Table S1. Summary table of the results obtained in the present study.

	(OC, LGV, PF and HGV) vs LC				LGV vs OC	HGV vs OC	PF vs OC	HGV vs PF
	OC	LGV	PF	HGV				
Energy intake and somatometric parameters								
Energy intake	↑	↑	NS	NS	NS	↓	↓	NS
Energy efficiency ratio	↑	↑	↑	↑	NS	NS	NS	NS
Body weight increase	↑	↑	↑	↑	NS	↓	↓	NS
Liver weight	↑	↑	↑	↑	NS	↓	NS	NS
Hepatic index	↑	↑	↑	↑	NS	NS	NS	NS
Serum parameters								
Glucose	↑	NS	NS	NS	NS	NS (↓)	↓	NS
Insulin	↑	↑	↑	↑	NS	↓	↓	NS
HOMA-IR	↑	↑	↑	↑	NS	↓	↓	NS
Triglycerides	↑	↑	↑	↑	NS	NS	NS	NS
NEFAs	↑	↑	↑	↑	NS	NS	NS	NS
R-QUICKI	↓	↓	↓	↓	NS	↑	↑	NS
ALT/GPT	↑	↑	↑	↑	NS	NS	NS	NS
AST/GOT	NS	↑	NS (↑)	↑	↑	↑	NS	NS
AST/ALT	↓	↓	↓	↓	↑	↑	↑	NS
ALP	↑	↑	↑	↑	↑	↑	NS	↑
Uric acid	↑	↑	↑	↑	NS	NS	NS	NS (↑)
Hepatic composition								
Total lipids	↑	↑	↑	↑	NS	NS	NS	NS
Triglycerides	↑	↑	↑	↑	NS	NS	NS	NS
NEFAs	↑	↑	↑	↑	↓	↓	NS (↓)	NS
Hepatic lipid metabolism								
FAS activity	↑	↑	↑	↑	↓	↓	↓	↓
FAS protein expression	NS (↓)	NS (↓)	NS	NS	NS	↑	↑	NS
pACC/total ACC	NS	NS	NS	NS	NS	NS	NS	NS
CHREBP	NS	NS	NS	NS	NS	NS	NS	NS
AQP9	↑	↑	NS	↑	NS	NS	NS (↓)	NS
FATP2	NS	NS	↓	NS	NS	NS	NS	NS
DGAT2	NS	NS	NS	NS	NS	NS	NS (↓)	NS

CPT-1a	↑	↑	NS	NS	NS	↓	↓	NS
ACO	↑	↑	NS	NS	NS	↓	↓	NS
SIRT3	NS	NS	NS	NS	NS	NS	NS	NS
Ac. PGC1α/total PGC1α	NS	NS	NS	NS	NS	NS	NS	NS
NRF1	↓	NS	NS	NS	↑	↑	↑	NS
TFAM	↓	NS	NS	NS	↑	NS	NS	NS
MTP	↓	NS (↓)	↓	NS	NS	NS	NS	NS
P62	NS	NS	NS	NS	NS	NS	NS	NS
Oxidative stress related markers								
SOD	NS	NS	NS	NS	NS	NS	NS	NS
GPx	↓	↓	↓	↓	NS	↓	↓	NS
Catalase	↓	↓	NS	NS	NS	NS	NS	NS
rGSH	NS	↑	NS	NS	NS (↑)	NS	NS	NS
MDA	↓	NS	NS	↑	NS (↑)	↑	NS	↑
Trolox	NS (↑)	↑	↑	NS	↑	NS	↑	NS (↓)
Inflammation related markers								
Il1b	NS	NS	↑	NS	NS	NS	NS (↑)	NS
Tnfa	NS	NS	NS	NS	NS	NS	NS	NS
Crp	NS (↓)	↓	NS	NS	NS	NS	NS	NS
Mcp1	NS (↑)	NS	NS	NS	NS	NS	NS	NS
F4/80	↑	NS	NS	NS	↓	↓	NS	NS
CD206	NS	↑	↑	↑	NS	NS	NS	NS
Fibrosis related markers								
Acta2	↑	↑	↑	↑	NS (↑)	↑	NS	NS
Col1a1	NS	↓	NS (↓)	NS	NS	NS	NS	NS
Timp1	NS (↑)	↑	↑	↑	NS	NS	NS	NS
Tfgb1	NS	↑	↑	↑	NS	NS	↑	NS
Mmp9	NS	NS (↑)	NS (↑)	↑	NS	↑	NS	NS

ACC: acetyl-CoA carboxylase, ACO: acyl-coenzyme A, Acta2: α-smooth muscle actin, ALP: alkaline phosphatase, ALT/GPT: alanine aminotransferase, AQP9: aquaglyceroporin 9, AST/GOT: aspartate aminotransferase, CD206: mannose receptor C, CHREBP: carbohydrate-responsive element-binding protein, Col1a1: collagen 1, CPT-1a: carnitine palmitoyltransferase-1a, Crp: C-reactive protein, DGAT2: diacylglycerol acyltransferase 2, F4/80: adhesion G protein-coupled receptor E1, FAS: fatty acid synthase, FATP2: fatty acid transport protein 2, GPx: glutathione peroxidase, HOMA-IR: homeostatic model assessment for insulin resistance, Il1b: interleukin 1b, Mcp1: monocyte chemoattractant protein 1, MDA: malondialdehyde, Mmp9: matrix metallopeptidase 9, MTP: microsomal triglyceride transfer protein, NEFA: non-esterified fatty

acid, NRF1: nuclear respiratory factor 1, P62: sequestome-1, PGC1α: peroxisome proliferator-activated receptor gamma coactivator 1-alpha, rGSH: reduced glutathione, R-QUICKI: revised quantitative insulin sensitivity check index, SIRT3: sirtuin 3, SOD: superoxide dismutase, TFAM: mitochondrial transcription factor A, Tgfβ1: transforming growth factor beta1, Timp: tissue inhibitor of matrix metalloproteases, Tnfa: tumor necrosis factor α. NS: non-significant, ↑: increase, ↓: decrease, NS (↑): tendency towards increased values, NS (↓): tendency towards decreased values. Experimental groups: HGV, *Gracilaria vermiculophylla* 5 %; LC, lean control; LGV, *Gracilaria vermiculophylla* 2.5 %; OC, obese control; PF, pair-fed.