Metabolic Health

Numerous studies have shown that people with higher circulating C15:0 concentrations have a lower risk of having or developing type 2 diabetes. These studies were performed by prestigious research teams around the world, including Sweden, England, Canada, and Asia. One study showed that pregnant women with higher circulating C15:0 concentrations had a lower risk of developing gestational diabetes.

These benefits may be due to C15:0’s demonstrated ability to:

- Reduce glucose and promote insulin-stimulated glucose uptake
- Lower total and LDL cholesterol in animal models
- Lower triglycerides in animal models
- Activate PPAR-α/δ receptors, which regulate metabolism
- Activate AMPK, which regulates cellular homeostasis

Liver Health

Multiple studies have shown that people with higher circulating C15:0 concentrations have a lower risk of having nonalcoholic fatty liver disease (NAFLD) and severe nonalcoholic steatohepatitis, including children. NAFLD now affects 1 in 3 people, including 1 in 10 children, globally. It has been hypothesized that nutritional C15:0 deficiencies may be driving the global pandemic of fatty liver disease.

C15:0’s liver health benefits may be due to its ability to:

- Decrease the severity of liver fibrosis
- Stop fibrotic cells from proliferating
- Prevent damaging iron deposition in the liver
- Lower inflammation
- Activate PPAR-α/δ receptors, which can help protect the liver

What is C15:0 (pentadecanoic acid)?

C15:0 is a nutrient that can help support your long-term health and wellness. C15:0 (pronounced see-fifteen) is the first essential fatty acid to be discovered since omega-3 and omega-6, which was over 90 years ago.
Immune & Joint Health

People with higher circulating C15:0 concentrations have lower inflammation. Additionally, a study evaluating a model of arthritis demonstrated that higher C15:0 concentrations in the serum and joint fluid was associated with a lower risk of joint degradation and osteoarthritis.

These benefits may be due to C15:0’s demonstrated ability to:

• Lower many pro-inflammatory cytokines, including IL-6, MCP-1, PAI-1, and VCAM-1
• Decrease inflammation in human cell systems mimicking chronic inflammation
• Decrease pain by raising circulating concentrations of pentadecanoylcarnitine (PDC), a C15:0 metabolite that naturally activates CB1 and CB2 receptors.

Heart Health

Dozens of large, prospective cohort studies have consistently shown that people with higher circulating C15:0 concentrations are less likely to develop heart disease, including heart failure.

These benefits may be due to C15:0’s demonstrated ability to:

• Reduce inflammation in the heart and vessels
• Lower total and LDL cholesterol in animal models

Brain, Mood & Sleep Health

C15:0 and its metabolite, pentadecanoylcarnitine (PDC), can cross the blood-brain barrier and have targeted cell-based activities that support brain, cognitive, mood and sleep health.

These demonstrated activities include:

• Anti-inflammatory activities, including IL-6 and MCP-1, which can support brain health.
• Activation of PPARɑ, which can support cognition, mood, brain and sleep health.
• Raised circulating concentrations of pentadecanoylcarnitine (PDC), a C15:0 metabolite, that naturally activates CB1, CB2, 5-HT1A and 5-HT1B receptors, which support brain health, cognition, mood, and sleep health.

Learn more at DiscoverC15.com