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Microbes as nutraceuticals for obesity and weight control

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Obesity is a significant risk factor for major diseases-type II diabetes, coronary heart disease, hypertension and certain forms of cancer. The microorganisms in the form of probiotic bacteria can be used as a natural remedy for weight control, preventing obesity, and improving energy metabolism. Some strains of lactic acid bacteria (LAB) have the ability to lower serum cholesterol levels by breaking down bile in the gut, thus inhibiting its re-absorption. *Lactobacillus* (*Lb. sporogenes* and *Lb. acidophilus* NCFB 1748) and *Bifidobacterium* genus representatives play a critical role in weight regulation as an anti-obesity effect in experimental models and humans. *Lactobacillus sporogenes* has the ability to lower cholesterol levels by producing a significant reduction in low density lipoprotein (LDL) levels and a small but significant increase in high density lipoprotein (HDL) cholesterol; and the probiotic bacteria can also be successfully implanted in the intestine. *Lactobacillus acidophilus* is helpful in reducing serum cholesterol levels by reducing abdominal fat by 4.6%, and subcutaneous fat by 3.3%. The probiotic milk containing *Lactobacillus gasseri* SBT2055, significant decreases body weight BMI, waist circumference and hips. Researchers engineered a specific strain of *Lactobacillus* to produce a specific kind of fatty acid, t10, c12 CLA. Mice fed with the probiotic showed significant alterations to their fat tissues. Thus microbes have a tremendous potential and can be used in designing a nutraceutical for obesity and weight control.

Biography

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