Table 1 Supplementary material. Composition of VRF1 (P) diet. Data Sheet E 090110. Source: SDS (special diets services)

Proximate analysis (%)	Total	Supp*
Moisture	10	
Crude oil	4.75	
Crude protein	19.11	
Crude Fiber	3.85	
Ash	6.97	
NFE	55.32	
Carbohydrate, fibre and non starch polysaccharides (NSP) (%)	**Total**	**Supp***
Pectin	1.37	
Hemicelullose	8.76	
Celullose	3.95	
Lignin	1.06	
Starch	35.41	
Sucrose	4.64	
Energy	**Total**	**Supp***
Gross energy (MJ/kg)	16.26	
Metabolisable energy (MJ/kg)	12.23	
Atwater Fuel energy (kcal/g)	3.40	
Amino Acids (%)	**Total**	**Supp***
Arginine	1.26	
Lysine	1.02	0.10
Methionine	0.43	0.15
Cystine	0.35	
Tryptophan	0.25	
Histidine	0.48	
Threonine	0.71	
Isoleucine	0.83	
Leucine	1.34	
Phenylalanine	0.96	
Valine	0.93	
Tyrosine	0.61	
Glycine	0.81	
AsparticAcid	1.70	
GlutamicAcid	3.96	
Proline	1.33	
Serine	0.97	
Alanine	0.80	

Vitamins	Total	Supp*
Vitamin A (IU/kg)	31151	29955
Vitamin D_3 (IU/kg)	1527	1500
Vitamin E (IU/kg)	96	80
Vitamin B_1, thiamin (mg/kg)	336	331
Vitamin B_2, riboflavin (mg/kg)	14	12
Vitamin B_6, pyridoxine (mg/kg)	48	45
Vitamin K_3, menadione (mg/kg)	10	10
Vitamin B_{12}, cyanocobalamin (µg/kg)	153	150
Folic acid (mg/kg)	11	10
Nicotinic acid (mg/kg)	129	78
Pantothenic Acid (mg/kg)	41	27
Choline (mg/kg)	1337	300
Inositol (mg/kg)	2297	245
Biotin (µg/kg)	543	280
FattyAcids (%)	**Total**	**Supp***
C12:0 Lauric	0.02	
C14:0 Myristic	0.06	
C16:0 Palmitic	0.54	
C18:0 Stearic	0.13	
C16:1 Palmitoleic	0.01	
C18:1ω9 Oleic	1.06	
C18:2ω6 Linoleic	2.27	
C18:3ω3 Linolenic	0.28	
C20:4ω6 Arachidonic	0.11	
Minerals and trace elements	**Total**	**Supp***
Ca (%)	1.01	0.73
Total P (%)	0.64	0.19
Phytate P (%)	0.24	
Available P (%)	0.40	0.19
Na (%)	0.32	0.27
Cl (%)	0.49	0.43
K (%)	0.88	
Mg (%)	0.20	0.01
Fe (mg/kg)	280	180
Cu (mg/kg)	22	12
Mn (mg/kg)	145	99
Zn (mg/kg)	178	144
Co (µg/kg)	67	
I (µg/kg)	2275	2154
Se (µg/kg)	310	150

*Supplemented sources of amino acids, vitamins and minerals from manufactured and mined sources.

Table 2 Supplementary material. Classification and nomenclature of studied genes according to the metabolic pathway in which they are implicated.

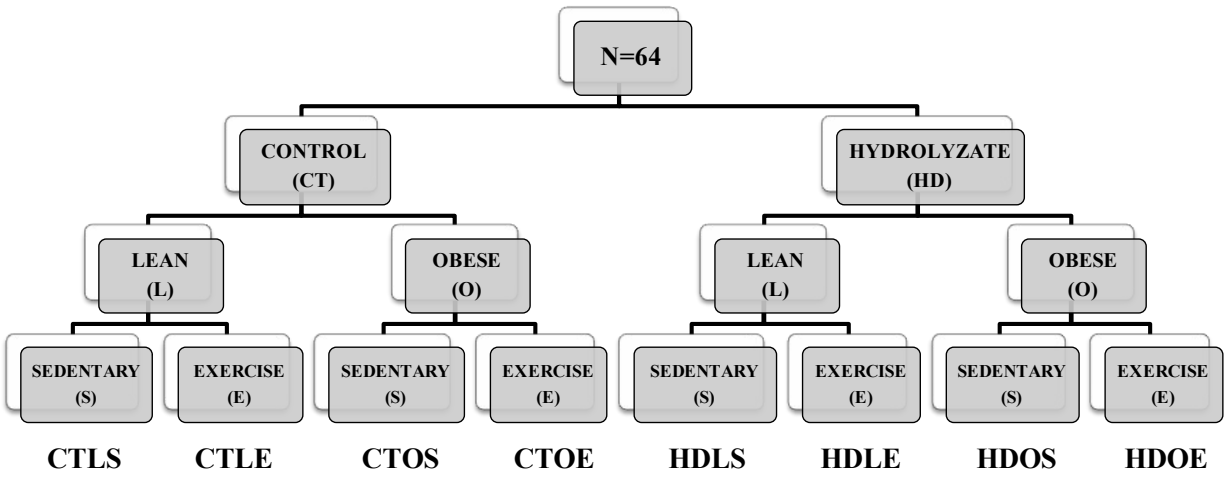
Function	Abbreviation	Name
Nuclear transcription factors	***Nfe2l2***	Nuclear factor erythroid 2 like 2. Regulation of genes encoding antioxidant detoxyfing enzymes
	Pparα	Peroxisome proliferator activated receptor α. Regulation of genes involved in β-oxidation of fatty acids
	Srebf1	Sterol regulatory element binding transcription factor 1. Regulation of genes involved in fatty acid synthesis
	Nr1h3	Nuclear receptor subfamily 1 group H member 3. Regulation of genes involved in conversion of cholesterol to bile acids
Lipogenic metabolism	***Fasn***	Fatty acids synthase
	G6pd	Glucose 6-phosphate dehydrogenase
	Scd1	Steroyl-CoA desaturase
Lipolytic metabolism	***Cpt1a***	Carnitine palmitoil transferase
	Lipc	Hepatic lipase
	Cyp7a1	Cholesterol 7α hydroxilase
	Acox1	AcylCoA oxidase

Table 3 Supplementary material. Non identified compounds in lentil protein hydrolysate.

RT	$[M-H]^-$	MF	Fit Conf %	PPM
2.76	688.2800	$C_{28}H_{48}O_{19}$	96.65	1.5
2.93	608.2688	$C_{27}H_{44}O_{15}$	99.02	1.2
2.98	572.3409	$C_{26}H_{52}O_{13}$	99.88	5.9
3.03	705.3209	$C_{47}H_{45}O_{6}$	97.58	-1.1
3.29	330.2024	$C_{17}H_{30}O_{6}$	99.96	-5.5
3.40	504.2448	$C_{27}H_{36}O_{9}$	91.04	17.7
3.62	501.2549	$C_{21}H_{41}O_{13}$	99.09	0.4
3.83	357.2129	$C_{15}H_{33}O_{9}$	98.59	0.4
4.18	542.3543	$C_{29}H_{50}O_{9}$	98.35	16.2
4.27	580.2615	$C_{29}H_{40}O_{12}$	90.58	16.4
4.69	570.2776	$C_{28}H_{42}O_{12}$	91.07	17.5
4.81	783.4264	$C_{37}H_{67}O_{17}$	99,9	-14.7
5.44	792.3788	$C_{37}H_{60}O_{18}$	99.97	1.0
5.74	891.4451	$C_{46}H_{67}O_{17}$	99.99	8.2
5.88	876.4466	$C_{42}H_{68}O_{19}$	92.39	12.7
6.32	754.4720	$C_{37}H_{70}O_{15}$	99.52	0.7
6.47	1002.4776	$C_{48}H_{74}O_{22}$	99.91	10.4
6.50	772.4611	$C_{40}H_{68}O_{14}$	94.76	0.3
7.25	702.3237	$C_{37}H_{50}O_{13}$	95.83	-2.0
7.91	728.3424	$C_{39}H_{52}O_{13}$	94.9	2.2

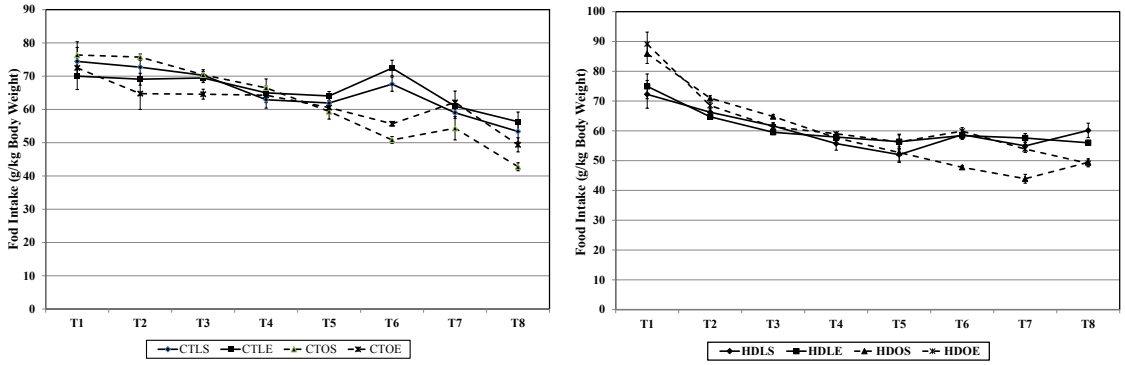
RT: retention time, Ms: mass, MF: molecular formula

Figure 1 Supplementary material. Experimental design.



CTLS, Control (placebo) lean sedentary, CTLE, Control (placebo) lean exercise, CTOS, Control (placebo) obese sedentary, CTOE, Control (placebo) obese exercise, HDLS, Hydrolysate administration lean sedentary, HDLE, Hydrolysate administration lean exercise, HDOS, Hydrolysate administration obese sedentary, HDOE, Hydrolysate administration obese exercise.

Figure 2 Supplementary material. Effect of lentil protein hydrolysate administration and mixed training protocol on food intake of lean and obese Zucker rats. (A) daily food intake in g /kg BW. BW, body weight, CT, control gavage administration of placebo, HD, gavage administration of lentil protein hydrolysate. Groups: LS, Lean (fa/+) sedentary rats, LE, Lean (fa/+) rats performing a mixed exercise protocol, OS, Obese (fa/fa) sedentary rats, OE, Obese (fa/fa) rats performing a mixed exercise protocol. Values are means ± SEM depicted by vertical bars (n = 8).



Time Effect: P<0.0001
Hydrolysate Effect: P<0.0001
Phenotype Effect: P=0.003
Exercise Effect: P=0.081
Phenotype×Hydrolysate: P=0.001