

ONLINE APPENDIX

Supplemental Table 1.

Gene	Primer 1	Primer 2
Srebp1c	CGG AGC CAT GGA TTG GAC ATT TGA	GGA GAG TTG GCA CCT GGG CT
LXR α	GCC TGC GCG TCA CGC CTT	GTA GGA AGC CAG GGA GCT
Ppar γ	CGA GGG CGA TCT TGA CAG GA	GGC CAC CTC TTT GCT CTG CT
Acc1	GCA GAT CCG CAG CTT GGT	CGT GGA AGG GGA ATC CAT
Fas	CGT GTT GGC CTA CAC CCA GAG CT	GGC AGC AGG GCC TCC AGC ACC TT
Acl	GTG GAC ATG CTC AGG AAC T	CTG GTC AAG GTA GTG CCC A
Scd1	GGT GAT GTT CCA GAG GAG GTA CT	GGT GCT AAC GAA CAG GCT
Me1	CCT CAC CAC TCG TGA GGT CAT	CGA AAC GCC TCG AAT GGT
Gpat	GCC TAC AGC TCT GCT GCC AT	GTA TGT GGC ACT CTC AGC GT
Lpin1	GTC CAG TGT TTG ACA GAC	GGG TTC ACA GTG AAG ATC CTA T
Dgat2	GCC CTG CGC CAT GGA GCT	CCC CAG GAA CCC TCC TCA
Gk	CAA GCT GCA CCC GAG CTT	GCC ACC GCA GAG ACC AGT
Cd36	CGA CTG CAG GTC AAC ATA	CCA ATG GTC CCA GTC TCA
Pepck	CCG TAG ACC TGA AGG TGT	GGC AAA GGG GTC GTG CAT
G6p	CGT ATG GAT TCC GGT GTT	CCA CAG CAA TGC CTG ACA
Fbp	GTT CCC TCC GGA TGG TTC A	CAG CAG CCG CAG CTT TCC A
Tbp	ACC CTT CAC CAA TGA CTC CTA TG	ATG ATG ACT GCA GCA AAT CGC
Hprt	GGT GGA GAT GAT CTC TCA	CAC CAG CAA GCTTGC AAC CT

Supplemental Table 2a. Plasma traits in 4-hour fasted lean wild-type (B6 and BKS) and genetically obese (B6-db and BKS-db) male mice.

Age	Plasma analyte	B6		BKS		B6-db		BKS-db	
		Mean ± SEM	n	Mean ± SEM	n	Mean ± SEM	n	Mean ± SEM	n
1-mo	Triglycerides (mg/dl)	33.5 ± 9.07	4	41.7 ± 12.6	4	23.9 ± 2.82	10	45.2 ± 3.67	10
	Total cholesterol (mg/dl)	107 ± 3.84	4	93.5 ± 4.17	4	163 ± 5.19	10	113 ± 5.33	10
	HDL-cholesterol (mg/dl)	78.7 ± 2.59	4	60.2 ± 4.50	4	115 ± 4.27	10	78.0 ± 4.03	10
	Unesterified chol (mg/dl)	29.7 ± 2.21	4	24.7 ± 2.14	4	40.0 ± 1.59	10	26.6 ± 1.72	10
	Free fatty acids (mg/dl)	13.7 ± 0.25	4	17.0 ± 1.90	4	43.4 ± 2.36	10	27.3 ± 1.11	10
	Glucose (mg/dl)	183 ± 2.66	4	148 ± 6.82	4	306 ± 36.3	10	229 ± 29.1	10
	Insulin (pg/ml)	437 ± 81.0	7	691 ± 67.1	16	4011 ± 553	10	9868 ± 794	10
3-mo	Triglycerides (mg/dl)	43.9 ± 3.86	10	43.6 ± 3.28	10	51.8 ± 6.78	6	59.2 ± 9.56	10
	Total cholesterol (mg/dl)	93.4 ± 1.80	10	87.8 ± 4.99	10	191 ± 13.7	6	150 ± 3.13	10
	HDL-cholesterol (mg/dl)	78.2 ± 1.73	10	59.0 ± 4.75	10	142 ± 9.08	6	115 ± 1.86	10
	Unesterified chol (mg/dl)	25.3 ± 0.47	10	25.3 ± 0.52	10	45.7 ± 4.84	6	31.8 ± 1.37	10
	Free fatty acids (mg/dl)	52.3 ± 2.18	10	21.9 ± 1.15	10	40.3 ± 2.51	6	36.9 ± 2.47	10
	Glucose (mg/dl)	179 ± 7.61	10	154 ± 3.75	10	442 ± 70.3	6	590 ± 41.5	10
	Insulin (pg/ml)	1671 ± 139	10	782 ± 88.4	10	10559 ± 415	6	6127 ± 695	10
7-mo	Triglycerides (mg/dl)	35.2 ± 2.21	10	30.5 ± 2.64	13	27.8 ± 2.66	12	105 ± 16.8	9
	Total cholesterol (mg/dl)	86.2 ± 1.26	10	81.5 ± 3.47	13	232 ± 10.0	12	116 ± 6.82	9
	HDL-cholesterol (mg/dl)	75.5 ± 1.58	10	64.3 ± 3.02	13	180 ± 7.03	12	88.2 ± 10.2	9
	Unesterified chol (mg/dl)	20.0 ± 0.95	10	19.8 ± 1.39	13	60.4 ± 2.88	12	25.6 ± 0.99	9
	Free fatty acids (mg/dl)	28.4 ± 1.55	10	31.6 ± 1.79	13	50.5 ± 2.12	12	45.6 ± 4.32	9
	Glucose (mg/dl)	189 ± 6.48	10	156 ± 5.71	13	268 ± 17.3	12	830 ± 45.2	9
	Insulin (pg/ml)	1538 ± 112	10	1399 ± 192	13	11903 ± 186	12	2606 ± 220	9

Supplemental Table 2b. The effects of strain background and db genotype on plasma traits. 2-factor ANOVA (Bonferroni post-hoc test) p values are shown (n.s., not significant).

Age	Plasma analyte	Strain background			db genotype			Strain x db interaction
		Main effect	B6 vs BKS	B6-db vs BKS-db	Main effect	B6 vs B6-db	BKS vs BKS-db	
1-mo	Triacylglycerides ^a	0.013	n.s.	<0.001	n.s.	n.s.	n.s.	n.s.
	Total cholesterol	<0.001	n.s.	<0.001	<0.001	<0.001	0.032	0.009
	HDL-cholesterol	<0.001	0.038	<0.001	<0.001	<0.001	0.019	n.s.
	Unesterified chol	<0.001	n.s.	<0.001	0.008	0.002	n.s.	n.s.
	Free fatty acids	0.007	n.s.	<0.001	<0.001	<0.001	0.003	<0.001
	Glucose ^b	<0.001	n.s.	<0.001	<0.001	<0.001	<0.001	0.014
	Insulin ^b	<0.001	0.013	<0.001	<0.001	<0.001	<0.001	n.s.
3-mo	Triacylglycerides ^a	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
	Total cholesterol ^b	0.003	n.s.	0.008	<0.001	<0.001	<0.001	n.s.
	HDL-cholesterol ^b	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	n.s.
	Unesterified chol ^b	0.045	n.s.	0.021	<0.001	<0.001	<0.001	n.s.
	Free fatty acids	<0.001	<0.001	n.s.	n.s.	<0.001	<0.001	<0.001
	Glucose ^b	n.s.	0.012	n.s.	<0.001	<0.001	<0.001	0.007
	Insulin ^a	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	n.s.
7-mo	Triacylglycerides ^a	<0.001	n.s.	<0.001	<0.001	n.s.	<0.001	<0.001
	Total cholesterol ^a	<0.001	n.s.	<0.001	<0.001	<0.001	<0.001	<0.001
	HDL-cholesterol ^b	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	n.s.
	Unesterified chol ^c	<0.001	n.s.	<0.001	<0.001	<0.001	0.007	<0.001
	Free fatty acids ^a	n.s.	n.s.	n.s.	<0.001	<0.001	<0.001	n.s.
	Glucose ^a	<0.001	0.012	<0.001	<0.001	<0.001	<0.001	<0.001
	Insulin ^b	<0.001	n.s.	<0.001	<0.001	<0.001	<0.001	0.028

Non-normally distributed trait values were transformed before ANOVA (^a logarithmic, ^b rank, ^c square root transformation).

Supplemental Table 3. Hormone levels in 4-h-fasted male B6-*db* and BKS-*db* mice at 1 month of age (SEM, standard error of measurement; n, number of animals per group; ns, not significant; nd, not detectable; *p*, Student's t-test *p* value)

	B6- <i>db</i>		BKS- <i>db</i>		<i>p</i>
	Mean ± SEM	n	Mean ± SEM	n	
Adiponectin (µg/ml)	13.3 ± 1.55	10	14.6 ± 0.88	10	ns
Leptin (ng/ml)	30.0 ± 4.0	5	27.2 ± 4.1	5	ns
Resistin (ng/ml)	5.37 ± 0.59	5	5.15 ± 1.34	5	ns
Corticosterone (ng/ml)	155 ± 10.9	5	149 ± 21.9	4	ns
Glucagon (pg/ml)	377 ± 72.3	4	455 ± 83.7	4	ns
TNFα	nd	5	nd	5	
IL-6	nd	5	nd	5	