

## University of Bergen Study Links Cetoleic Acid Supplementation to Significant LDL Reduction

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Supplementation with EPAX Cetoleic 2040, an Omega-9 Gondoic acid and Omega-11 Cetoleic acid oil, reduced LDL-cholesterol in overweight and obese adults by 7 per cent after eight weeks, a clinical study has found.

Raised total cholesterol, and LDL-cholesterol in particular, is associated with higher body fat percentage and is a major risk factor for cardiovascular disease (CVD), the world's leading cause of death. Approximately 10 per cent of adults have elevated total cholesterol levels.

The new study is the first human study to evaluate the effects of the marine long-chain monounsaturated fatty acids (LC-MUFAs), cetoleic and gondoic acid on LDL-cholesterol. The study was conducted by Professor Gudbrandsen of the University of Bergen, Norway, and builds on considerable pre-clinical data from the Bergen group as well as others.

Eighty healthy, overweight and obese men and women (BMI>25) were enrolled, and 75 completed the eight-week intervention. They were randomised to a 4g daily dose of either EPAX Cetoleic 2040, a cetoleic acid concentrate, or a control containing soyabean oil and Omega-3 PUFAs from anchovy oil. Both interventions had comparable levels of Omega-3, enabling the researchers to distinguish the effects of cetoleic acid concentrate from those of Omega-3.

After eight weeks, there was a statistically significant 7 per cent decrease in LDL-cholesterol from baseline in participants taking EPAX Cetoleic 2040 compared with the control group ( $p = 0.033$ ). This reduction was not associated with any changes in body fat percentage. A 7 per cent reduction in LDL-cholesterol achieved through dietary modification is estimated to reduce the risk of coronary heart disease by 15 per cent.

Regular consumption of marine fish and seafood is associated with reduced CVD risk, a relationship historically attributed to the Omega-3 polyunsaturated fatty acids (PUFAs) EPA and DHA. However, EPA and DHA have no cholesterol-lowering effects unless taken in very high doses.

Oddrun Anita Gudbrandsen, Professor at the University of Bergen, said: "We already have extensive preclinical evidence that demonstrates the benefit of long-chain monounsaturated fatty acids on cholesterol concentration. Our clinical trial in healthy adults with overweight or obesity showed that supplementation with cetoleic acid concentrate reduced the LDL-cholesterol by 7 per cent which is estimated to reduce the risk of coronary heart disease by around 15 per cent. By reducing LDL-cholesterol, Epax's Omega-11 cetoleic concentrates have the potential to make a significant impact on cardiovascular health."

Thomas Gulbrandsen, Global Sales and Marketing Director, Epax Norway AS, said: "The new study is testament to Epax's innovation strategy and underscores our commitment to clinically relevant, high-quality marine oils. It also supports oils in our EPAX NovusLipid category of next-generation marine lipids, including EPAX Omega 3-9-11 – the world's first commercially available LC-MUFA concentrate. Derived from pelagic fish from the North Atlantic, it offers a unique combination of Omegas 3, 9 and 11, supporting heart, metabolic, and skin health."