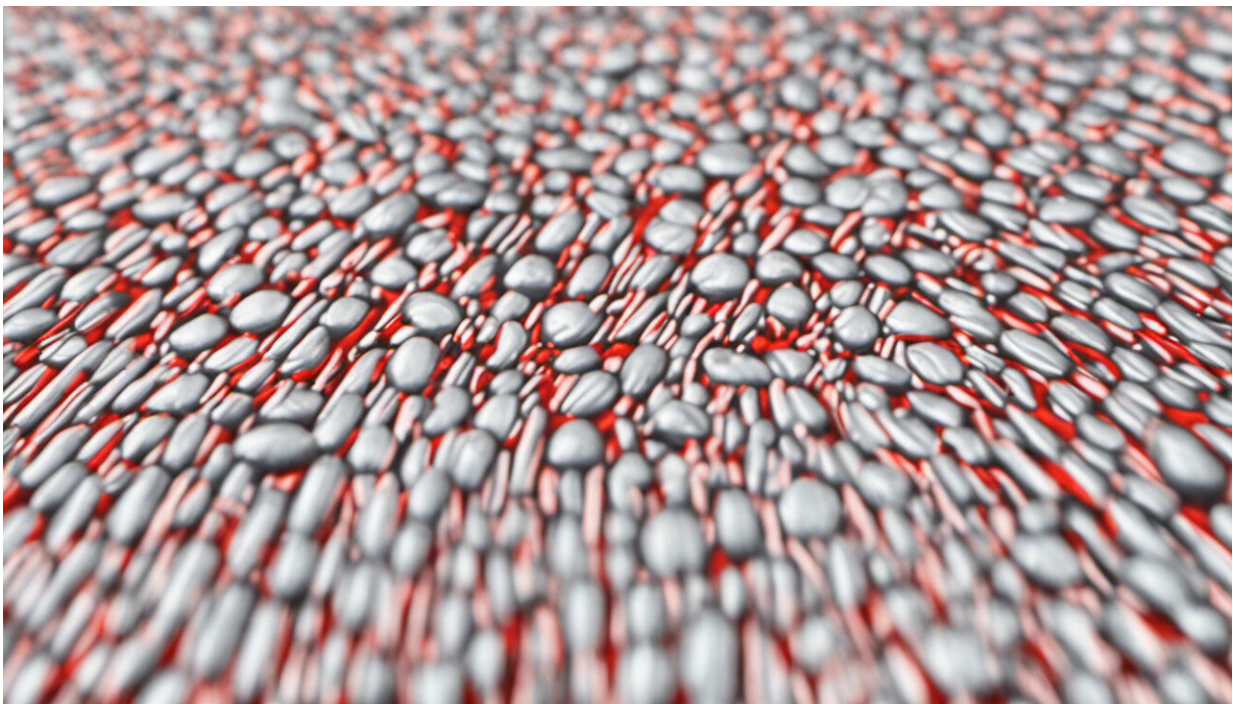


New insights into link between anti-cholesterol statin drugs and depression

June 30 2010



Credit: AI-generated image ([disclaimer](#))

Scientists are reporting a possible explanation for the symptoms of anxiety and depression that occur in some patients taking the popular statin family of anti-cholesterol drugs, and reported by some individuals on low-cholesterol diets. These symptoms could result from long-term, low levels of cholesterol in the brain, the report suggests. It appears in

ACS' weekly journal *Biochemistry*.

Amitabha Chattopadhyay and colleagues note in the study that statins work by blocking a key enzyme involved in the body's production of cholesterol. Some studies link the drugs to an increased risk of [anxiety](#) and [depression](#), but the reasons are unclear. The scientists previously showed that maintaining normal cholesterol levels is important for the function of cell receptors for serotonin, a brain hormone that influences mood and behavior. But the long-term effect of cholesterol depletion on these receptors, which can occur in patients taking anti-cholesterol drugs, is unknown.

The scientists turned to the statin medication mevastatin to find out. In lab tests using human serotonin receptors expressed in animal cells, they showed that long-term use of the drug caused significant changes in the structure and function of serotonin cell receptors. Adding cholesterol to cells treated with mevastatin restored them to normal. The results represent the first report describing the effect of long-term cholesterol depletion on this type of [cell receptor](#) and suggest that chronic, low [cholesterol](#) levels in the brain might trigger anxiety and depression, the scientists say.

More information: "Chronic Cholesterol Depletion using Statin Impairs the Function and Dynamics of Human Serotonin1A Receptors", *Biochemistry*.

Provided by American Chemical Society

Citation: New insights into link between anti-cholesterol statin drugs and depression (2010, June 30) retrieved 25 April 2024 from <https://phys.org/news/2010-06-insights-link-anti-cholesterol-statin-drugs.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.