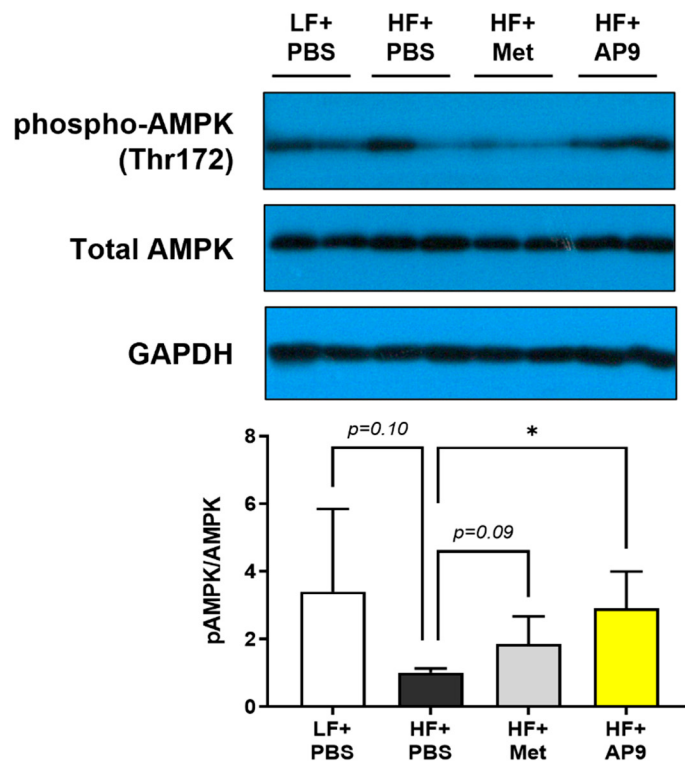
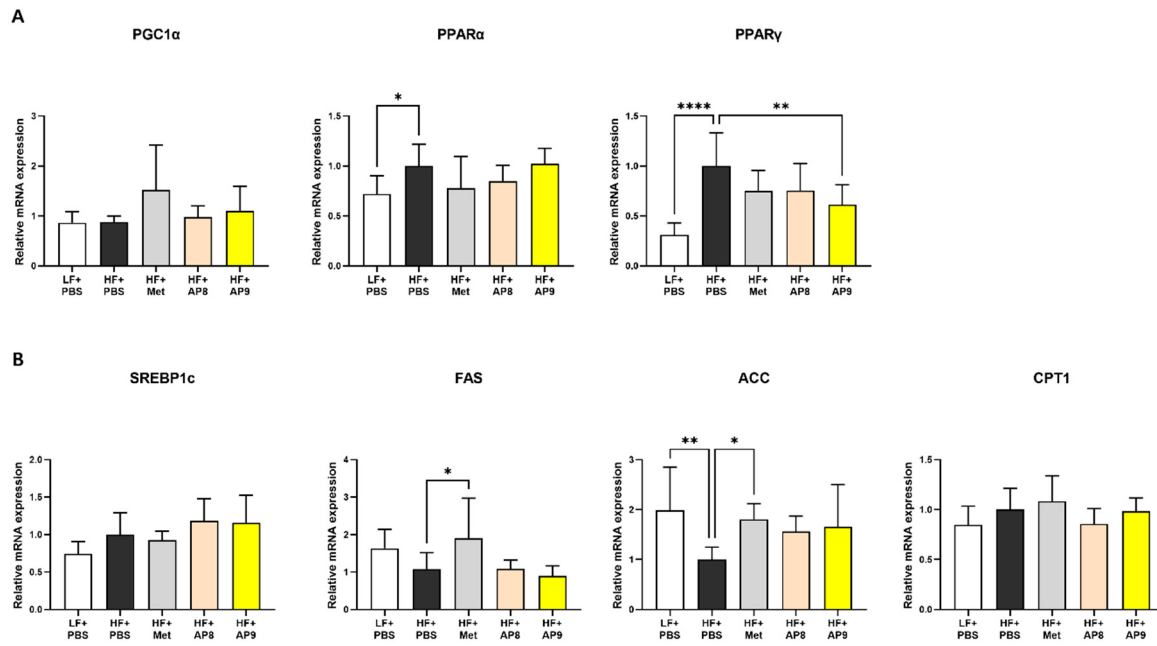


**Comprehensive Amelioration of Metabolic Dysfunction through
Administration of *Lactiplantibacillus plantarum* APsulloc 331261 (GTB1™)
in High-Fat-Diet-Fed Mice**

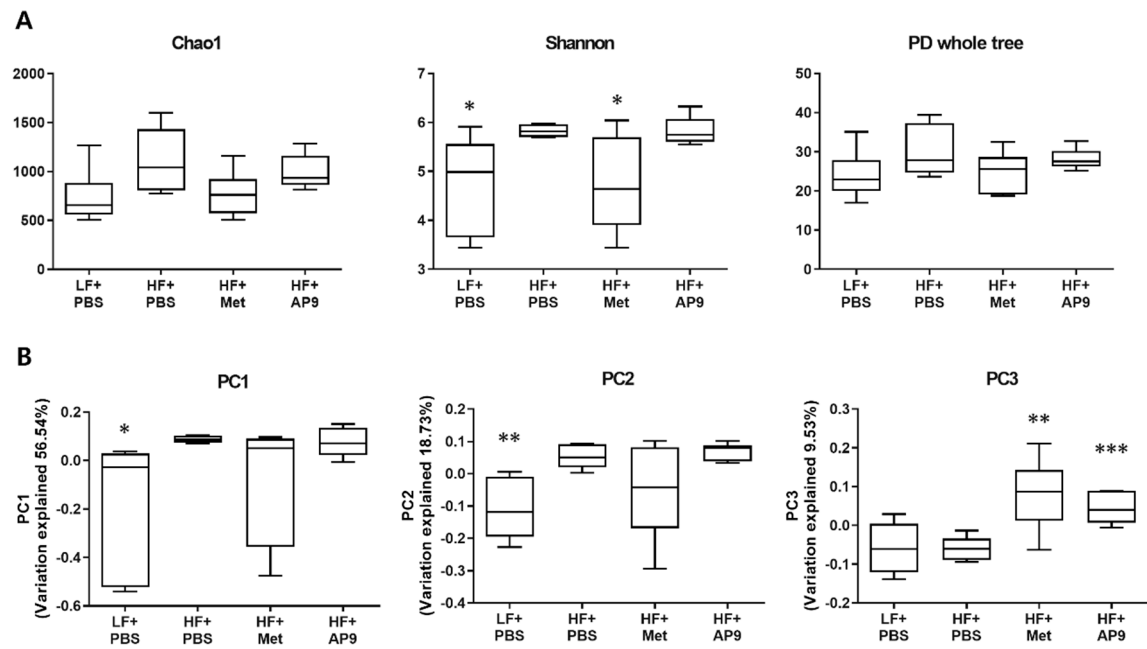
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and Wilhelm H. Holzapfel^{1,2,*}



Supplementary Figure S1. GTB1TM treatment enhances AMPK phosphorylation in skeletal muscle tissue of HFD-fed mice. Changes of AMPK phosphorylation level in quadriceps tissue after 14 weeks of GTB1TM treatment. GAPDH was used as a loading control. Data present mean $\pm$ SD. Statistical significance between experimental groups were analyzed using ordinary one-way ANOVA with Dunnett's multiple comparison test. $*$ $p < 0.05$ compared to the HF+PBS group. LF: low-fat diet, HF: high-fat diet, PBS: phosphate buffered saline, Met: metformin, AP9: GTB1TM high dose (1×10^9 CFU/day/mouse).



Supplementary Figure S2. There is no significant alteration to hepatic lipid metabolism by GTB1TM treatment in HFD-fed mice. Hepatic mRNA levels of genes related to the transcriptional regulation (**A**), and lipid synthesis (**B**) in lipid metabolism after 14 weeks of GTB1TM treatment. All genes were normalized to the expression of Arbp ($n = 8$). Data present mean $\pm$ SD. Statistical significance between experimental groups were analyzed using ordinary one-way ANOVA with Dunnett's multiple comparison test. * $p < 0.05$, ** $p < 0.01$, **** $p < 0.0001$ compared to the HF+PBS group. LF: low-fat diet, HF: high-fat diet, PBS: phosphate buffered saline, Met: metformin, AP8: GTB1TM low dose (1×10^8 CFU/day/mouse), AP9: GTB1TM high dose (1×10^9 CFU/day/mouse).



Supplementary Figure S3. The alterations in the diversity of cecal microbiota by GTB1™ treatment. Microbial analyses on the cecal contents. (A) α -diversity, (B) β -diversity.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ compared to the HF + PBS group.