

Table S1. Baseline distribution of participants according to weight status (overweight and obesity) in the soy-beverage (SB) and lupin-beverage (LB) groups.

Weight Status	SB (<i>n</i> =15)	LB (<i>n</i> =15)	<i>p</i> value
Overweight	8	7	
Obesity	7	8	>0.9999

Values represent the *n* for each category. Differences in the distribution of overweight and obesity between the SB and LB groups were assessed using Fisher's exact test. No significant differences were observed between groups (*p* > 0.9999).

Table S2. Comparison of clinical parameters between LB and SB groups at the basal state.

	SB	LB	<i>p</i>
Parameters			
Glucose (mg/dl)	99.5 ± 6.55	97.9 ± 9.54	0.55
Insulin (mU/ml)	14.8 ± 19.78	11.5 ± 10.51	0.61
C-peptide (pg/ml)	1137.2 ± 636.8	1018.1 ± 505.31	0.82
Glucagon (pg/ml)	3746.8 ± 583.68	3682.0 ± 398.6	0.80
Tryglycerides (mg/dl)	90.86 ± 43.94	98.8 ± 89.98	0.81
Total cholesterol (mg/dl)	157.3 ± 45.33	145.7 ± 24.49	0.32
c-HDL (mg/dl)	37.5 ± 7.35	33.9 ± 7.99	0.12
c-LDL (mg/dl)	111.6 ± 45.38	103.7 ± 27.11	0.54
Urea (mg/dl)	46.9 ± 8.29	41.6 ± 9.93	0.10
Creatinine (mg/dl)	0.87 ± 0.09	0.92 ± 0.14	0.36
AST (IU/L)	36.3 ± 9.28	30.3 ± 7.51	0.11
ALT (IU/L)	26.8 ± 13.44	25.8 ± 7.84	0.92
HOMA-IR	0.85 ± 0.37	0.88 ± 0.50	0.57
Leptin (pg/ml)	4664.9 ± 3491.6	3563.8 ± 2589.1	0.33
Adiponectin (pg/ml)	65159.2 ± 3122	64988.7 ± 1797.5	0.77
PAI-1 (pg/ml)	22513 ± 5291	22151 ± 5557	0.86
Resistin (pg/ml)	4822 ± 2907	6345 ± 3739	0.23
Visfatin (pg/ml)	5322 ± 683.5	5337 ± 640.3	0.95
Ghrelin (pg/ml)	151.8 ± 28.52	206.2 ± 91.39	0.04
GIP (pg/ml)	58.06 ± 12.32	95.56 ± 41.48	0.003
GLP-1 (pg/ml)	103.9 ± 22.77	110.7 ± 24.04	0.43
Weight (Kg)	73.4 ± 11.98	71.7 ± 8.80	0.55
Height (m)	1.63 ± 0.06	1.63 ± 0.07	0.62
BMI for age Z-score	2.2 ± 0.5	2.2 ± 0.4	0.85
Height for age Z-score	0.16 ± 0.88	0.003 ± 0.9	0.40
Waist circumference	88.6 ± 10.39	85.2 ± 5.91	0.36
Body fat percentage	26.0 ± 5.59	24.4 ± 5.37	0.63

Results are presented as mean ± SD. Comparison between soy and lupin at baseline was performed by Student's *t*-test. * *p* ≤ 0.05, ** *p* ≤ 0.01 are indicated in bold letters. SB, *n* = 15; LB *n* = 15.

Table S3. Comparison of changes after intervention in biochemical, anthropometric, and metabolic parameters.

	(post - pre) SB	(post - pre) LB	<i>p</i>
Parameters			
Glucose (mg/dl)	-6.4 ± 7.99	-5.6 ± 11.12	0.83
Insulin (mU/ml)	-6.02 ± 16.51	-2.5 ± 6.21	0.51
C-peptide (pg/ml)	-203.9 ± 316.02	-162.6 ± 287.31	0.72
Glucagon (pg/ml)	-146.95 ± 372.62	-350.63 ± 235.22	0.10
Tryglycerides (mg/dl)	-15.57 ± 22.39	-0.3 ± 32.94	0.16
Total cholesterol (mg/dl)	-16.3 ± 25.39	1.5 ± 7.07	0.02
c-HDL (mg/dl)	-0.57 ± 4.09	1.9 ± 7.10	0.26
c-LDL (mg/dl)	-8.7 ± 24.06	8.6 ± 8.05	0.02
Urea (mg/dl)	-9.3 ± 10.83	-10.7 ± 9.51	0.72
Creatinine (mg/dl)	-0.05 ± 0.23	-0.17 ± 0.18	0.14
AST (IU/L)	-2 ± 7.62	0.1 ± 7.71	0.47
ALT (IU/L)	2.5 ± 8.23	4.6 ± 3.74	0.39
HOMA2-IR	-0.14 ± 0.28	-0.16 ± 0.25	0.92
Leptin (pg/ml)	-499.38 ± 1733.21	-719.8 ± 1432.0	0.72
Adiponectin (pg/ml)	-1003.4 ± 2314.7	288.8 ± 2779.3	0.19
PAI-1 (pg/ml)	-4025.2 ± 4464.2	-3301.2 ± 2699.5	0.64
Resistin (pg/ml)	-748.69 ± 1682.6	-1988.33 ± 3248.8	0.21
Visfatin (pg/ml)	-698.6 ± 940.1	-495.2 ± 651.9	0.50
Ghrelin (pg/ml)	2.24 ± 17.67	-35.88 ± 47.03	0.009
GIP (pg/ml)	-1.42 ± 19.48	-21.43 ± 28.10	0.04
GLP-1 (pg/ml)	-3.01 ± 15.53	-3.38 ± 15.55	0.95
Weight (Kg)	1.11 ± 1.07	0.22 ± 2.19	0.18
Height (m)	0.01 ± 0.005	-0.01 ± 0.008	0.69
BMI for age Z-score	0.06 ± 0.13	-0.07 ± 0.22	0.06
Height for age Z-score	0.11 ± 0.33	-0.10 ± 0.33	0.09
Waist circumference	-0.14 ± 2.59	0.21 ± 1.65	0.67
Body fat percentage	1.5 ± 4.77	0.3 ± 1.94	0.35

Results are presented as mean ± SD. The intervention effect was calculated as the change from baseline (Δ = post-intervention – pre-intervention). Comparisons of Δ values between the soy (SB) and lupin (LB) groups were performed using Student's t-test. Values shown in bold indicate statistically significant differences between groups, * $p \leq 0.05$, ** $p \leq 0.01$. SB, $n = 15$; LB $n = 15$.