

Supplementary Table 1 Ingredients of high fat diet	
Ingredients	g/kg
Casein	175
Corn Starch	132
Maltodextrin	125
Sucrose	202
Soybean Oil	30
Lard	196
Cellulose	62
Mineral Mix, M1021	61
Vitamin Mix, V1010	12
L-Cystine	2
Choline Bitartrate	3
TBHQ	0.045

Supplementary Table 2 Primer sequences used for semiquantitative Real-time PCR analysis

	Forward primer	Reverse primer
<i>Fas</i>	AGGTGGTGATAGCCGGTATGT	TGGGTAATCCATAGAGCCCAG
<i>Acc</i>	CCGATTCATAATTGGGTCTGTGT	CCATCCTGTAAGCCAGAGATCC
<i>Pparγ</i>	TCGCTGATGCACTGCCTATG	GAGAGGTCCACAGAGCTGATT
<i>Srebp1c</i>	AGCCTGGCCATCTGTGAGAA	CAGACTGGTACGGGCCACAA
<i>Clebpα</i>	TGGACAAGAACAGCAACGAG	TCACTGGTCAACTCCAGCAC
<i>Clebpβ</i>	AAGCTGAGCGACGAGTACAAGA	GTCAGCTCCAGCACCTTGTG
<i>Ap2</i>	AAGAAGTGGGAGTGGGCTTTG	CTCTTCACCTTCCTGTCGTCTG
<i>Atgl</i>	TTCGCAATCTCTACCGCCTC	AAAGGGTTGGGTTGGTTCAG
<i>Hsl</i>	AGACCACATCGCCCACA	CCTTTATTGTCAGCTTCTTCAAGG
<i>Pparaα</i>	AGCCTCAGCCAAGTTGAAGT	TGGGGAGAGAGGACAGATGG
<i>Cpt1α</i>	AGATCAATCGGACCCTAGACAC	CAGCGAGTAGCGCATAGTCA
<i>Ucp1</i>	AGGCTTCCAGTACCATTAGGT	CTGAGTGAGGCAAAGCTGATTT
<i>Cidea</i>	TGCTCTTCTGTATCGCCCAGT	GCCGTGTTAAGGAATCTGCTG
<i>Dio2</i>	CTTCCTCCTAGATGCCTACAAAC	GGCATAATTGTTACCTGATTGAGG
<i>Pgc1α</i>	TATGGAGTGACATAGAGTGTGCT	CCACTTCAATCCACCCAGAAAG
<i>Pgc1β</i>	CGTATTTGAGGACAGCAGCA	TACTGGGTGGGCTCTGGTAG
<i>Prdm16</i>	CCTCGCCATGTGTCAGATCAA	TTTCACATGCACCAACAGTTCC
<i>Fgf21</i>	ATGGAATGGATGAGATCTAGAGTTGG	TCTTGGTCGTCATCTGTGTAGAGG
<i>Tgr5</i>	CAGTCTTGGCCTATGAGCGT	CTGCCCAATGAGATGAGCGA
<i>Tfam</i>	ATTCCGAAGTGTTCCTCCAGCA	TCTGAAAGTTTTGCATCTGGGT
<i>Nrf1</i>	CGGAAACGGCCTCATGTGT	CGCGTCGTGTACTCATCCAA
<i>Nrf2</i>	TAGATGACCATGAGTCGCTTGC	GCCAAACTTGCTCCATGTCC
<i>Gapdh</i>	AGGTCCGTGTGAACGGATTTG	GGGGTCGTTGATGGCAACA

Supplementary Table 3 Total phenolics, flavonoids, flavanols, tannin and anthocyanins content of grape pomace from 8 varieties of red grapes (*Vitis vinifera*) after making dry red wine.

Varieties	Seeds				Peels				
	TPC (GAE mg/g)	TFAC (CE mg/g)	TFOC (RE mg/g)	TANC (CE mg/g)	TPC (GAE mg/g)	TFAC (CE mg/g)	TAC (C3GE mg/g)	TFOC (RE mg/g)	TANC (CE mg/g)
Pinot Noir	123.09	69.17	258.35	81.53	23.01	6.52	0.70	37.80	6.78
Meili	83.49	62.52	198.82	61.86	11.23	3.45	0.52	16.36	5.35
Marselan	102.61	63.15	222.92	102.37	20.42	4.80	5.25	32.38	8.19
Merlot	88.74	54.70	207.53	77.72	32.04	9.29	3.13	48.84	5.46
Garanior	109.83	54.38	233.58	86.74	17.34	4.57	2.54	28.13	8.27
Cabernet Franc	77.47	42.09	165.78	68.73	17.71	6.51	0.85	29.47	11.59
Cabernet Sauvignon	77.17	36.87	142.71	59.64	25.65	8.56	2.41	39.48	10.44
Dornfelder	130.50	68.13	257.80	97.53	54.93	10.55	20.54	69.70	31.69

GAE mg/g, RE mg/g, CE mg/g, and C3GE mg/g represent milligrams of gallic acid equivalents, milligrams of rutin equivalent, milligrams of (+)-catechin equivalent, and milligrams of cyanidin 3-glucoside equivalent per gram of dry grape seed or peel, respectively.