C15:0 Improves Your *Being-Healthy* Odds

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Welcome to Issue 21 of Science Says! Our weekly newsletter where you'll learn the latest healthy aging and C15:0 research news that our team of doctors, scientists, and experts are most excited about—without having to go search for it.

Eric and Steph
Co-Founders, Doctors, Nerds

What Dr. Stephanie Venn-Watson, our co-founder and author of over 80 peer-reviewed scientific publications, is reading.

HEALTHY AGING

The odd good guys

Since the 1970s, we have been told to avoid saturated fats to protect our metabolic and heart health. Over the past decade, however, numerous studies have revealed that there are actually 'good' and 'bad' saturated fats. A recent publication in *Frontiers in Nutrition* by Li et al. combined a bunch of these studies (49 to be exact) to see which saturated fats increased vs. decreased our risk of developing type 2 diabetes, cardiovascular disease, coronary heart disease, and stroke.

Spoiler alert: C15:0 is the good guy.

What exactly did this study find?

In this study, over 220,000 people between 49 and 79 years old were followed for 2 to 30 years. Li et al. found that people with *higher* circulating C15:0 levels were *less likely* to develop type 2 diabetes and coronary heart disease. People with higher C15:0 and C17:0 levels were also less likely to develop cardiovascular disease. In contrast, people with higher circulating C16:0 levels were more likely to develop type 2 diabetes, cardiovascular disease, coronary heart disease, and stroke.

This study furthered our understanding that saturated fats with an even number of carbons (like C16:0) contribute to poor health, while those with an odd number of carbons (like C15:0) are drivers of good health.

Why are odd-chains good and even-chains bad?

The difference is partly due to how these two types of fatty acids are broken down (and built up) in our bodies.

Odd-chain saturated fatty acids are broken down into propionic acid, which is a pro-metabolic health molecule. Even-chain saturated fatty acids break down into acetoacetic acid, which is a pro-diabetes molecule.

Additionally, our studies have shown that C15:0 directly repairs mitochondrial function, calms immune responses in heart vessels, and naturally activates receptors that balance our immunity and metabolism.

What does this mean for my diet - can I eat butter?

Butter and whole-fat milk were basically banned in the 1970s because they have high amounts of saturated fats. Unfortunately, butter and milk have MUCH higher amounts of even-chain saturated fats than odd-chain saturated fats. It is also likely why studies looking at the health benefits versus risks of these foods have had mixed results. Wouldn't it be great if we could get C15:0 without having to eat C16:0, too? We thought the same thing...

C15:0 is a 2-for-1 molecule.*

Given Li et al.'s findings, some folks have asked us about the benefits of adding both C15:0 and C17:0 to their diets. Here's the good news: our studies have shown that our bodies naturally use C15:0 to make C17:0, too. This helps explain why C15:0 is considered a goldilocks molecule for our health. It's just what our bodies need to boost all the good fats, without the bad.

Have a wonderful week, everyone!

Dive deeper into the science

READ THESE STUDIES

- Review of saturated fats and health
- C15:0 benefits to cell membranes, mitochondria, and cell receptors