

Researchers find new links between obesity and cardiovascular disease

January 22 2015

In a new study published in the *Journal of Biological Chemistry*, a research group led by James A. Hamilton, PhD, professor of Physiology, Biophysics and Radiology at Boston University School of Medicine, applied novel methods to detect binding of fatty acids to CD36 and their effect on internalization of oxidized LDL. Although other research groups have characterized a fatty acid binding site on CD36 and postulated CD36 to be a gatekeeper for fatty acid entry into cells, the Hamilton lab previously found that CD36 did not increase fatty acid translocation across the plasma membrane.

In the current study all of the common dietary fatty acid types (saturated, unsaturated, trans and polyunsaturated) were shown by a new assay to bind to CD36 at levels greater than expected for a single binding site characterized in previous studies. In cells with CD36 present in the [plasma membrane](#), all of the fatty acids also enhanced oxidized LDL uptake, except for the fish oil fatty acid DHA. This current study adds to the possible mechanisms for [fish oil](#) benefits that are now widely recognized.

"Since obesity and type 2 diabetes are characterized by high plasma levels of fatty acids, the demonstrated enhancement of oxLDL uptake by increases in common dietary fatty acids may contribute to the pathophysiology of these diseases. Furthermore, our new results provided a link between [fatty acids](#), CD36, and atherosclerosis and new drugs can be designed that target the exact mechanism more precisely." added Hamilton.

Provided by Boston University Medical Center

Citation: Researchers find new links between obesity and cardiovascular disease (2015, January 22) retrieved 26 April 2024 from <https://medicalxpress.com/news/2015-01-links-obesity-cardiovascular-disease.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.