

Supplement Material

Supplemental Table I:

Plasma total cholesterol and HDL-cholesterol in congenic ApoE^{-/-} mice on the B/F (F1) background that were either B/B, B/F or F/F from 0-21.9 cM

	Age.	Chr 10 interval genotype (males)			Chr 10 interval genotype (females)		
		B/B	B/F	F/F	B/B	B/F	F/F
Cholesterol (mmol/L)	6 wks	18.0±3.9	16.6±6.2	17.5±6.6	20.2±7.3	18.6±7.9	19.3±5.9
	12 wks	23.5±4.4	21.9±6.9	20.2±5.7	15.8±4.3	16.3±4.4	16.3±4.4
	16 wks	24.0±5.7	23.6±5.6	21.5±8.3	16.0±4.7	14.7±3.0	16.6±3.5
	20 wks	22.4±8.7	20.1±6.3	18.5±4.5	20.9±8.0	17.9±3.7	20.6±4.9
	24 wks	26.0±6.1*	28.5±7.5	31.9±5.0	18.0±3.0	19.2±3.4	18.8±3.6
HDL-chol. (mmol/L)	6 wks	0.68±0.25	0.81±0.20	0.81±0.14	0.39±0.15	0.45±0.20	0.49±0.21
	12 wks	0.53±0.3	0.52±0.31	0.61±0.33	0.24±0.11	0.35±0.24	0.40±0.31
	16 wks	0.73±0.45	0.61±0.27	0.65±0.37	0.49±0.29	0.46±0.28	0.37±0.29
	20 wks	0.58±0.2	0.56±0.26	0.53±0.16	0.30±0.06	0.55±0.2	0.46±0.26
	24 wks	0.52±0.21	0.65±0.25	0.63±0.28	0.41±0.1	0.49±0.25	0.54±0.22

* p<0.05 vs F/F

chol.: cholesterol

Supplemental Table IIa:

Micro-array results – genes regulated in aorta between mice that are either BB or FF at 0-21.9 cM on Chr.10 are shown on the left, genes regulated in aorta between mice that are either BF or FF at 0-21.9 cM on Chr.10 are shown in the middle. On the right genes are shown that were found to be regulated between BB and FF as well as between BF and FF mice

BB-FF			BF vs FF			present on both		
Ensembl ID	MGI symbol		Ensembl ID	MGI symbol		Ensembl ID	MGI symbol	
		382			287			104
		354			253			97
ENSMUSG00000000889	<i>Dbh</i>		ENSMUSG00000000889	<i>Dbh</i>		ENSMUSG00000000889	<i>Dbh</i>	
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ENSMUSG00000001016	<i>Ilf2</i>		ENSMUSG00000001027	<i>Scn4a</i>		ENSMUSG00000001833	<i>Sept7</i>	
ENSMUSG00000001300	<i>Efnb2</i>		ENSMUSG00000001833	<i>Sept7</i>		ENSMUSG00000001864	<i>Aif1l</i>	
ENSMUSG00000001494	<i>Sost</i>		ENSMUSG00000001864	<i>Aif1l</i>		ENSMUSG00000002109	<i>Ddb2</i>	
ENSMUSG00000001786	<i>Fbxo7</i>		ENSMUSG00000002109	<i>Ddb2</i>		ENSMUSG00000004542	<i>Psg19</i>	
ENSMUSG00000001833	<i>Sept7</i>		ENSMUSG00000002455	<i>Prpf6</i>		ENSMUSG00000005687	<i>Bcas2</i>	
ENSMUSG00000001864	<i>2810003C17Rik</i>		ENSMUSG00000002845	<i>Tmem39a</i>		ENSMUSG00000010406	<i>Mrpl52</i>	
ENSMUSG00000002109	<i>Ddb2</i>		ENSMUSG00000002900	<i>Lamb1-1</i>		ENSMUSG00000016409	<i>Rhox3b</i>	
ENSMUSG00000003279	<i>Dlgap1</i>		ENSMUSG00000002944	<i>Cd36</i>		ENSMUSG00000016409	<i>Nkap</i>	
ENSMUSG00000003752	<i>Itpkc</i>		ENSMUSG00000003119	<i>Crkr5</i>		ENSMUSG00000016984	<i>Etaa1</i>	
ENSMUSG00000003992	<i>Ssbp2</i>		ENSMUSG00000003531	<i>Dgcr6</i>		ENSMUSG00000018500	<i>Adora2b</i>	
ENSMUSG00000004151	<i>Etv1</i>		ENSMUSG00000004319	<i>Clcn3</i>		ENSMUSG00000019143	<i>Hars2</i>	
ENSMUSG00000004296	<i>Il12b</i>		ENSMUSG00000004394	<i>Tmed4</i>		ENSMUSG00000020182	<i>Ddc</i>	
ENSMUSG00000004542	<i>Psg19</i>		ENSMUSG00000004542	<i>Psg19</i>		ENSMUSG00000020698	<i>Cct6b</i>	
ENSMUSG00000005413	<i>Hmox1</i>		ENSMUSG00000005682	<i>Pan2</i>		ENSMUSG00000021418	<i>Rpp40</i>	
ENSMUSG00000005687	<i>Bcas2</i>		ENSMUSG00000005687	<i>Bcas2</i>		ENSMUSG00000021431	<i>Snrnp48</i>	
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ENSMUSG00000006390	<i>Elovl1</i>		ENSMUSG00000007989	<i>Fzd3</i>		ENSMUSG00000022779	<i>Top3b</i>	
ENSMUSG00000006494	<i>Pdk1</i>		ENSMUSG00000010406	<i>Mrpl52</i>		ENSMUSG00000022878	<i>Adipoq</i>	

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ENSMUSG00000032621 *Sfrs12*
ENSMUSG00000032712 *2810474O19Rik*
ENSMUSG00000033016 *Nfatc1*
ENSMUSG00000033392 *Clasp2*
ENSMUSG00000033439 *Ccdc76*
ENSMUSG00000033491 *Prss35*
ENSMUSG00000033615 *Cplx1*
ENSMUSG00000033773 *Rpap2*
ENSMUSG00000033852 *Pla2g4b*
ENSMUSG00000033960 *9430020K01Rik*
ENSMUSG00000033965 *Slc16a2*
ENSMUSG00000034329 *Brip1*
ENSMUSG00000034460 *Six4*
ENSMUSG00000034552 *Zswim2*
ENSMUSG00000034640 *Tiparp*
ENSMUSG00000034780 *B3galt1*
ENSMUSG00000035024 *Ncapd3*
ENSMUSG00000035104 *Fam176a*
ENSMUSG00000035232 *Pdk3*
ENSMUSG00000035293 *6030408C04Rik*
ENSMUSG00000035310 *Lin54*

ENSMUSG00000039428 *Tmem135*
ENSMUSG00000040018 *Cox15*
ENSMUSG00000040061 *Plcb2*
ENSMUSG00000040430 *Pitpnc1*
ENSMUSG00000040451 *Sgms1*
ENSMUSG00000040481 *Bptf*
ENSMUSG00000040859 *Bsdc1*
ENSMUSG00000040963 *Asgr2*
ENSMUSG00000041261 *Car8*
ENSMUSG00000041361 *Gcom1*
ENSMUSG00000041415 *Dicer1*
ENSMUSG00000041607 *Mbp*
ENSMUSG00000042251 *Pm20d1*
ENSMUSG00000042472 *Zfp410*
ENSMUSG00000042747 *Krtcap2*
ENSMUSG00000043089 *Mmp1a*
ENSMUSG00000043165 *Lor*
ENSMUSG00000043259 *1200015N20Rik*
ENSMUSG00000044072 *C230094A16Rik*
ENSMUSG00000044649
ENSMUSG00000044743 *Defb10*
ENSMUSG00000044763 *Rg9mtd1*
ENSMUSG00000045817 *Zfp3612*
ENSMUSG00000046186 *Cd109*
ENSMUSG00000046679 *C87436*
ENSMUSG00000047250 *Ptgs1*
ENSMUSG00000047306
ENSMUSG00000048040
ENSMUSG00000049494
ENSMUSG00000050677 *Ccdc96*
ENSMUSG00000051451 *Crebzf*

ENSMUSG00000035367	<i>Rmi1</i>	ENSMUSG00000052305	
ENSMUSG00000035762	<i>Tmem161b</i>	ENSMUSG00000052854	<i>Nrk</i>
ENSMUSG00000035929		ENSMUSG00000052962	<i>Mrpl35</i>
ENSMUSG00000036009	<i>BC067068</i>	ENSMUSG00000053398	<i>Phgdh</i>
ENSMUSG00000036112	<i>Metap2</i>	ENSMUSG00000053475	<i>Tnfaip6</i>
ENSMUSG00000036202	<i>Rif1</i>	ENSMUSG00000053702	<i>Nebi</i>
ENSMUSG00000036368	<i>AW061290</i>	ENSMUSG00000054626	<i>Xlr</i>
ENSMUSG00000036822	<i>Topors</i>	ENSMUSG00000055301	<i>Adh7</i>
ENSMUSG00000037336	<i>Gm1964</i>	ENSMUSG00000055692	<i>Tmem191c</i>
ENSMUSG00000037490	<i>Slc2a12</i>	ENSMUSG00000056035	<i>Cyp3a11</i>
ENSMUSG00000037542	<i>Aldh8a1</i>	ENSMUSG00000056537	<i>Rnf12</i>
ENSMUSG00000037594	<i>BC022687</i>	ENSMUSG00000057789	<i>Bak1</i>
ENSMUSG00000037705	<i>Tecta</i>	ENSMUSG00000058258	<i>Idi1</i>
ENSMUSG00000037826	<i>Ppm1k</i>	ENSMUSG00000058350	
ENSMUSG00000037921	<i>Ddx60</i>	ENSMUSG00000058748	<i>BC003267</i>
ENSMUSG00000038069	<i>Cdkn2aip</i>	ENSMUSG00000059456	<i>Ptk2b</i>
ENSMUSG00000038084	<i>Opa1</i>	ENSMUSG00000059814	
ENSMUSG00000038156	<i>Spon1</i>	ENSMUSG00000060090	<i>Rp2h</i>
ENSMUSG00000038178	<i>Slc43a2</i>	ENSMUSG00000060244	<i>Refbp2</i>
ENSMUSG00000038641	<i>Akr1d1</i>	ENSMUSG00000061079	<i>Zfp143</i>
ENSMUSG00000038738	<i>Shank1</i>	ENSMUSG00000061780	<i>Cfd</i>
ENSMUSG00000038925	<i>E330034G19Rik</i>	ENSMUSG00000062019	
ENSMUSG00000039095	<i>En2</i>	ENSMUSG00000062376	<i>2010012O05Rik</i>
ENSMUSG00000039194	<i>Rlbp1</i>	ENSMUSG00000062937	<i>Mtap</i>
ENSMUSG00000039428	<i>Tmem135</i>	ENSMUSG00000063514	<i>EG627427</i>
ENSMUSG00000039782	<i>Cpeb2</i>	ENSMUSG00000063605	<i>Ccdc102a</i>
ENSMUSG00000039831	<i>Arhgap29</i>	ENSMUSG00000063779	<i>Chi3l4</i>
ENSMUSG00000039942	<i>Ptger4</i>	ENSMUSG00000064289	<i>Tank</i>
ENSMUSG00000040407	<i>Akap9</i>	ENSMUSG00000066441	<i>Rdh11</i>
ENSMUSG00000040430	<i>Pitpnc1</i>	ENSMUSG00000067931	<i>BC049807</i>
ENSMUSG00000040464	<i>Gtpbp10</i>	ENSMUSG00000069044	<i>Usp9y</i>

ENSMUSG00000040648	<i>Hisppd1</i>	ENSMUSG00000070355	<i>Alg14</i>
ENSMUSG00000040829	<i>Zmynd15</i>	ENSMUSG00000071217	<i>BB287469</i>
ENSMUSG00000040963	<i>Asgr2</i>	ENSMUSG00000071356	<i>Reg3b</i>
ENSMUSG00000041064	<i>Pif1</i>	ENSMUSG00000072829	
ENSMUSG00000041112	<i>Elmo1</i>	ENSMUSG00000072905	
ENSMUSG00000041278	<i>Ttc1</i>	ENSMUSG00000073001	<i>Cylc1</i>
ENSMUSG00000041361	<i>Gcom1</i>	ENSMUSG00000073830	
ENSMUSG00000041607	<i>Mbp</i>	ENSMUSG00000073832	
ENSMUSG00000042472	<i>Zfp410</i>	ENSMUSG00000073839	<i>OTTMUSG00000012492</i>
ENSMUSG00000042734	<i>Ttc9</i>	ENSMUSG00000073842	<i>OTTMUSG00000007428</i>
ENSMUSG00000042737	<i>Dpm3</i>	ENSMUSG00000073940	<i>Hbb-b2</i>
ENSMUSG00000042918	<i>5430432N15Rik</i>	ENSMUSG00000074218	<i>Cox7a1</i>
ENSMUSG00000043089	<i>Mmp1a</i>	ENSMUSG00000074994	<i>Qser1</i>
ENSMUSG00000043154	<i>Ppp2r3a</i>	ENSMUSG00000078656	<i>Vps25</i>
ENSMUSG00000043270		ENSMUSG00000078673	
ENSMUSG00000043518	<i>Rai2</i>	ENSMUSG00000078680	<i>2610016E04Rik</i>
ENSMUSG00000043858	<i>Nup62</i>	ENSMUSG00000078683	<i>Mup1</i>
ENSMUSG00000044067	<i>Gpr22</i>	ENSMUSG00000078686	<i>Mup2</i>
ENSMUSG00000044461	<i>Shisa2</i>	ENSMUSG00000078687	<i>OTTMUSG00000008509</i>
ENSMUSG00000044743	<i>Defb10</i>	ENSMUSG00000078688	
ENSMUSG00000044768	<i>D1Ert622e</i>	ENSMUSG00000078861	<i>2810021G02Rik</i>
ENSMUSG00000045136	<i>Tubb2b</i>	ENSMUSG00000078870	<i>OTTMUSG00000016578</i>
ENSMUSG00000045328	<i>Cenpe</i>	ENSMUSG00000078875	
ENSMUSG00000045817	<i>Zfp36l2</i>	ENSMUSG00000078877	<i>OTTMUSG00000016219</i>
ENSMUSG00000046186	<i>Cd109</i>	ENSMUSG00000078878	
ENSMUSG00000046361	<i>2810416G20Rik</i>	ENSMUSG00000078880	
ENSMUSG00000046679	<i>C87436</i>	ENSMUSG00000078881	<i>0610010B08Rik</i>
ENSMUSG00000046844	<i>AI427515</i>	ENSMUSG00000078886	
ENSMUSG00000047109	<i>Cldn14</i>	ENSMUSG00000078887	
ENSMUSG00000047115	<i>D330028D13Rik</i>	ENSMUSG00000078893	
ENSMUSG00000047434	<i>AI480653</i>	ENSMUSG00000078903	

ENSMUSG00000047643		ENSMUSG00000078979	
ENSMUSG00000047767	<i>Atg16l2</i>	ENSMUSG00000079029	<i>EG266459</i>
ENSMUSG00000048764	<i>Tmprss11f</i>	ENSMUSG00000079030	
ENSMUSG00000049112	<i>Oxtr</i>	ENSMUSG00000079031	<i>BB287469</i>
ENSMUSG00000049119	<i>1700012H17Rik</i>	ENSMUSG00000079032	
ENSMUSG00000049336	<i>Odz2</i>	ENSMUSG00000079298	<i>Klrb1b</i>
ENSMUSG00000049744	<i>Arhgap15</i>	ENSMUSG00000079509	<i>Zfa</i>
ENSMUSG00000050677	<i>Ccdc96</i>	ENSMUSG00000079658	<i>Tceb1</i>
ENSMUSG00000050947	<i>Amigo1</i>	ENSMUSG00000079808	
ENSMUSG00000051037	<i>Zfp455</i>	ENSMUSG00000080893	
ENSMUSG00000051341	<i>Zfp52</i>	ENSMUSG00000081204	
ENSMUSG00000051451	<i>Crebzf</i>	ENSMUSG00000081614	
ENSMUSG00000051747	<i>Ttn</i>	ENSMUSG00000081629	
ENSMUSG00000052544	<i>St6galnac3</i>	ENSMUSG00000081656	
ENSMUSG00000052738	<i>Suclg1</i>	ENSMUSG00000081937	
ENSMUSG00000052962	<i>Mrpl35</i>	ENSMUSG00000081984	<i>Dnajb3</i>
ENSMUSG00000053475	<i>Tnfaip6</i>	ENSMUSG00000082280	
ENSMUSG00000053626	<i>Tll1</i>	ENSMUSG00000083422	
ENSMUSG00000053830		ENSMUSG00000083840	
ENSMUSG00000054087	<i>Fbxw14</i>	ENSMUSG00000084317	
ENSMUSG00000054477	<i>Kcnn2</i>		
ENSMUSG00000054737	<i>Zfp182</i>		
ENSMUSG00000055368	<i>Slc6a2</i>		
ENSMUSG00000055692	<i>Tmem191c</i>		
ENSMUSG00000056328	<i>Myh1</i>		
ENSMUSG00000056498	<i>Tmem154</i>		
ENSMUSG00000056537	<i>Rnf12</i>		
ENSMUSG00000056973	<i>Ces3</i>		
ENSMUSG00000057330			
ENSMUSG00000057363	<i>Uxs1</i>		
ENSMUSG00000057465	<i>Saa2</i>		

ENSMUSG00000057551 *Zfp317*
ENSMUSG00000057894 *Zfp329*
ENSMUSG00000057933 *Gsta2*
ENSMUSG00000058172
ENSMUSG00000058258 *Idi1*
ENSMUSG00000058729 *Lin9*
ENSMUSG00000058748 *BC003267*
ENSMUSG00000059534 *1110020P15Rik*
ENSMUSG00000060890 *Arr3*
ENSMUSG00000061555
ENSMUSG00000061576 *Dpp6*
ENSMUSG00000061780 *Cfd*
ENSMUSG00000062070 *Pgk1*
ENSMUSG00000062705 *Tpbpb*
ENSMUSG00000062861 *Zfp28*
ENSMUSG00000063605 *Ccdc102a*
ENSMUSG00000063661 *Krt73*
ENSMUSG00000063779 *Chi3l4*
ENSMUSG00000066151 *Fkbp15*
ENSMUSG00000066677 *E430029J22Rik*
ENSMUSG00000068105 *Tnfrsf13c*
ENSMUSG00000068231 *V1ra5*
ENSMUSG00000068882 *Ssb*
ENSMUSG00000069094 *Pde7a*
ENSMUSG00000069441 *Dsg1a*
ENSMUSG00000069769 *Msi2*
ENSMUSG00000069911 *EG574403*
ENSMUSG00000071037 *1700106N22Rik*
ENSMUSG00000071217 *BB287469*
ENSMUSG00000071281 *Zfp71-rs1*
ENSMUSG00000071356 *Reg3b*

ENSMUSG00000072595 *4930503E14Rik*
ENSMUSG00000072704 *2700089E24Rik*
ENSMUSG00000072905
ENSMUSG00000072919 *4933437F05Rik*
ENSMUSG00000073002 *Vamp5*
ENSMUSG00000073005
ENSMUSG00000073409 *H2-Q1*
ENSMUSG00000073643 *Wdfy1*
ENSMUSG00000073795 *6430531B16Rik*
ENSMUSG00000073830
ENSMUSG00000073832
ENSMUSG00000073839 *OTTMUSG00000012493*
ENSMUSG00000073842 *OTTMUSG00000007428*
ENSMUSG00000073968 *Trim68*
ENSMUSG00000074179
ENSMUSG00000074181
ENSMUSG00000074183 *Gsta1*
ENSMUSG00000074499
ENSMUSG00000074527
ENSMUSG00000074598
ENSMUSG00000074802 *Gas2l3*
ENSMUSG00000074865 *6720457D02Rik*
ENSMUSG00000074867 *EG630579*
ENSMUSG00000075053
ENSMUSG00000075316 *Scn9a*
ENSMUSG00000075359
ENSMUSG00000075595 *Zfp652*
ENSMUSG00000078348 *Sf3b5*
ENSMUSG00000078673
ENSMUSG00000078680 *2610016E04Rik*
ENSMUSG00000078683 *Mup1*

ENSMUSG00000078686 *Mup2*
ENSMUSG00000078687 *OTTMUSG00000008509*
ENSMUSG00000078688
ENSMUSG00000078868 *OTTMUSG00000016580*
ENSMUSG00000078894 *2210418O10Rik*
ENSMUSG00000078979
ENSMUSG00000079029 *EG266459*
ENSMUSG00000079030
ENSMUSG00000079031 *BB287469*
ENSMUSG00000079032
ENSMUSG00000079271
ENSMUSG00000079284
ENSMUSG00000079298 *Klr1b*
ENSMUSG00000079349 *Magea5*
ENSMUSG00000079421 *4930402F06Rik*
ENSMUSG00000079620 *Muc4*
ENSMUSG00000079658 *Tceb1*
ENSMUSG00000082100
ENSMUSG00000082361 *Btc*
ENSMUSG00000083557
ENSMUSG00000083854
ENSMUSG00000084048

Supplemental Table IIb: Confirmation of a subset of regulated array genes

Expression analysis of a subset of regulated genes from the Array study was performed with aortic tissue from individual congenic mice to confirm the data obtained in the microarray study.

RNA was isolated from 6 week old female mice (F1.*Apoe*^{-/-}Chr10^{FVB/FVB}, F1.*Apoe*^{-/-}Chr10^{B6/FVB} and F1.*Apoe*^{-/-}Chr10^{B6/B6}). Aortic tissue was homogenized and pipetted onto a Qiashredder prior to RNA isolation with the RNeasy fibrous tissue Kit (Qiagen). Contaminating DNA was removed (DNA-free, Ambion) and 1 µg RNA per sample was reverse transcribed using Superscript II (Invitrogen) and a 1:1 mixture of Oligo(dT) and Hexamer primers. The resulting cDNA pools provided templates for radioactive PCRs using specific primers at annealing temperatures ranging between 60°C and 65°C in the presence of dNTPs, [α -³²P]dCTP, and Taq DNA polymerase.

The table below shows three genes (*Adipoq*, *Snap25* and *Cfd*) that were found to be differentially regulated in aorta between F1.*Apoe*^{-/-}Chr10^{B6/B6} and F1.*Apoe*^{-/-}Chr10^{FVB/FVB} and between F1.*Apoe*^{-/-}Chr10^{B6/FVB} and F1.*Apoe*^{-/-}Chr10^{FVB/FVB} congenic mice. The last gene, *Acly*, was called not regulated in our microarray analysis for both comparisons. As shown in the table below all the genes that we considered regulated based on the microarray analysis, were also found to be regulated when their expression levels were determined by radioactive RT-PCR and the gene we considered unregulated was found to be equally expressed in aorta of congenic mice from all three genotypes.

These experiments indicate that our approach to use only genes that were regulated between F1.*Apoe*^{-/-}Chr10^{B6/B6} and F1.*Apoe*^{-/-}Chr10^{FVB/FVB} and between F1.*Apoe*^{-/-}Chr10^{B6/FVB} and F1.*Apoe*^{-/-}Chr10^{FVB/FVB} congenic mice resulted in a reliable list of differentially regulated genes.

Description	symbol	qPCR		Array	
		BB vs FF	BF vs FF	BB vs FF	BF vs FF
adiponectin, C1Q and collagen domain containing Gene	<i>Adipoq</i>	-4.3 ± 0.4	-2 ± 0.1	-2,7	-3,2
synaptosomal-associated protein 25	<i>Snap25</i>	-6.4 ± 0.5	-2.2 ± 0.3	-25.1	-3.6
Complement factor D	<i>Cfd</i>	-4 ± 0.4	-2.3 ± 0.1	-2.5	-2.5
ATP citrate lyase	<i>Acly</i>	-1.1 ± 0.2	-1.1 ± 0.3	not regulated >2 fold	not regulated >2 fold

All qPCRs were done with six mice per genotype, errors are STDEV

Supplemental Table IIc: Level 1 GO terms

GO Term	Name of GO Term	BB vs FF	BF vs FF
GO:0009987	cellular process	160/354	148/253
GO:0008152	metabolic process	107/354	108/253
GO:0065007	biological regulation	103/354	90/253
GO:0050789	regulation of biological process	92/354	79/253
GO:0032502	developmental process	79/354	60/253
GO:0032501	multicellular organismal process	74/354	49/253
GO:0050896	response to stimulus	59/354	55/253
GO:0051179	localization	44/354	35/253
GO:0048518	positive regulation of biological process	41/354	34/253
GO:0048519	negative regulation of biological process	32/354	29/253
GO:0051234	establishment of localization	30/354	30/253
GO:0002376	immune system process	18/354	17/253
GO:0040011	locomotion	16/354	6/253
GO:0000003	reproduction	18/354	22/253
GO:0022414	reproductive process	18/354	21/253
GO:0051704	multi-organism process	11/354	11/253
GO:0022610	biological adhesion	4/354	5/253
GO:0040007	growth	4/354	5/253
GO:0048511	rhythmic process	5/354	5/253
GO:0016032	viral reproduction	1/354	0/253
GO:0043473	pigmentation	3/354	1/253
GO:0001906	cell killing	3/354	1/253

Supplemental Table IId: Specific GO terms

GO:0002376		GO:0008219		GO:0003018	
immune system process		cell death		vascular process in circulatory system	
BB vs FF	BF vs FF	BB vs FF	BF vs FF	BB vs FF	BF vs FF
<i>Runx1</i>	<i>Runx1</i>	<i>Cidec</i>	<i>Cidec</i>	<i>Dbh</i>	<i>Dbh</i>
<i>Klrb1b</i>	<i>Klrb1b</i>	<i>Adipoq</i>	<i>Adipoq</i>	<i>Adora2b</i>	<i>Adora2b</i>
<i>Cfd</i>	<i>Cfd</i>	<i>Dbh</i>	<i>Dbh</i>		<i>Ptgs1</i>
<i>Ido1</i>	<i>Ido1</i>	<i>Klrb1b</i>	<i>Klrb1b</i>		<i>Nos3</i>
<i>Adipoq</i>	<i>Adipoq</i>	<i>Steap3</i>	<i>Steap3</i>		
<i>Dbh</i>	<i>Dbh</i>	<i>Nsmaj</i>	<i>Nsmaj</i>		
<i>Tiparp</i>	<i>Tiparp</i>	<i>opa1</i>	<i>Fas</i>		
<i>Irak1</i>	<i>Irak1</i>	<i>Rtn4</i>	<i>Frag1</i>		
<i>Adora2b</i>	<i>Adora2b</i>	<i>Hmox1</i>	<i>Sgms1</i>		
<i>Swap70</i>	<i>Fas</i>	<i>Nup62</i>	<i>Cidea</i>		
<i>Tnfrsf13c</i>	<i>Plscr1</i>	<i>Il12b</i>	<i>Xiap</i>		
<i>Nup85</i>	<i>Cd36</i>	<i>Pik3ca</i>	<i>Bak1</i>		
<i>Il12b</i>	<i>Tgfbr2</i>	<i>ppm1k</i>	<i>AEN</i>		
<i>Hmox1</i>	<i>Foxp1</i>	<i>Muc4</i>	<i>Dffb</i>		
<i>tll1</i>	<i>Bak1</i>	<i>Topors</i>	<i>Sycp3</i>		
<i>Muc4</i>	<i>snx5</i>	<i>Acvr1c</i>	<i>Vps25</i>		
<i>Six4</i>	<i>Hbb-b1</i>	<i>Btc</i>	<i>Ptk2b</i>		
<i>Kitl</i>		<i>Kitl</i>			
		<i>E2f1</i>			
		<i>Snai2</i>			
		<i>Nr4a2</i>			
		<i>Asns</i>			
		<i>Eef1a2</i>			

The genes highlighted in gray are regulated in BB vs. FF as well as BF vs. FF mice.

Supplemental Table III:

Plasma total cholesterol and HDL-cholesterol of ApoE $-/-$ mice on the BF (F1) background that were fed a 0.02 % cholesterol diet for 12 weeks starting at 4 weeks of age

line	Interval Genotype	males				females			
		Weight (g)	Total Chol (mmol/L)	HDL-Chol (mmol/L)	N	Weight (g)	Total Chol (mmol/L)	HDL-Chol (mmol/L)	N
B	B/F	33.8 ± 3.3	22.0 ± 7.7	0.67 ± 0.36	28	25.8 ± 3.0	16.6 ± 3.1	0.46 ± 0.20	31
	F/F	33.6 ± 3.0	20.9 ± 6.1	0.71 ± 0.34	20	25.6 ± 3.2	16.4 ± 3.0	0.42 ± 0.16	26
C	B/F	34.0 ± 3.1	20.1 ± 5.4	0.64 ± 0.12	36	24.6 ± 2.2	16.8 ± 3.2	0.42 ± 0.11	26
	F/F	34.2 ± 3.7	18.7 ± 4.9	0.7 ± 0.16	33	24.7 ± 2.3	15.2 ± 2.7	0.40 ± 0.10	25
D	B/F	33.6 ± 3.9	24.4 ± 5.6	0.53 ± 0.18	34	26.4 ± 2.7	16.5 ± 3.5	0.47 ± 0.31	30
	F/F	35.4 ± 3.8	23.4 ± 4.2	0.61 ± .021	45	26.0 ± 1.8	16.2 ± 2.2	0.48 ± 0.24	18
E	B/F	33.8 ± 5.8	22.5 ± 3.6	0.65 ± 0.17	9	27.1 ± 3.6	17.3 ± 2.1	0.40 ± 0.14	14
	F/F	35.1 ± 4.7	23.4 ± 3.5	0.66 ± 0.18	11	26.8 ± 1.9	17.1 ± 2.0	0.46 ± 0.17	12
F	B/F	33.9 ± 2.9	20.2 ± 5.4	0.63 ± 0.13	8	25.9 ± 3.3	15.3 ± 2.7	0.36 ± 0.10	10
	F/F	32.3 ± 6.2	19.0 ± 6.4	0.61 ± 0.13	10	25.6 ± 2.9	16.0 ± 2.6	0.36 ± 0.10	20
G	B/F	31.9 ± 3.7	22.9 ± 4.1	0.72 ± 0.67	30	24.9 ± 3.0	17.1 ± 5.7	0.38 ± 0.12	19
	F/F	32.6 ± 3.7	20.0 ± 4.8	0.93 ± 1.04	29	24.9 ± 2.3	15.7 ± 5.0	0.51 ± 0.38	20
H	B/F	34.4 ± 4.8	22.2 ± 4.9	0.66 ± 0.16	18	24.7 ± 2.0	18.1 ± 2.8	0.37 ± 0.11	24
	F/F	33.8 ± 5.1	22.0 ± 4.4	0.65 ± 0.17	39	25.6 ± 3.0	17.2 ± 2.7	0.35 ± 0.08	24
I	B/F	32.3 ± 4.6	23.0 ± 4.5	0.59 ± 0.12	24	24.2 ± 2.8	18.6 ± 4.4	0.36 ± 0.09	30
	F/F	32.2 ± 4.7	23.1 ± 5.4	0.63 ± 0.15	36	24.0 ± 2.3	18.9 ± 3.6	0.39 ± 0.07	27
L	B/F	37.1 ± 4.8	26.7 ± 5.0	0.82 ± 0.31	26	28.7 ± 2.5	18.1 ± 1.7	0.47 ± 0.23	21
	F/F	38.2 ± 4.1	27.4 ± 5.7	0.71 ± 0.22	23	28.7 ± 2.4	19.3 ± 3.2	0.46 ± 0.19	12
M	B/F	33.9 ± 6.4	27.6 ± 4.6	0.61 ± 0.19	13	25.7 ± 2.9	17.1 ± 2.7	0.40 ± 0.18	19
	F/F	33.2 ± 5.4	27.0 ± 4.8	0.52 ± 0.23	15	26.0 ± 3.1	18.7 ± 2.8	0.33 ± 0.08	10
R	B/F	30.0 ± 3.8	24.9 ± 5.7	0.45 ± 0.12	18	23.6 ± 2.3	17.9 ± 1.4	0.30 ± 0.16	10
	F/F	31.0 ± 3.7	26.6 ± 5.7	0.52 ± 0.24	16	24.9 ± 1.7	17.1 ± 2.6	0.27 ± 0.18	8

chol.: cholesterol

Supplemental Table IVa: Potential coding Polymorphisms in Chr10a region genes

Gene	Identifier	bp on Chr.10	C57 allele	FVB allele	Position in gene	
<i>Oprm1</i>	rs8256409	3557671	CC	NA	NON-synonymous coding	
	rs8256410	3557714	TT	NA	NON-synonymous coding	
	rs8256412	3557735	GG	AA	NON-synonymous coding	
	rs8256413	3557747	CC	NA	NON-synonymous coding	
	rs8256414	3557753	CC	NA	NON-synonymous coding	
<i>Myct1</i>	rs13463552	4742021	GG	AA	NON-synonymous coding	
<i>Syne1</i>	rs29333838	4941115	GG	AA	NON-synonymous coding	
	rs46286204	4985703	GG	NA	NON-synonymous coding	
	rs50920570	4985856	CC	NA	NON-synonymous coding	
	rs29381593	5003061	GG	CC	NON-synonymous coding	
	rs29322194	5007247	GG	NA	NON-synonymous coding	
	rs29366127	5019159	TT	NA	NON-synonymous coding	
	rs47509626	5022442	CC	AA	NON-synonymous coding	
	rs6154748	5034787	TT	NA	NON-synonymous coding	
	rs29315406	5037302	CC	TT	NON-synonymous coding	
	rs50612810	5100601	AA	NA	NON-synonymous coding	
	rs48321799	5141253	CC	NA	NON-synonymous coding	
	rs45700937	5274496	GG	NA	NON-synonymous coding	
	<i>Esr1</i>	rs47715549	5377292	TT	NA	synonymous coding
		rs16821161	5377331	CC	AA	synonymous coding
<i>9230019H11Rik</i>	rs50658327	7221350	GG	NA	NON-synonymous coding	
	rs48707627	7221488	CC	GG	NON-synonymous coding	
	rs47392805	7221512	CC	TT	NON-synonymous coding	
	rs29358647	7226312	TT	NA	NON-synonymous coding	
	rs29378454	7226334	TT	NA	NON-synonymous coding	

NA- Not Available

Supplemental Table IVb: Potential Polymorphisms in Chr10b region genes

Gene	Identifier	bp on Chr.10	C57 allele	FVB allele	Position in gene
<i>Ahi-1</i>	rs29352531	20699420	AA	TT	intronic splice site
	rs29352059	20706839	GG	AA	synonymus coding
	rs51094258	20792354	GG	NA	synonymus coding
<i>Myb</i>	rs4228164	20844928	TT	NA	3-prime UTR
	rs4228163	20845052	AA	NA	3-prime UTR
	rs4228162	20845056	TT	CC	3-prime UTR
	rs33850059	20861616	CC	AA	synonymus coding
	rs29363766	20861641	TT	CC	NON-synonymus coding
<i>Hbs1l</i>	rs13471458	21061554	GG	NA	NON-synonymus coding
	rs13471460	21064904	AA	NA	synonymus coding
	rs13471461	21088108	GG	NA	3-prime UTR
	rs13471457	21088455	AA	NA	3-prime UTR
	rs29336840	21088605	GG	AA	3-prime UTR
<i>Aldh8a1</i>	rs29343840	21111381	TT	CC	synonymus coding
	rs48185419	21115775	TT	CC	3-prime UTR
<i>Sgk1</i>	rs13459455	21716415	AA	CC	synonymus coding
	rs13459456	21717174	GG	AA	synonymus coding
	rs50242814	21719052	CC	NA	3-prime UTR
	rs13459457	21719235	AA	NA	3-prime UTR
<i>Raet1e</i>	rs46705643	21878325	CC	TT	up-stream
	ENSMUSSNP 2562820	21878341	GG	NA	up-stream
	ENSMUSSNP 6464985	21878344	GG	NA	up-stream
	ENSMUSSNP 3234255	21878353	CC	NA	up-stream
	rs50817078	21878391	TT	CC	5-prime UTR
	ENSMUSSNP 3518224	21878427	CC	NA	5-prime UTR
	rs49521453	21878457	CC	GG	5-prime UTR
	ENSMUSSNP 648610	21891803	GG	NA	intronic splice site
ENSMUSSNP 3894657	21891843	GG	NA	5-prime UTR	

NA- Not Available