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Pharmactive Study Links Csat Carob Ingredient to Gut Hormones and Satiety

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New studies suggest Csat by Pharmactive increases SCFA production and supports satiety

Two new lab studies displayed potential for the holistic carob-based ingredient Csat, developed by nutraceutical leaders Pharmactive Biotech Products, S.L.U., to exert a positive impact on the gut microbiome, helping to stimulate GLP-1 and support satiety.

The first study, an in vitro study published in February 2026 in the journal Bioscience, compared Csat with a control medium and two individual carob fractions, a galactomannan-rich seed fraction and a pulp extract. Assessment of the microbial composition 24 and 48 hours later revealed that Csat exerted the strongest effect on microbial activity, producing the highest amounts of short-chain fatty acids (SCFA) acetate, propionate, and butyrate.

Csat is a standardized carob (Ceratonia siliqua L.) formulation naturally rich in fibers and polyphenols, including galactomannans (?20 per cent), inositols (?5 per cent), and gallic acid (?0.1 per cent). These compounds act synergistically to help modulate weight, improve insulin sensitivity, and reduce oxidative stress, all hallmarks of metabolic syndrome.

SCFAs are produced when the gut bacteria break down fiber and have been shown in other research to boost satiety while protecting the gut lining. Although the galactomannan-rich fraction (GM) and the pulp extract (CPE) each induced fermentation responses, Csat consistently generated the highest and most sustained levels of all three major SCFAs.

With Csat's whole-fruit approach, the galactomannans support primary bacterial fermenters (Bacteroides), while the pulp extract supports secondary bacterial fermenters (Anaerostipes and Blautia), the two types working synergistically, with one breaking down fibers into compounds the others utilize, leading to enhanced SCFA production while helping to maintain a balanced microbiome.

The second trial, published in July 2026 in the Journal of Functional Foods, was a laboratory in vitro digestion model to test Csat in intestinal cells. Csat induced the strongest enteroendocrine response after gastric digestion, significantly increasing both glucagon-like peptide-1 (GLP-1) and cholecystokinin (CCK) release. GLP-1 and CCK are known as key regulators of satiety and postprandial metabolic responses.

"Historically, in Spain during the 1930s and 1940s, when cocoa was scarce, people turned to carob for its cocoa-like flavor and aroma," relates Carlos Rodríguez, Communications Manager at Pharmactive. "Since then, carob has been considered

a natural alternative to chocolate. But research into this ancient fruit reveals that it has so much more to offer. Carob is naturally rich in nutrients and compounds that support gut health, and we are now uncovering its potential in weight management, blood sugar balance, and microbiome support."