## SUPPLEMENTARY DATA

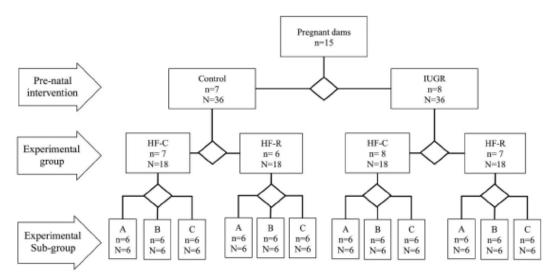
Supplementary Table 1. Organ and fat depot weights in control and IUGR rats fed high fat diet with or without resveratrol (Resv).

	High fat diet		High fat diet + Resv		2-way ANOVA		
	Control	IUGR	Control	IUGR	IUGR	Resv	Int
Liver weight (g)	$22.8 \pm 1.6$	$21.3 \pm 1.1$	$21.4 \pm 1.5$	$19.9 \pm 1.3$			
Liver relative weight (mg • g body weight <sup>-1</sup> )	$33.4 \pm 1.1$	$32.6 \pm 1.5$	$32.8 \pm 0.7$	$32.5 \pm 1.0$			
Heart weight (g)	$2.68 \pm 0.11$	$2.71 \pm 0.10$	$2.58 \pm 0.08$	$2.46 \pm 0.09$			
Heart relative weight (mg • g body weight <sup>-1</sup> )	$3.98 \pm 0.22$	$4.15 \pm 0.26$	$4.00 \pm 0.13$	$4.07 \pm 0.25$			
Pancreas weight (g)	$1.36 \pm 0.03$	$1.15 \pm 0.08$	$1.26 \pm 0.07$	$1.30 \pm 0.16$			
Pancreas relative weight (mg • g body weight <sup>-1</sup> )	$2.02 \pm 0.1$	$1.76 \pm 0.13$	$1.96 \pm 0.14$	$2.13 \pm 0.27$			
Spleen weight (g)	$0.95 \pm 0.05$	$1.01 \pm 0.07$	$0.94 \pm 0.05$	$0.92 \pm 0.05$			
Spleen relative weight (mg • g body weight <sup>-1</sup> )	$1.4 \pm 0.08$	$1.54 \pm 0.09$	$1.45 \pm 0.03$	$1.51 \pm 0.07$			
Kidneys weight (g)	$4.08 \pm 0.14$	$3.58 \pm 0.08 \dagger$	$3.84 \pm 0.09$	$3.30 \pm 0.08 \dagger$	*	*	
Kidneys relative weight (mg • g body weight <sup>-1</sup> )	$6.02 \pm 0.15$	$5.48 \pm 0.16$	$5.95 \pm 0.22$	$5.43 \pm 0.18$	*		
Intra-abdominal fat (g)	$73.0 \pm 5.9$	89.2 ± 5.5†	$55.38 \pm 2.18$	$64.9 \pm 4.8 \dagger$	*	*	
Intra-abdominal to total fat (%)	$53.3 \pm 3.9$	63.0 ± 4.1†	$48.8 \pm 5.9$	$53.6 \pm 5.7$	*	*	
Omental fat (g)	$2.95 \pm 0.58$	$3.52 \pm 0.48$	$2.44 \pm 0.50$	$1.78 \pm 0.18$		*	*
Retroperitoneal fat (g)	$35.9 \pm 3.5$	44.5 ± 3.6†	$23.4 \pm 1.0$	28.7 ± 2.8†	*	*	
Epididymal fat (g)	$16.2 \pm 1.6$	24.5 ± 1.7†	$18.43 \pm 2.33$	$18.8 \pm 1.3$			
Mesenteric fat (g)	$16.2 \pm 2.8$	$14.4 \pm 1.2$	$10.2 \pm 0.6$	$14.3 \pm 1.3$			*
Subdiafragmatic fat (g)	$1.6 \pm 0.2$	2.3 ± 0.2†	$1.0 \pm 0.1$	$1.3 \pm 0.2$	*	*	

Measurements were made after nine weeks of HF: High fat diet with or without resveratrol (Resv) 4 g/Kg of diet,\* p<0.05 for the respective source of variation such as intrauterine growth restriction (IUGR), Resv or their interaction (Int) using two-way ANOVA. † p<0.05 vs. Controls receiving the same diet after a Bonferroni post-hoc test (n=6 per group).

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Supplementary Figure 1. Experimental design and assignment of experimental groups. Following exposure to a normoxic (21%  $O_2$ ; Control) or a hypoxic (11.5%  $O_2$ ) prenatal environment that caused intrauterine growth restriction (IUGR) weaned male offspring were randomized to either high fat diet (HF-C) or high-fat diet supplemented with Resv 4 g/Kg of diet (HF-R). n= number of litters/dams in each group, N= number of offspring in each group.



	Experimental sub-groups				
Determination	A	В	C		
Body weight and food consumption	х	х	x		
Determination of body composition and adiposity	x				
Insulin signaling studies		X			
Fat histology	x				
Determination of liver, muscle and plasma lipids	X		X		
Indirect calorimetry and physical activity			x		
Glucose and insulin tolerance tests		x			

Expanimental cub groups