

Supplementary information

Table S1 Ingredient formula of regular chow and high-fat diet for mice

Regular rodent chow		High-fat diet	
Ingredient	Content (g / 100 g)	Ingredient	Content (g / 100 g)
Water	9.2	Casein	23.31
Crude protein	22.1	L-cysteine	0.35
Crude fat	5.28	Corn starch	8.48
Crude fiber	5.2	Maltodextrin	11.65
Crude minerals	4.12	Sucrose	20.14
Nitrogen-free extract	52	Cellulose	5.83
Calcium	1.24	Soybean oil	2.91
Phosphorus	0.92	Lard oil	20.68
Calcium : phosphorus ratio	1.35	Essential minerals	5.23
Lysine	1.34	Essential vitamins	1.16
Methionine + cystine	0.78	Choline bitartrate	0.23
Protein (% of energy)	25.7	Protein (% of energy)	20
Carbohydrate (% of energy)	60.5	Carbohydrate (% of energy)	35
Fat (% of energy)	13.8	Fat (% of energy)	45
Total energy (kcal / 100 g)	352	Total energy (kcal / 100 g)	473

Table S2 Specific primers synthesized for real-time quantitative PCR¹⁻².

Genes	Forward sequence (5'→3')	Reverse sequence (5'→3')
G6Pase	GCCAACGTATGGATTCCGGT	CACAGCAATGCCTGACAAGA
PEPCK	AAATGCTTTGCGTTGCGGAT	AGCCCTTAAGTTGCCTTGGG
GS	GCAGTGATGCGGAAGACGAA	AGTGGTTCAGAGAAAACGGTGA
SREBP1	GGAACCTTTTCCTTAACGTGGGC	ATGAGCTGGAGCATGTCTTCG
SCD-1	TTCTTGCGATACACTCTGGTGC	CGGGATTGAATGTTCTTGTCGT
DGAT2	AGTGGCAATGCTATCATCATCGT	AAGGAATAAGTGGGAACCAGATCA
LDLR	AGCATCGATGTCAATGGGGG	ACCAGTTCACCCCTCTAGGC
PPARα	TGGTGCAATTTGGGCGTATCT	TGAACTTCAACTTGGCTCTCCT
CPT1a	TGATGACGGCTATGGTGTTC	CAAACAAGGTGATAATGTCCATC
β-actin	AGATCAAGATCATTGCTCCTCCT	ACGCAGCTCAGTAACAGTCC

References

1. K. H. Kim, S. Choi, Y. Zhou, E. Y. Kim, J. M. Lee, P. K. Saha, S. Anakk and D. D. Moore, Hepatic FXR/SHP axis modulates systemic glucose and fatty acid homeostasis in aged mice, *Hepatology*, 2017, **66**, 498-509.
2. O. Akinrotimi, R. Riessen, P. VanDuyne, J. E. Park, Y. K. Lee, L. J. Wong, A. M. Zavacki, K. Schoonjans and S. Anakk, Small heterodimer partner deletion prevents hepatic steatosis and when combined with farnesoid X receptor loss protects against type 2 diabetes in mice, *Hepatology*, 2017, **66**, 1854-1865.