

Supplementary Table S1. Composition of experimental diets (% of diet, w/w)

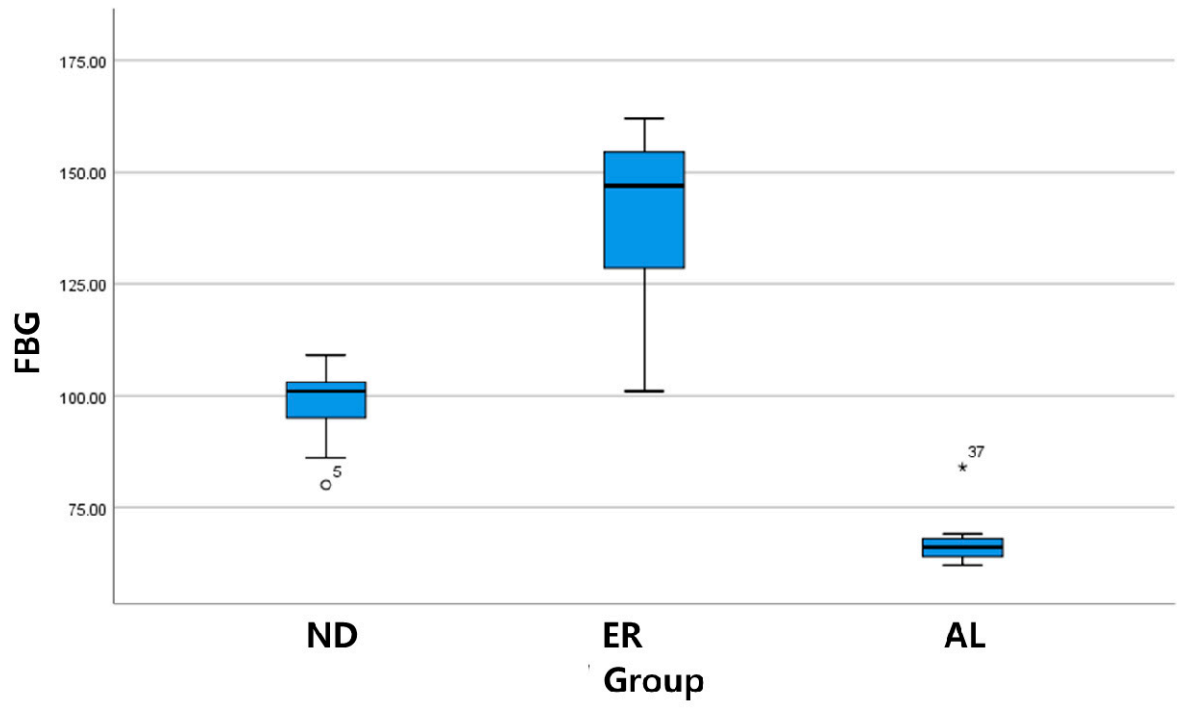
Ingredient(g)	ND	ER	AL
Casein	200.00	200.00	200.00
D,L-methionine	3.00	3.00	3.00
Corn starch	150.00	150.00	150.00
Sucrose	499.99	449.99	449.99
Cellulose powder	50.00	50.00	50.00
Corn oil	50.00	50.00	50.00
Mineral mixture (AIN-76) ¹	35.00	35.00	35.00
Vitamin mix (AIN-76) ²	10.00	10.00	10.00
Choline bitartrate	2.00	2.00	2.00
tert-Butylhydroquinone	0.01	0.01	0.01
Erythritol	-	50.00	-
Allulose	-	-	50.00
Total(g)	1000.00	1000.00	1000.00
Calorie(kcal/g)	3.902	3.702	3.702

¹ AIN-76 mineral mixture (Harlan Teklad Co., Madison, WI, USA). ² AIN-76 vitamin mixture (Harlan Teklad Co., Madison, WI, USA). ND: normal diet; ER: erythritol; AL: allulose.

Supplementary Table S2. Primer sequences used for RT-qPCR validation of microarray data

Gene	Primer Direction	Sequence
IRS1	Forward	5'-GGTACCTACAAGTGGGTGAA-3'
	Reverse	5'-AGATGGTGAAAAGGGAAGAT-3'
PI3Kca	Forward	5'-GGGTTTTCTGTCCCCTCTGA-3'
	Reverse	5'-TGATGTCTGGGTTCTCCCAA-3'
Akt2	Forward	5'-ACGTGGTGAATACATCAAGACC-3'
	Reverse	5'-GCTACAGAGAAATTGTTTCAGGGG-3'
GLUT4	Forward	5'-CTGAGAACTTAACTGCTGAAG-3'
	Reverse	5'-AGGAGTTTGTGTTGGTGTATTAC-3'
CPT2	Forward	5'-GCCTGCTGTTGCGTGAAG-3'
	Reverse	5'-TGGTGGGTACGATGCTGTGC-3'
PGC-1 α	Forward	5'-AAGTGTGGAAGCTCTCTGGAAG-3'
	Reverse	5'-GGGTTATCTTGGTTGGCTTTATG-3'
PGC-1 β	Forward	5'-GGTCCCTGGCTGACATCCAC-3'
	Reverse	5'-GGCACATCGAGGGCAGAG-3'
GAPDH	Forward	5'-ACAATGAATACGGCTACAGCAACA-3'
	Reverse	5'-GGTGGTCCAGGGTTTCTTACTCC-3'

IRS1, insulin receptor substrate 1; PI3Kca, phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha; Akt2, AKT serine/threonine kinase 2; GLUT4, facilitated glucose transporter 4; CPT2, carnitine palmitoyl-CoA carboxylase 2; PGC-1 α and PGC-1 β , peroxisome proliferator-activated receptor gamma coactivator 1-alpha and 1-beta; GAPDH, glyceraldehyde-3-phosphate dehydrogenase.



Supplementary figure S1