**Supplementary Table**

**Table S1. Composition of experimental diets\***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Ingredient (g/kg)** | **NC** | **BC** | **LD** | **HD** |
| Corn starch | 529.50 | 489.50 | 389.50 | - |
| WHLB | - | - | 100.00 | 489.50 |
| Soybean oil | 70.00 | - | - | - |
| Lard | - | 100.00 | 100.00 | 100.00 |
| Cholesterol | - | 10.00 | 10.00 | 10.00 |
| Casein (99% protein) | 200.00 | 200.00 | 200.00 | 200.00 |
| Sucrose | 100.00 | 100.00 | 100.00 | 100.00 |
| Cellulose | 50.00 | 50.00 | 50.00 | 50.00 |
| L-cystine | 3.00 | 3.00 | 3.00 | 3.00 |
| Choline chloride | 2.50 | 2.50 | 2.50 | 2.50 |
| AIN-93G mineral mixture | 35.00 | 35.00 | 35.00 | 35.00 |
| AIN-93G vitamin mixture | 10.00 | 10.00 | 10.00 | 10.00 |
| **Content (g/100g)** |  |  |  |  |
| Fat  | 7.00 | 11.00 | 11.09 | 11.46 |
| Protein | 20.10 | 20.10 | 21.65 | 27.70 |
| β-glucan | 0.00 | 0.00 | 0.53 | 2.58 |
| Total dietary fiber | 5.00 | 5.00 | 6.74 | 13.49 |
| Insoluble dietary fiber | 5.00 | 5.00 | 6.06 | 10.20 |
| Soluble dietary fiber | 0.00 | 0.00 | 0.85 | 4.15 |

“\*”: Prepared according to the AIN-93G(25). “-”: not added. Abbreviations: NC, normal control group; BC, blank control group; LD, low-dose group; HD, high-dose group; WHLB, whole-grain highland hull-less barley.

**Supplementary Figures**

**Fig. S1.** Effect of diet with different doses of WHLB on fecal water content (A) and pH (B) of HFD SD rats. Values are presented as the mean ± standard deviation (*n* = 18 for 1–4 weeks, *n* = 9 for 5–8 weeks). Abbreviations: NC, normal control group; BC, blank control group; LD, low-dose group; and HD, high-dose group, HFD, high-fat diet; SD rats, Sprague–Dawley rats.

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28S

5S

18S

**Fig. S2.** Agarose gel (1.2%, w/v) electrophoresis of total RNA extracted from liver. Gel was stained by 1 × GeneGreen nucleic acid dye (Tiangen Biotech Co., Ltd., Beijing, China) and visualized using a Syngene GeneGenius Imaging System (Synoptics Ltd., Cambridge, UK).



**ApoB**

**β-actin**

**AMPK**



**HMG-CoAr**

**FXR**

**CYP7A1**



**PPARα**

**LXR**

**LDL-R**



**SREBP-1c**

**IBABP**

**ASBT**

**Fig. S3.** Melting curves of primers used for RT-PCR. Abbreviations: AMPKα, AMP-activated protein kinase α; ApoB, apolipoprotein B; CYP7A1, cholesterol 7α-hydroxylase; FXR, farnesoid X receptor; HMG-CoAr, 3-hydroxy-3-methylglutaryl coenzyme A reductase; LDL-R, low-density lipoprotein receptor; LXR, liver X receptor; PPARα, peroxisome proliferator-activated receptor α; SREBP-1c, sterol regulatory element-binding protein-1c; ASBT, apical sodium-dependent bile acid transporter; IBABP, ileal bile acid-binding protein.