



**Figure S1.** Safety evaluations of *Bifidobacterium longum subsp. infantis* FB3-14. **(A)** Hemolysis Assays. **(B)** Determination of nitrate reductase activity. **(C)** Determination of amino acid decarboxylase activity. FB3-14: *Bifidobacterium longum subsp. infantis* FB3-14.

**Table S1.** Diets Formula.

Compositions	Normal Diet	High Fat Diet (HFD)
Casein	800 kcal/kg	800 kcal/kg
L-Cystine	12 kcal/kg	12 kcal/kg
Corn Starch	2024.8 kcal/kg	0
Maltodextrin	500 kcal/kg	500 kcal/kg
Sucrose	275 kcal/kg	275 kcal/kg
Soybean Oil	225 kcal/kg	225 kcal/kg
Lard	180 kcal/kg	2205 kcal/kg
Vitamin Mix	40 kcal/kg	40 kcal/kg

**Table S2.** Mass Ratio and Energy Supply Ratio.

Energy-Supplying Substance	Normal Diet			High Fat Diet (HFD)		
	Mass Ratio, %	Kcal/kg	Energy Supply Ratio, %	Mass Ratio, %	Kcal/kg	Energy Supply Ratio, %
Protein	18.8	752	20.54	23.25	930	18.14
Fat	5.2	468	12.79	34.55	3110	60.65
Carbohydrate	61.0	2440	66.67	27.20	1088	21.22
Total energy		3660	100		5128	100

**Table S3.** Histological Score of Liver Tissue.

Scores	Histological Findings
0	No fibrosis
1	Fibrous portal expansion
2	Periportal fibrosis and Occasional septa
3	Many septa and Architectural distortion
4	Probable/Definite cirrhosis

**Table S4.** Specific Primer Sequences for RT-qPCR.

<b>Genes</b>	<b>Forward Primer (5'→3')</b>	<b>Reverse Primer (5'→3')</b>
<i>β-actin</i>	GGCTGTATTCCCCTCCATCG	CCAGTTGGTAACAATGCCATGT
<i>Acc</i>	GGCAGCAGTTACACCACATAC	TCATTACCTCAATCTCAGCATAGC
<i>Hsl</i>	GCTAGCCAGGCTCATCTCCT	GTTCTTGAGGTAGGGCTCGT
<i>Leptin</i>	CCTGTGGCTTTGGTCCTATCTG	AGGCAAGCTGGTGAGGATCTG
<i>Ppara</i>	TGCAGCCTCAGCCAAGTTGAA	TCCCGAACTTGACCAGCCA
<i>Pgc1α</i>	AGCCGTGACCACTGACAACGAG	GCTGCATGGTTCTGAGTGCTAAG
<i>Adiporq</i>	AGGCCGTTCTCTTCACCTAC	TACACCTGGAGCCAGACTTG
<i>Adipor1</i>	CTATCGCTGAGGGCTTTGTC	CAGGAATCCGAGCAGCATAC
<i>Adipor2</i>	ACGATGTGCTACCGGATTGG	AAACAGGCCCGAAAGGAAGG
<i>Il-1β</i>	AAGGGCTGTTCCAAACCTTTGAC	TGCCTGAAGCTTTGTTGATGTGC
<i>Il-6</i>	TAGTCCTTCCTACCCCAATTTCC	TTGGTCCTTAGCCACTCCTTC
<i>Tnf-α</i>	AATGGCCTCCCTCTCATCAG	CCACTTGGTGGTTTGCTACG
<i>Gpr-41</i>	CAAGTTCCAAGCCGACTTTC	TGGATGGCTCTTCTCCATTC
<i>Gpr-43</i>	GAGGCTGTGGTGTTCAATTG	GCATAGAGGAGGCAGGATTG
<i>Gpr-109a</i>	GGCACGATGCTATGTTCTC	GATGGCCCTCTTGATCTTGG

*Acc*, acetyl-CoA carboxylase; *Hsl*, hormone-sensitive lipase; *Ppara* peroxisome proliferator activated receptor alpha; *Pgc1α*, peroxisome proliferator-activated receptor c coactivator 1α; *Adiporq*, adiponectin; *Adipor1*, adiponectin receptor 1; *Adipor2*, adiponectin receptor 2; *Il-1β*, interleukin-1β; *Il-6*, interleukin-6; *Tnf-α*, tumor necrosis factor α; *Gpr-41*, G protein coupling receptors 41.