

**Supplementary Table S1.**

General and blood parameters and adipose tissue weight at the end of supplementation.

	CHOW	DIO	DS	DJS
<b>General parameters</b>				
Body Weight (g)	557.0 ± 10.7	682.8 ± 17**	683.1 ± 29.7**	689 ± 20.8**
Food Intake (kcal)	75.7 ± 2.3	93.0 ± 3.3*	91.6 ± 7*	88.0 ± 2.6*
<b>Adipose tissue weight</b>				
Perigonadal white adipose tissue weight (g)	9.5 ± 1.1	19.6 ± 1.4*	16.9 ± 1.1*	20.4 ± 2.5*
Retroperitoneal white adipose tissue weight (g)	8.8 ± 0.9	29.4 ± 3.8*	25.1 ± 11.8*	29.4 ± 3.1*
Interscapular brown adipose tissue weight (g)	0.53 ± 0.07	0.92 ± 0.09*	0.85 ± 0.08*	0.92 ± 0.09*
<b>Blood parameters</b>				
Systolic blood pressure (mmHg)	110.9 ± 6.1	140.3 ± 8.1*	111.4 ± 5.5#	107.6 ± 6.01#
Glycemia (mg/dL)	91.6 ± 5.1	126.8 ± 6.1*	105.7 ± 3.6#	111.3 ± 2.4*#
Insulin (µg/L)	0.73 ± 0.05	1.06 ± 0.05*	1.01 ± 0.06*	1.03 ± 0.06*
Cholesterol (mg/dL)	76.1 ± 3.3	75.6 ± 4.1	69.8 ± 5.6	77.6 ± 4.4
Triglycerides (mg/dL)	76.6 ± 10.4	84.3 ± 13.9	42.9 ± 3.6*#	49.8 ± 1.9*#
Leptin concentration (pg/mL)	3449.7 ± 165.6	9159.2 ± 110.1*	8362.6 ± 184.5*#	7572.0 ± 65.9*#

CHOW: rats fed with standard diet; DIO: rats fed with high-fat diet; DS: DIO rats supplemented with tart cherry seeds; DJS: DS rats supplemented with tart cherry juice. Data are the means ± S.E.M. \*  $p < 0.05$ , \*\*  $p < 0.01$  vs. CHOW rats; #  $p < 0.05$  vs. DIO rats.

Modified from previous articles:

- Micioni Di Bonaventura, M.V.; Martinelli, I.; Moruzzi, M.; Micioni Di Bonaventura, E.; Giusepponi, M.E.; Polidori, C.; Lupidi, G.; Tayebati, S.K.; Amenta, F.; Cifani, C.; Tomassoni, D. Brain alterations in high fat diet induced obesity: effects of tart cherry seeds and juice. *Nutrients*. 2020, 12, 623. doi: 10.3390/nu12030623
- Moruzzi, M.; Klötting, N.; Blüher, M.; Martinelli, I.; Tayebati, S. K.; Gabrielli, M. G.; Roy, P.; Micioni Di Bonaventura, M. V.; Cifani, C.; Lupidi, G.; Amenta, F.; Tomassoni, D. Tart Cherry Juice and Seeds Affect Pro-Inflammatory Markers in Visceral Adipose Tissue of High-Fat Diet Obese Rats. *Molecules* 2021, 26, 1403. doi.org/10.3390/molecules26051403.