

**ESM Table 7. Individual physiologic data from Rosa Confetti LepR Ip/Ip and Ubc Cre Rosa Confetti LepR Ip/Ip mice.** Initial and final body weight (g), gonadal fat weight (g), initial and final blood glucose (mmol/l), glucose tolerance test blood glucose measurements (mmol/l) after overnight fast (mmol/l) and at time 15, 30, 60, and 120 min followed by the area under the curve (AUC; mmol/l x min). Measurements were made in three different cohorts of Rosa Confetti LepR Ip/Ip and Ubc Cre Rosa Confetti LepR Ip/Ip mice at 1, 3, and 5 weeks after tamoxifen initiation.

1 month washout															
	Group	ID Number	Sex	#	Initial Wt (g)	Final Wt (g)	Gonad Fat (g)	Init. BG (mmol/l)	Final BG (mmol/l)	Fast BG (mmol/l)	15 min BG (mmol/l)	30 min BG (mmol/l)	60 min BG (mmol/l)	120 min BG (mmol/l)	AUC
Control	Conf/Conf LepR Ip/Ip	130.1BI	M	1	21.8	25.4	ND	10.6	11.0	4.7	14.4	14.3	11.3	5.9	1258.8
	Conf/Conf LepR Ip/Ip	130.3BI	M	2	19.3	24.0	ND	11.9	9.6	4.7	15.9	12.6	9.1	4.9	1110.8
	Conf/Conf LepR Ip/Ip	131.2BI	M	3	19.3	22.5	ND	12.6	7.9	4.2	16.8	11.3	9.2	4.1	1074.6
	Conf/Conf LepR Ip/Ip	143.3BI	M	4	19.0	25.5	201	7.6	7.3	3.8	13.9	14.3	10.9	4.9	1196.7
	Average				19.9	24.4	201.0	10.7	9.0	4.3	15.3	13.1	10.1	4.9	1160.2
	SEM				0.7	0.7	ND	1.1	0.8	0.2	0.7	0.7	0.6	0.4	41.6
LepR KO	Ubc Cre Conf/Conf LepR Ip/Ip	130.2BI	M	1	19.1	46.6	ND	10.5	17.5	8.3	22.0	HI	24.0	17.4	2622.1
	Ubc Cre Conf/Conf LepR Ip/Ip	130.4BI	M	2	21.0	48.5	ND	10.4	15.8	7.8	22.7	26.4	23.7	11.6	2407.9
	Ubc Cre Conf/Conf LepR Ip/Ip	131.1BI	M	3	20.0	48.9	ND	12.3	20.1	6.9	20.1	14.8	11.8	6.3	1408.3
	Ubc Cre Conf/Conf LepR Ip/Ip	131.3BI	M	4	19.9	37.7	ND	9.2	12.3	6.4	16.4	14.2	10.1	7.5	1292.1
	Ubc Cre Conf/Conf LepR Ip/Ip	131.4BI	M	5	20.4	51.8	ND	14.1	11.8	7.3	20.9	24.4	26.1	15.5	2558.8
	Ubc Cre Conf/Conf LepR Ip/Ip	141.1BI	M	6	22.2	53.6	2936	7.4	8.1	8.2	24.1	24.6	23.9	20.9	2682.9
	Ubc Cre Conf/Conf LepR Ip/Ip	141.2BI	M	7	22.8	54.8	3406	7.0	8.5	6.2	19.2	24.2	24.6	12.9	2374.6
	Ubc Cre Conf/Conf LepR Ip/Ip	143.1BI	M	8	20.8	51.0	2442	8.9	10.3	5.7	15.6	18.4	17.4	9.6	1760.8
	Ubc Cre Conf/Conf LepR Ip/Ip	143.2BI	M	9	20.0	52.0	3133	10.2	12.7	5.4	20.1	22.3	17.5	9.4	1912.9
	Average				20.7	49.4	2979.3	10.0	13.0	6.9	20.1	21.2	19.9	12.3	2113.4
SEM				0.4	1.7	203.4	0.7	1.4	0.4	0.9	1.7	2.0	1.6	177.7	
	p-value				0.27	1.27E-06	ND	0.63	0.09	0.0009	0.007	0.009	0.009	0.01	0.005

6 month washout															
	Group	ID Number	Sex	#	Initial Wt (g)	Final Wt (g)	Gonad Fat (g)	Init. BG (mmol/l)	Final BG (mmol/l)	Fast BG (mmol/l)	15 min BG (mmol/l)	30 min BG (mmol/l)	60 min BG (mmol/l)	120 min BG (mmol/l)	AUC
Control	Conf/Conf LepR Ip/Ip	165.1BI	M	1	21.4	40.7	1982	10.3	10.3	3.8	13.7	11.1	9.3	6.9	1110.0
	Conf/Conf LepR Ip/Ip	168.2BI	M	2	20.6	32.2	739	9.2	8.1	4.3	14.4	14.1	11.9	6.1	1286.7
	Conf/Conf LepR Ip/Ip	265.3BI	M	3	21.2	32.9	823	7.8	7.9	3.6	18.0	14.1	8.0	7.0	1184.2
	Average				21.1	35.3	1181.3	9.1	8.8	3.9	15.4	13.1	9.7	6.7	1193.6
	SEM				0.2	2.7	401.1	0.7	0.8	0.2	1.3	1.0	1.2	0.3	51.2
LepR KO	Ubc Cre Conf/Conf LepR Ip/Ip	168.1BI	M	1	22.1	56.2	1747	6.4	9.3	4.0	15.0	17.7	13.6	6.9	1471.7
	Ubc Cre Conf/Conf LepR Ip/Ip	168.4BI	M	2	20.5	56.9	1681	8.1	9.6	5.0	13.4	15.6	17.1	9.4	1641.3
	Ubc Cre Conf/Conf LepR Ip/Ip	168.5BI	M	3	23.7	63.9	1691	9.4	10.4	4.9	11.1	12.7	11.9	9.8	1320.0
	Ubc Cre Conf/Conf LepR Ip/Ip	265.1BI	M	4	21.2	55.1	1307	9.4	7.3	4.4	14.7	15.2	14.8	9.1	1532.1
	Ubc Cre Conf/Conf LepR Ip/Ip	265.2BI	M	5	21.4	53.2	1789	9.5	6.7	5.2	10.7	14.9	15.4	12.7	1606.7
	Ubc Cre Conf/Conf LepR Ip/Ip	265.4BI	M	6	20.9	53.0	1167	7.2	8.1	5.8	15.8	18.4	15.6	8.1	1638.3
	Ubc Cre Conf/Conf LepR Ip/Ip	265.5BI	M	7	21.0	58.6	1500	7.5	7.8	5.2	13.6	17.1	16.1	18.1	1894.2
	Average				21.5	56.7	1554.6	8.2	8.4	4.9	13.5	15.9	14.9	10.6	1586.3
SEM				0.4	1.4	90.1	0.5	0.5	0.2	0.7	0.7	0.6	1.4	66.9	
	p-value				0.49	5.53E-05	0.22	0.33	0.72	0.02	0.21	0.06	0.003	0.12	0.007

6 month washout on a High Fat Diet															
	Group	ID Number	Sex	#	Initial Wt (g)	Final Wt (g)	Gonad Fat (g)	Init. BG (mmol/l)	Final BG (mmol/l)	Fast BG (mmol/l)	15 min BG (mmol/l)	30 min BG (mmol/l)	60 min BG (mmol/l)	120 min BG (mmol/l)	AUC
Control	Conf/Conf LepR Ip/Ip	272.1BI	M	1	23.2	56.7	2042	9.4	9.6	3.3	9.9	13.1	12.6	8.2	1279.2
	Conf/Conf LepR Ip/Ip	272.5BI	M	2	23.0	44.9	2800	7.9	8.3	4.9	16.0	20.3	15.0	9.1	1681.3
	Average				23.1	50.8	2421.0	8.7	8.9	4.1	13.0	16.7	13.8	8.6	8.6
	SEM				0.1	5.9	379.0	0.8	0.7	0.8	3.0	3.6	1.2	0.5	0.5
LepR KO	Ubc Cre Conf/Conf LepR Ip/Ip	272.2BI	M	1	22.1	64.6	2261	8.8	7.6	4.9	17.5	21.4	20.8	13.3	2117
	Ubc Cre Conf/Conf LepR Ip/Ip	272.3BI	M	2	19.1	52.0	2262	6.2	7.0	4.7	13.6	17.4	16.8	15.1	1838
	Ubc Cre Conf/Conf LepR Ip/Ip	351.1BI	M	4	21.2	72.2	1331	5.7	8.6	4.0	15.1	17.4	17.7	13.8	1859
	Ubc Cre Conf/Conf LepR Ip/Ip	351.2BI	M	5	17.7	60.9	1677	6.1	6.3	4.3	9.8	17.7	17.7	8.7	1637
	Ubc Cre Conf/Conf LepR Ip/Ip	351.3BI	M	6	21.1	57.7	1383	9.2	8.1	4.9	9.6	17.0	14.1	10.2	1503
	Average				20.2	61.5	1782.8	7.2	7.5	4.6	13.1	18.2	17.4	12.2	1790.9
SEM				0.8	3.4	204.1	0.7	0.4	0.2	1.5	0.8	1.1	1.2	104.8	
	p-value				0.09	0.16	0.17	0.30	0.12	0.40	0.97	0.55	0.11	0.14	0.19