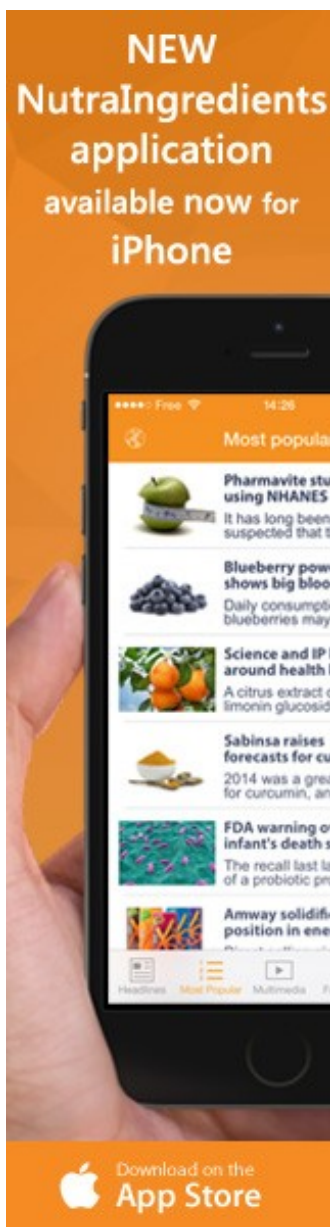


## Probiotics linked to liver fat reduction in rat study



Probiotic strains reduce fatty liver condition and has an anti-inflammatory effect in obese Zucker rats, according to research. Photo credit: Alexey Krasavin.

**Probiotic consumption for thirty days was associated with a reduction of fat accumulation in the liver of obese rats, say Spanish researchers.**



The University of Granada team looked at the impact of probiotic strains *Lactobacillus paracasei*, *Bifidobacterium breve* and *Lactobacillus rhamnosu* on steatosis on the accumulation of fat in the liver, the first stage of non-alcoholic fatty liver disease (NAFLD), a condition linked to obesity and diabetes.

A reduction in liver steatosis (accumulation of fat in the liver) in the strain-fed obese Zucker-Lepr rats was observed as well as “*clear anti-inflammatory effects*”, when compared to placebo-fed obese and ‘lean’ rats over a period of 30 days. The obese rats developed obesity through a mutation in the gene that codifies the receptor of satiety hormone leptine.

*“The probiotic strains reduced hepatic steatosis in part by lowering serum lipopolysaccharide, and had an anti-inflammatory effect in obese Zucker rats,”* the researchers wrote.

### The fat rats

Triacylglycerol content decreased in the liver of obese rats fed *L. rhamnosus*, *B. breve*, or the mixture of *B. breve* and *L. paracasei*, the researchers said.

Meanwhile, the area corresponding to neutral lipids was significantly smaller in the liver of all four groups of the probiotic-fed obese rats compared to rats fed the placebo.

The obese rats exhibited significantly greater serum lipopolysaccharide (LPS) levels than Zucker-lean rats after

30 days of placebos. In contrast, all four groups of the obese rats that received lactic acid bacterial strains exhibited serum LPS concentrations similar to those of 'lean' rats.

Serum tumour necrosis factor (TNF) - $\alpha$  levels decreased in the obese rats that received *B. breve*, *L. rhamnosus* or a mixture of the strains, whereas *L. paracasei* feeding decreased interleukin 6 - a pro-inflammatory cytokine - levels in the serum of obese rats.

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*"Effects of Lactobacillus paracasei CNCM I-4034, Bifidobacterium breve CNCM I-4035 and Lactobacillus rhamnosus CNCM I-4036 on Hepatic Steatosis in Zucker Rats"*

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