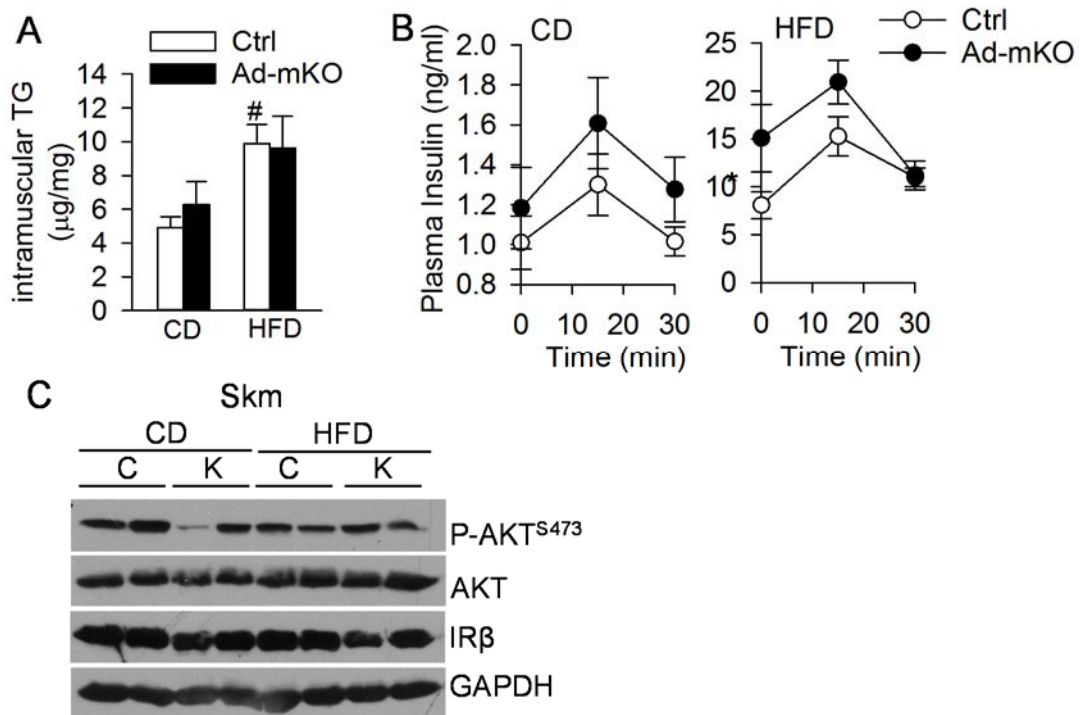


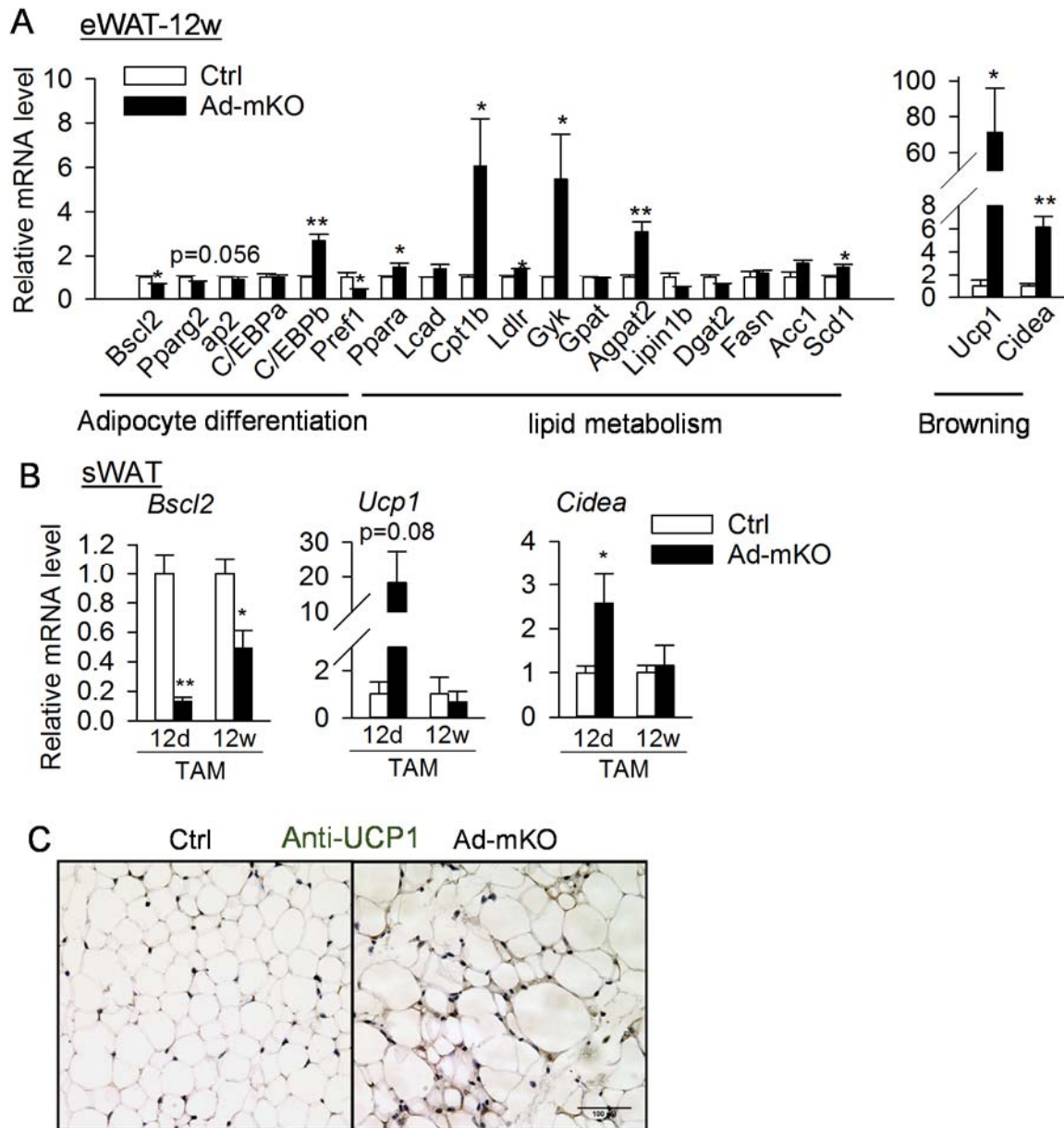
## Supplemental Materials and Results

### Supplementary Figures and Legends



### Supplementary Figure 1. Metabolic parameters in Ad-mKO mice

A. TG content in skeletal muscle of Ctrl and Ad-mKO mice on chow diet (CD) and high fat diet (HFD) as normalized to the tissue weight. B. Plasma insulin levels at 0, 15 and 30 m during GTT in Ctrl and Ad-mKO mice fed with CD and HFD. n=6-8/group. C. Basal insulin signaling in skeletal muscle (SkM) of Ctrl (C) and Ad-mKO (K) mice on CD and HFD after 4 h fast. Representative western blot from 2 different cohorts (n=4 total). \*: p < 0.05 vs Ctrl mice. #: p < 0.05 vs CD.



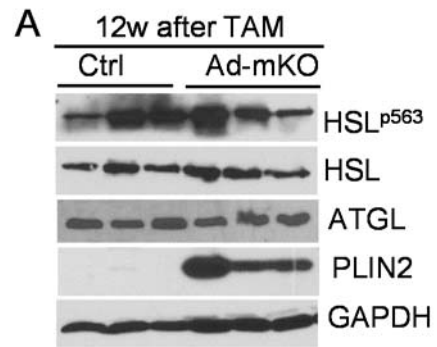
**Supplementary Figure 2. Deletion of *Bsc12* in mature adipose tissue induces browning**

A. RT-PCR analysis of genes involved in browning and lipid metabolism in eWAT of Ctrl and Ad-mKO mice

12w after TAM treatment (n=6/group). B. RT-PCR analysis of *Bsc12*, *Ucp1* and *Cidea* in sWAT of Ctrl and Ad-

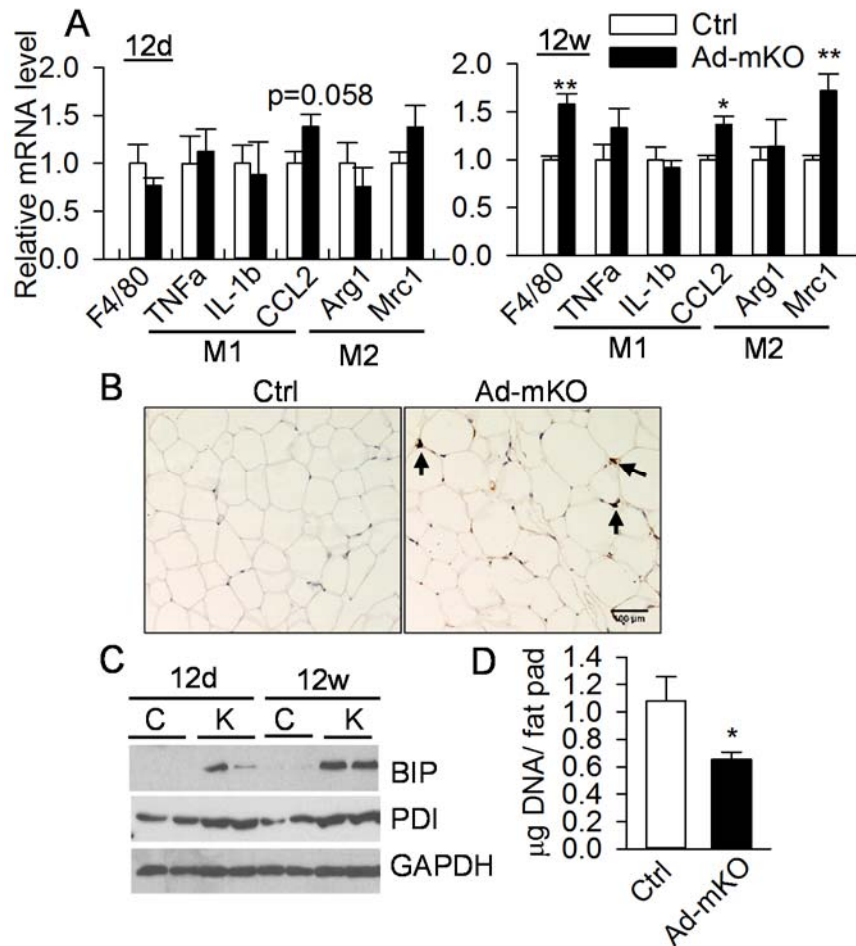
mKO mice 12d and 12w after TAM treatment (n=6/group). C. Immunohistochemical staining of UCP1 in sWAT

of Ctrl and Ad-mKO mice 12d after TAM treatment (n=3). Scale bar = 100  $\mu$ M. \*:  $p < 0.05$ ; \*\*:  $p < 0.005$ .



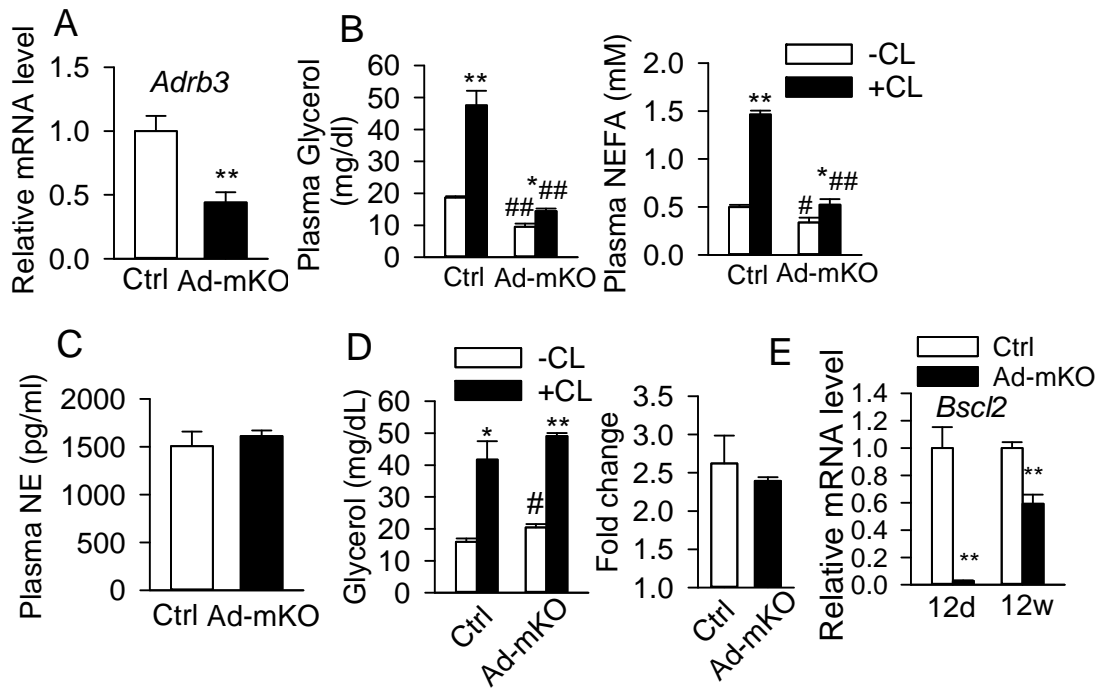
**Supplementary Figure 3. PKA signaling in Ad-mKO mice 12w after TAM treatment**

A. Western blot analysis of PKA mediated signaling in eWAT of Ctrl and Ad-mKO mice 12w after TAM treatment (n=3). Representative data are from 3 independent cohorts.



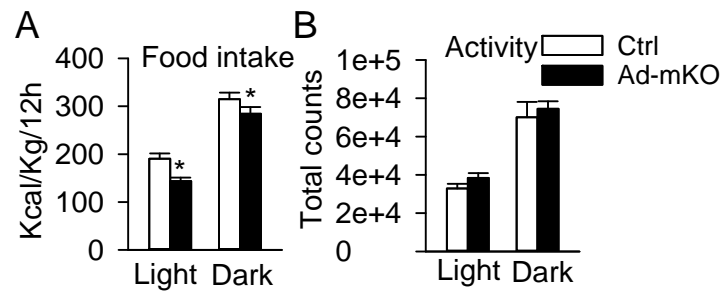
**Supplementary Figure 4. Inflammation and ER stress in adipose tissue of Ad-mKO mice.**

A. RT-PCR analysis of macrophage marker gene expression in eWAT of Ctrl and Ad-mKO mice 12d and 12w after TAM treatment (n=6/group). B. Representative immunohistochemical images of infiltrated macrophages stained with F4/80 (dark brown, arrow indicated) and counter-stained with hematoxylin in eWAT of Ctrl and Ad-mKO mice 12w after TAM treatment (n=3). Scale bar = 100 μm. C. Representative western blot of ER stress marker protein expression in eWAT of Ctrl and Ad-mKO mice 12d and 12w after TAM treatment (n=6 total/group). D. Total DNA content per eWAT fat pads of Ctrl and Ad-mKO mice 12w after TAM treatment (n=8/group). \* p < 0.05; \*\*: p < 0.005.



### Supplementary Figure 5. Downregulation of ADRB3 signaling in Ad-mKO mice

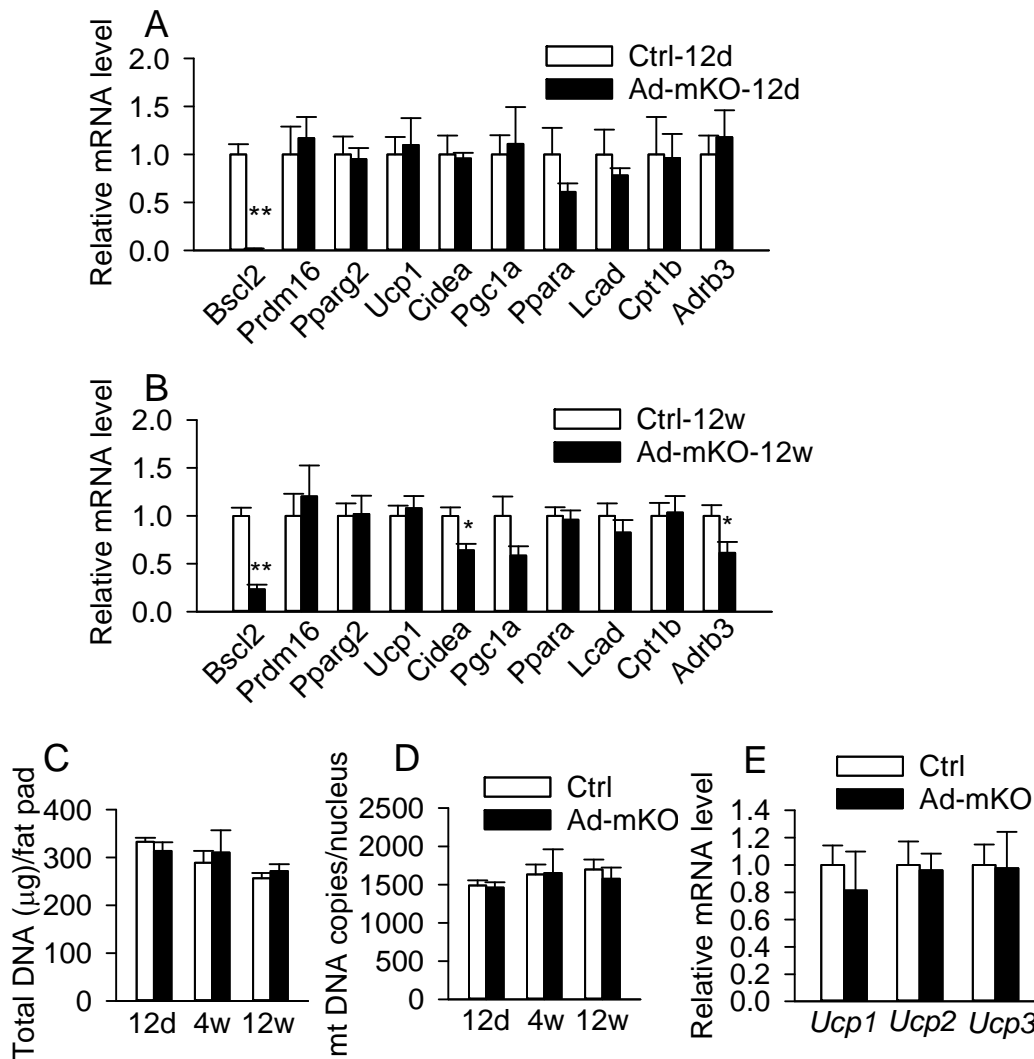
A. mRNA expression of *Adrb3* in eWAT. B. Plasma NEFA and glycerol in vehicle (-CL) and CL316,243 (+CL) treated Ctrl and Ad-mKO mice (n=6/group). C. Plasma norepinephrine (NE) levels in Ctrl and Ad-mKO mice (n=7/group). D. Vehicle (-CL) and CL316,243 (+CL) stimulated glycerol release (and fold changes) in isolated adipocytes ( $1.5 \times 10^5$ /sample) pooled from at least 4 Ctrl and Ad-mKO mice. All experiments (A-D) were performed in mice 12w after TAM treatment. E. *Bsc12* mRNA expression in isolated adipocytes from eWAT of Ctrl and Ad-mKO mice 12d and 12w after TAM injection (n=4). \*:  $p < 0.05$ , \*\*:  $p < 0.005$  vs Ctrl; #:  $p < 0.05$  vs -CL within the same genotype.



**Supplementary Figure 6. Metabolic homeostasis in Ad-mKO mice**

A. Food intake as normalized to body weight. B. Activity in Ctrl and Ad-mKO mice 3w after TAM treatment

(n=8/group). \*:  $p < 0.05$  vs Ctrl.



**Supplementary Figure 7. Effect of Bsc12 deletion on BAT and expression of *Ucp* in skeletal muscle**

A-B. RT-PCR analysis of gene expression in BAT of 4 h fasted Ctrl and Ad-mKO mice (A) 12d and 12w (B) after TAM administration. n=6/group. C. Total DNA content as normalized per BAT fat pad. D. Mitochondrial DNA copies in Ctrl and Ad-mKO BAT 12d, 4w and 12w after TAM administration. n=8/group. E. RT-PCR analysis of *Ucp* gene expression in skeletal muscle of 4 h fasted Ctrl and Ad-mKO mice 12w after TAM induced Bsc12 deletion (n=6). . \*: P < 0.05; \*\*: p < 0.005.

**Supplementary Table 1.** Differentially expressed genes (207) in eWAT from Ctrl and Ad-mKO mice 12d after TAM treatment with fold changes greater than 2 ( $1 < \text{Log}_2 < -1$ ), adjusted p value  $< 0.05$  (n=3 for each group pooled from 9 animals).

Gene ID	Ctrl	Ad-mKO	log2FoldChange	Padj
Ehhadh	3941.644	14991.08	1.927235	4.20E-52
Hist1h1c	2726.221	8669.358	1.669022	2.01E-38
Cpt1b	376.9612	1778.836	2.238445	2.30E-36
Pdk4	5309.677	22361.46	2.074319	1.30E-28
Fgf21	6.879906	377.1254	5.776512	7.25E-24
Trim66	86.64461	390.8385	2.173391	3.77E-21
3930402G23Rik	28.9573	217.7902	2.91094	6.09E-21
Bscl2	19269.78	4693.13	-2.03772	8.77E-21
Mthfd2	503.562	2229.842	2.146701	4.64E-19
Insig1	5523.649	32675.2	2.564502	4.44E-18
S100g	1.355806	307.9922	7.8276	3.27E-16
Trub2	1580.379	3469.414	1.134422	5.00E-16
Hsd17b12	9815.134	26207.53	1.416902	5.21E-16
Col27a1	519.2732	1666.69	1.68242	7.23E-16
Gramd1b	3461.892	7173.466	1.05111	4.62E-15
Pde4d	461.2463	1110.768	1.267949	2.23E-14
Hist1h1d	15.23098	150.3814	3.303545	8.84E-14
Egln3	285.0828	721.5794	1.339777	2.05E-13
Kcnk3	1131.503	4751.889	2.07026	4.58E-13
Apoc4	8.998776	98.09035	3.446311	7.29E-13
Chrna2	354.5383	892.559	1.332006	1.10E-12
Nnat	61927.27	22297.9	-1.47367	1.39E-12
Elovl3	3.22253	120.9629	5.230227	4.36E-12
Rab44	65.23686	372.0352	2.51168	1.72E-11
Ucp3	778.2832	2350.723	1.594737	4.88E-11
Cox8b	511.2705	2123.228	2.054101	6.92E-11
Peg3	5921.158	14392.14	1.28133	7.70E-11
Phospho1	553.9861	3214.664	2.536746	1.62E-10
Slc25a33	688.4555	1389.225	1.012845	2.06E-10
Prtn3	2387.354	826.7404	-1.52991	2.53E-10
Gale	1593.41	4373.011	1.456509	2.95E-10
Fabp3	48.61786	909.6751	4.225793	9.74E-10
Krt36	14.56217	98.427	2.756829	1.68E-09
Podn	14958.11	7255.354	-1.04381	1.76E-09
Klb	2081.5	4272.249	1.037372	3.23E-09
Abi3	963.6945	3118.764	1.694327	1.36E-08
Acaa1b	3202.176	9366.256	1.54842	1.36E-08



Rfc4	339.3389	702.8813	1.050554	1.95E-08
Slc16a1	2639.729	5881.788	1.155865	2.75E-08
Echdc1	8249.836	16527.25	1.00241	6.50E-08
Npas2	129.8561	442.2466	1.767937	6.66E-08
Eepd1	22952.09	11083.11	-1.05026	6.92E-08
Slc25a34	111.7264	493.2207	2.142263	7.09E-08
Fabp5	6318.851	15347.86	1.280303	9.65E-08
Cela1	555.7026	1503.082	1.435539	9.95E-08
Gm6736	44.94806	155.678	1.792234	1.43E-07
Ubd	222.9494	930.3854	2.061112	1.72E-07
Adam12	2685.897	5432.161	1.016122	2.01E-07
Cidea	113.8433	828.1256	2.862801	3.35E-07
H2-Q10	1320.974	4013.81	1.60337	3.55E-07
Ntrk3	383.5396	173.9309	-1.14086	4.4E-07
Prodh	6857.964	3417.377	-1.00489	6.27E-07
Adam2	13.3924	86.42124	2.689971	6.64E-07
Ptgfr	181.1555	391.3983	1.111409	8.07E-07
Tuba4a	1285.247	3067.097	1.254828	8.72E-07
Apoc2	125.3082	291.1769	1.216415	2.00E-06
Asf1b	130.1773	299.0542	1.199929	2.00E-06
Chchd10	2874.369	14403.08	2.325061	2.61E-06
P2rx3	96.10392	238.1324	1.309097	3.06E-06
Tuba8	52.67943	176.0547	1.740712	3.41E-06
Nfil3	253.668	655.3646	1.369356	3.66E-06
Hspa9	31674.52	67676.46	1.095331	3.84E-06
Gpnmb	994.7696	2545.943	1.355766	5.54E-06
Cox6a2	0.64318	143.9634	7.806263	6.20E-06
P2rx5	148.197	1108.245	2.902689	7.07E-06
Gm13086	290.2755	650.2943	1.16367	1.16E-05
Rprml	692.1812	249.2402	-1.47361	1.16E-05
Ucp1	2.049425	462.1121	7.81688	1.55E-05
Hist2h3c2	23.85773	92.58027	1.956248	1.55E-05
Dennd2d	5794.651	2718.857	-1.09172	1.76E-05
Arf4	11826.03	23777.24	1.007615	1.86E-05
Nr4a3	143.0352	533.4734	1.899046	1.88E-05
Gdf15	59.48876	309.9855	2.381512	1.94E-05
Cyp51	3006.036	6863.522	1.191087	2.21E-05
Krt79	147.0228	881.6171	2.584113	2.36E-05
Tectb	22.60403	88.52462	1.969499	2.38E-05
Unc5c	76.1421	17.93748	-2.08572	2.38E-05
Hist2h3c1.1	177.5004	412.5956	1.216906	2.79E-05
Idi1	391.2764	789.0485	1.011926	2.82E-05
Peg10	317.552	835.6876	1.395971	3.10E-05
Heph11	32.29716	190.291	2.558728	3.31E-05
Cacna1e	204.7223	67.12171	-1.60882	3.31E-05

6430571L13Rik	13.35306	66.06967	2.306818	3.47E-05
Dnmt3l	17.08322	248.2391	3.861079	3.82E-05
Gm16194	2.390021	37.27306	3.963038	3.90E-05
Olr1	13.33744	97.16653	2.864977	4.99E-05
Gm11398	137.0512	338.9772	1.306473	6.82E-05
Pon1	451.154	204.4702	-1.14173	7.48E-05
Ltc4s	3207.354	6770.285	1.077833	8.17E-05
B630019A10Rik	28.29511	96.05772	1.763349	8.90E-05
Mvd	498.3036	1213.99	1.28466	8.99E-05
Aqp2	150.5124	58.63852	-1.35996	8.99E-05
Gc	0.32159	24.9937	6.280198	9.04E-05
Mir686	581.1798	1246.849	1.101231	9.11E-05
Parm1	1682.171	4525.676	1.427809	9.29E-05
AL672259.1	2506.771	906.7263	-1.46709	0.000108
Pigr	42.57955	120.0081	1.494899	0.000127
Cend1	12.57433	60.27093	2.260981	0.00015
Arhgef37	316.2468	1515.363	2.260541	0.000154
Nap1l5	77.36643	177.7325	1.199928	0.000176
Gm3571	28.30169	136.058	2.265261	0.000186
Orm2	87.12762	314.9264	1.853813	0.000237
Ece2	193.9658	543.7025	1.487015	0.000261
Gyk	2362.862	5508.483	1.22112	0.000338
4930483K19Rik	119.9268	333.7431	1.476584	0.000349
Lss	2178.709	5478.708	1.330362	0.000351
Nme1	3053.019	6229.691	1.028924	0.000358
RP23-455J20.1.1	50.34982	139.5501	1.470724	0.000458
Akr1cl	1899.548	698.8713	-1.44256	0.000494
Cyp2b10	61.54506	147.3385	1.25942	0.000503
Pla2g2e	183.3458	1623.324	3.146312	0.000534
Scd2	12794.33	47695.81	1.898358	0.000623
Gm13068	154.8857	319.6485	1.045282	0.00067
Dio2	56.12272	143.3419	1.352803	0.000719
Slc41a2	364.3607	787.2549	1.111463	0.000789
Slc18a1	36.03562	119.4628	1.729066	0.000873
Tnfrsf23	156.1406	513.2624	1.716851	0.000951
Dok7	276.795	130.4497	-1.08532	0.000985
2010003K11Rik	371.6915	1001.61	1.430144	0.001024
Gm16641	1571.036	3165.136	1.010551	0.001026
Htra4	470.9288	190.8538	-1.30304	0.001039
Sc4mol	1429.526	2986.918	1.06312	0.001082
Gas6	64728.52	30737.08	-1.07442	0.001128
Fdps	1496.386	7414.769	2.308919	0.001218
4930528F23Rik	30.16636	103.3963	1.777172	0.001228
Golga7b	39.2164	104.8314	1.418542	0.001236
Psmb5	4564.164	9684.213	1.085284	0.001285

Ppp1r3g	2.788914	27.33991	3.293233	0.001509
Cdkn1a	1002.035	4713.441	2.233847	0.001526
Hist2h3c1	256.5441	585.7895	1.191176	0.001613
Hsd17b7	594.5006	1228.373	1.046999	0.001622
4930578M01Rik	165.2684	80.91358	-1.03036	0.001767
Gm17147	14.10827	55.10749	1.965708	0.001843
Mir5114	195.3508	767.1072	1.973361	0.001918
Trim29	109.9772	286.5746	1.381707	0.00194
Ighv1-55	68.09941	9.810783	-2.7952	0.001943
Igsf21	40.94881	128.1998	1.646501	0.002217
2010016I18Rik	3972.3	1761.818	-1.17291	0.002217
Plin2	13704.89	71526.39	2.383785	0.002265
Ccdc18	32.16422	105.017	1.707094	0.002287
Hpd1	38.21485	178.7654	2.225862	0.002739
Col11a2	60.99166	135.2248	1.148676	0.002836
Cstb	3011.541	6801.449	1.17534	0.003198
Adam7	5.377402	6213.606	10.17431	0.003781
Lrp8	72.11388	281.5189	1.964883	0.003821
Nmnat2	135.8012	62.61326	-1.11696	0.004385
Cxcl13	453.2956	168.1609	-1.43061	0.004542
Gm6166	99.32462	257.856	1.376342	0.004851
Gm9696	27.4077	108.9083	1.990461	0.005086
Arntl	305.0999	879.924	1.528097	0.005428
Nyx	33.36085	85.35407	1.355304	0.005465
Maff	459.654	1211.674	1.398381	0.006246
Hist1h1e	39.63882	95.01573	1.261252	0.006626
Itih4	245.0419	655.0236	1.418518	0.006829
Ntm	134.5001	67.09164	-1.0034	0.006887
Aldh1l2	85.15763	2160.658	4.665191	0.006976
Cxcr5	93.08093	40.42815	-1.20313	0.008725
3110082D06Rik	89.13767	37.99187	-1.23034	0.009357
Enc1	2854.271	6756.207	1.243091	0.009508
Igkv12-89	136.4073	24.74897	-2.46248	0.009802
Gm15344	1353.006	4074.782	1.590555	0.010613
Fam57b	847.8409	1753.975	1.048763	0.011415
Akr1b3	3997.102	11631.87	1.541056	0.01177
Cplx1	38.75057	10.64135	-1.86454	0.01177
Ttll8	55.96733	125.518	1.165237	0.013255
Bdkrb2	17.33993	52.912	1.609497	0.013506
Fbxo2	40.42468	93.35211	1.207446	0.013506
RP24-318I5.1.1	5.976722	29.86403	2.320983	0.014447
Serpina3d-ps	1.007351	22.68729	4.493246	0.014504
Rgs1	108.5001	51.30636	-1.08049	0.014739
Serpina3i	65.24384	24.79982	-1.39551	0.014906
Myl7	19.79154	2.20909	-3.16336	0.015362

Gm6733	55.3216	112.3261	1.021778	0.016267
Sh2d4b	251.3398	115.0922	-1.12685	0.017185
Eef1a2	2.874076	37.53648	3.707123	0.01796
Gm14556	118.9822	48.4361	-1.29659	0.018845
Gm13502	42.90059	95.33395	1.151992	0.019728
Col7a1	99.58645	226.2889	1.184144	0.020252
Mreg	119.5357	449.4664	1.910772	0.020536
B230216G23Rik	24.81263	64.12508	1.369814	0.020617
Gm15856	11.39337	40.07078	1.814357	0.022062
Gtse1	45.67183	97.56973	1.095129	0.022275
Gm17597	71.16482	30.97589	-1.20002	0.022687
RP24-386J17.2.1	15.65468	63.02111	2.009241	0.02439
Retnlg	8.479998	34.1943	2.01162	0.024603
1810014B01Rik	5551.601	16876.75	1.604061	0.024603
Fcrla	82.52789	29.70168	-1.47434	0.025458
Cyb5r1	2175.521	5489.148	1.335221	0.027079
Hist1h4i	24.45293	63.13629	1.368462	0.027132
Derl3	70.21238	1765.925	4.652555	0.032355
Hsp90b1	31603.53	97301.74	1.62238	0.032998
Sirpb1a	7.887257	39.38876	2.320189	0.034902
Srxn1	1660.623	7990.522	2.266565	0.036489
Klk1b24	43.51623	13.85703	-1.65094	0.037057
Gm6096	67.4905	30.03872	-1.16786	0.0375
A030009H04Rik	47.07268	94.93913	1.012113	0.03769
Glrx	682.8859	1774.89	1.378013	0.038903
Cd79a	232.1789	115.9737	-1.00144	0.039157
Serpina3j	153.1334	69.23646	-1.14519	0.039436
Pou2af1	183.8554	86.2182	-1.09251	0.040551
Gm11728	14.68205	42.21903	1.52384	0.04064
3830408C21Rik	64.42057	27.60034	-1.22284	0.042324
Defb42	10.06113	423.3956	5.395141	0.04326
Pik3c2g	1.805138	16.65558	3.205825	0.044453
Ldlr	1296.467	2898.598	1.16077	0.046184
Igkj2	80.53676	31.41838	-1.35804	0.0466
Rasef	1.034215	45.23753	5.450911	0.047794

**Supplementary Table 2. Primer sequences for RT-PCR**

Gene name		Primer sequence	Gene name		Primer sequence
36B4	5F	CGCTTTCTGGAGGGTGTCCGC	Ldlr	5F	AGGCTGTGGGCTCCATAGG
	3R	TGCCAGGACGCGCTTGTACC		3R	TGCGGTCCAGGGTCATCT
Adrb3	5F	CAGTCCCTGCCTATGTTTG	Leptin	5F	CCTCATCAAGACCATTGTAC
	3R	TTCTGGATTCTGCTCT		3R	TCTCCAGGTCATTGGCTATCTG
Ap2	5F	AGCCCAACATGATCATCAGC	Lipin1 $\beta$	5F	CAGCCTGGTAGATTGCCAGA
	3R	TCGACTTTCCATCCCCTTC		3R	GCAGCCTGTGGCAATTCA
Agpat2	5F	GCCAAGGTCGGTCTCTACTG	Mrc1	5F	TGATTACGAGCAGTGGAAGC
	3R	GAACGAACCAGCTGATGATG		3R	GTTACCCTAAGCCCAATTT
Arg1	5F	AGACCACAGTCTGGCAGTTG	Pdk4	5F	CTCCTTCGGTGCAGCTGG
	3R	CCACCCAAATGACACATAGG		3R	GTCCACTGTGCAGGTGTCT
Bscl2	5F	GCTCTTCTGCACCATCCTTC	Pla2g2e	5F	CTGGAGAAGCTGGGCTGT
	3R	CGGTGGAGGAATCACAGTC		3R	TGCGGTTGTAAGTGTTCAGG
Ccl2	5F	CAGCAAGATGATCCCAATGA	Plin2	5F	TCCACTGTCCACCTGATTGA
	3R	TGTCTGGACCCATTCCTTCT		3R	TGGCATGTAGTCTGGAGCTG
C/EBP $\beta$	5F	CAAGCTGAGCGACGAGTACA	Plin1	5F	CACCTGCGGCTGTGCTGG
	3R	CAGCTGCTCCACCTTCTTCT		3R	CGATGTCTCGGAATTCGCT
C/EBP $\alpha$	5F	GAACAGCAACGAGTACCGGGTA	PGC1 $\alpha$	5F	CCCTGCCATTGTAAAGACC
	3R	GCCATGGCCTTGACCAAGGAG		3R	TGCTGCTGTTCTGTTTTT
COX8b	5F	GAACCATGAAGCCAACGACT	PPAR $\alpha$	5F	CCACGAAGCCTACCTGAAGA
	3R	GCGAAGTTCACAGTGGTTCC		3R	ACTGGCAGCAGTGGAAGAAT
Cpt1 $\beta$	5F	TTGCCCTACAGCTGGCTCATTTCC	PPAR $\gamma$ 2	5F	TCTCCTGTTGACCCAGAGCA
	3R	GCACCCAGATGATTGGGATACTGT		3R	GTGGAGCAGAAATGCTGGAG
Dgat2	5F	TCCAGCTGGTGAAGACACAC	Prdm16	5F	CAGCACGGTGAAGCCATTC
	3R	GATGCCTCCAGACATCAGGT		3R	GCGTGCATCCGCTTGTG
F4/80	5F	CTTTGGCTATGGGCTTCCAGTC	Pref1	5F	CAAGGATGGCTGGGACGG
	3R	GCAAGGAGGACAGAGTTTATCGTG		3R	CCTCCGTGCTGGCAGGG
Fabp3	5F	GAAGAACGGGGATACTATCA	Ppia	5F	CTGTTTGCAGACAAAGTTCCA
	3R	CAACTAGCTCCCTAGTTAGT		3R	AGGATGAAGTTCTCATCCTCA
Fdps	5F	CAGTGGGCTGGTGTGTAGAA	TNF $\alpha$	5F	TGCCTATGTCTCAGCCTCTTC
	3R	AGAAGCAGAGCGTCGTTGAT		3R	CTTTGCCTCACTCAGGATTGG
Fgf21	5F	GCTCTCTATGGATCGCCTCAC	Ucp1	5F	ACTGCCACACCTCCAGTCATT
	3R	GGTACACATTGTAACCGTCCTC		3R	CTTTGCCTCACTCAGGATTGG
Gpat	5F	CAACACCATCCCCGACATC	TNF $\alpha$	5F	TGCCTATGTCTCAGCCTCTTC
	3R	GTGACCTTCGATTATGCGATCA		3R	CTTTGCCTCACTCAGGATTGG
Gyk	5F	ATCCGCTGGCTAAGAGACAA	Ucp1	5F	ACTGCCACACCTCCAGTCATT
	3R	AGGCGCATATAACCCTGAAA		3R	CTTTGCCTCACTCAGGATTGG
IL-1 $\beta$	5F	GGGCCTCAAAGGAAAGAATC	Ucp2	5F	CGACTCTGTCAAACAGTTCTA
	3R	CTCTGCTTGTGAGGTGCTGA		3R	CAATGGTCTTGTAGGCTTCG
Lcad	5F	AGCCTCCGTGGAGTTGCACA	Ucp3	5F	TACAGAACCATCGCCAGGGA
	3R	CCAGGAACTACGTGAAGCAAAG		3R	GTGGCACAGAAGCCAGCT

## Supplementary Materials and Methods

**Triglyceride clearance test** Mice were fasted for 4 h, then injected by gavage 15  $\mu\text{l g}^{-1}$  body-weight of 20% intralipid (Sigma Aldrich) as described (1). Blood was collected at timed intervals then assayed for TG levels (Infinity; Thermo Fisher Scientific).

**Glycerol induced TG synthesis ~~with-in~~ isolated adipocytes** This assay was adapted from published protocols (2,3). Isolated adipocytes were washed twice with KRBB 2% BSA 5.5 mM glucose wash buffer at 37°C. 100  $\mu\text{l}$  packed adipocytes were incubated in 450  $\mu\text{l}$  1x KRBB with 2% FFA free BSA, 5.5 mM glucose, 100  $\mu\text{M}$  cold glycerol with 12.5  $\mu\text{Ci}$  radiolabeled [ $^3\text{H}$ ]-glycerol /reaction at 37 °C for 2 h. 500  $\mu\text{l}$  methanol ~~and 500 methonal werewas~~ then added ~~and~~; vigorously mixed to extract lipids according to Bligh and Dyer (4). Equal amounts of lipids determined by Triglyceride Reagent (Therma Fisher) were separated by thin-layer chromatography as previously described (5). TG spots were scraped and counted by scintillation counting.

**Catecholamine assay** Plasma epinephrine and norepinephrine ~~are-were~~ measured by HPLC via ~~an~~ electrochemical detection. Plasma ~~was~~ absorbed onto alumina at a ~~ph-pH~~ of 8.6, eluted with dilute perchloric acid, and auto-injected onto a c18 reversed-phase column. An internal standard (dehydroxylbenzylamine; DHBA) ~~was~~ included with each extraction to monitor recovery and standard curves for both epinephrine and norepinephrine ~~are-run~~. Results ~~are-were~~ quantitated through a chromatography data station (6,7).

## Supplementary References

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