

Novel lipid mediators may play role in omega-3 PUFA effects

25 June 2016



14-hydroxydocosahexaenoic acid (HDHA) (9-DHAHLA, 13-DHAHLA, and 14-DHAHDHA). Synthesis of these compounds by adipocytes occurred at concentrations comparable to those of protectins and resolvins derived from DHA in WAT. Anti-inflammatory and pro-resolving properties were seen for 13-DHAHLA, together with a reduction in macrophage activation by lipopolysaccharide and enhanced phagocytosis of zymosan particles.

"Our results document the existence of novel lipid mediators, which are involved in the beneficial anti-inflammatory effects attributed to omega-3 PUFA, in both mice and humans," the authors write.

More information: [Full Text \(subscription or payment may be required\)](#)

(HealthDay)—Novel lipid mediators may be involved in the beneficial effects associated with omega-3 polyunsaturated fatty acids (PUFAs) in obesity, according to a study published online June 16 in *Diabetes*.

Copyright © 2016 [HealthDay](#). All rights reserved.

Noting that dysregulation of metabolic and endocrine functions of [white adipose tissue](#) (WAT), together with low-grade inflammation of the tissue in obesity, contributes to type 2 diabetes, Ondrej Kuda, Ph.D., from the Czech Academy of Sciences in Prague, and colleagues conducted experiments in mice and overweight/obese patients with type 2 diabetes. They elucidated the structures of novel members of fatty acid esters of hydroxy [fatty acids](#) (FAHFAs), derived from [docosahexaenoic acid](#) (DHA) and linoleic acid, which were identified in serum and WAT after supplementation with omega-3 PUFA.

The researchers found that the FAHFAs contained DHA esterified to 9- and 13-hydroxyoctadecadienoic acid (HLA) or

APA citation: Novel lipid mediators may play role in omega-3 PUFA effects (2016, June 25) retrieved 23 October 2022 from <https://medicalxpress.com/news/2016-06-lipid-role-omega-pufa-effects.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.