gastroenterology* (2015), DOI: [10.1053/j.gastro.2015.07.012](https://doi.org/10.1053/j.gastro.2015.07.012)., is available: [www.gastrojournal.org/article/... \(15\)01006-9/abstract](http://www.gastrojournal.org/article/.../S0016-5052(15)01006-9/abstract).

Provided by SUNY Downstate Medical Center

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