Supplemental Data, Tables & Methods

Supplemental Table 1. Serum Metabolites (lean)

	Control	Mac-IKO	p-value
TG (mg/ dL)	55.56 ± 15.71	63.86 ± 22.33	0.29
Glycerol (mg/mL)	0.015 ± 0.004	0.018 ± 0.007	0.15
FFA (mmol/L)	1.04 ± 0.02	0.87 ± 0.21	0.04
insulin (ng/mL)	0.54 ± 0.11	0.58 ± 0.26	0.62

Supplemental Table 2. Serum Metabolites (lean)

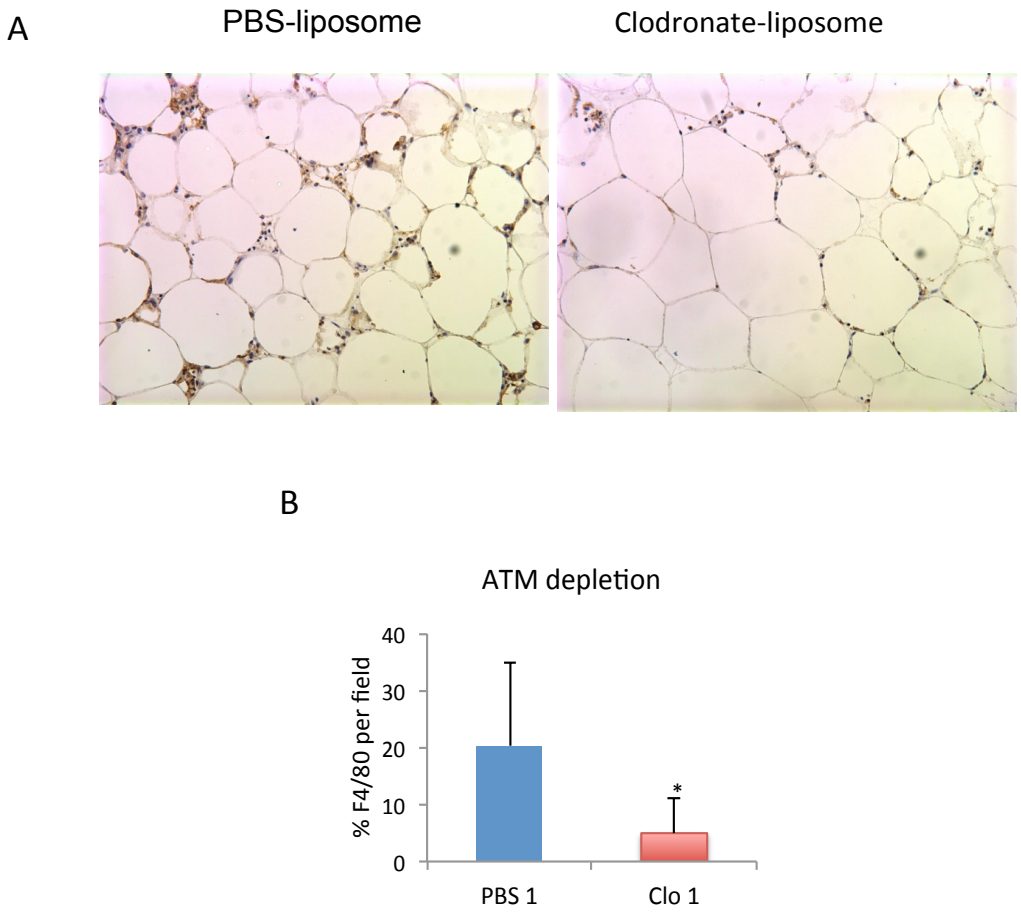
	Control	Adipo-IKO	p-value
TG (mg/ dL)	24.51 ± 3.10	23.39 ± 3.49	0.61
Glycerol (mg/mL)	0.024 ± 0.011	0.019 ± 0.012	0.48
FFA (mmol/L)	0.75 ± 0.11	0.66 ± 0.05	0.14
insulin (ng/mL)	0.53 ± 0.24	0.45 ± 0.18	0.57
glucose (mg/dL)	118.60 ± 18.80	139.80 ± 11.20	0.07
HOMA-IR	3.80 ± 1.59	3.79 ± 1.45	0.99

Supplemental Table 3. Serum Metabolites (obese)

	Control	AIKO	p-value
TG (mg/dL)	10.65 ± 11.42	13.57 ± 6.50	0.57
Glycerol (mg/mL)	0.029 ± 0.010	0.030 ± 0.003	0.89
FFA (mmol/L)	0.50 ± 0.14	0.51 ± 0.08	0.85
insulin (ng/mL)	2.06 ± 0.98	2.80 ± 0.65	0.12
glucose (mg/dL)	153.00 ± 33.90	168.90 ± 17.80	0.31
HOMA-IR	19.38 ± 9.50	29.18 ± 7.46	0.054

Supplemental Table 4. Serum Metabolites (obese)

	Control	Mac-IKO	p-value
TG (mg/dL)	32.87 ± 9.05	31.83 ± 10.75	0.82
Glycerol (mg/mL)	0.038 ± 0.010	0.043 ± 0.010	0.35
FFA (mmol/L)	0.93 ± 0.08	0.88 ± 0.13	0.35
insulin (ng/mL)	3.60 ± 0.28	3.60 ± 0.31	0.94



Supplemental Figure 1. Clodronate-liposome treatment in obese adipose tissue explant depletes ATMs.

A) Immunohistochemistry of adipose tissue using F4/80 antibody to identify macrophages. B) Quantification of F4/80+ expressing cells in the adipose tissue treated with PBS (blue) or clodronate (red) liposomes. Data are presented as mean + SD. n=3 mice/group. *p<0.05 versus PBS treated.

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Amplicon size : 1067 bp

Forward Primer 5'→3' (I3-2) Tm=63.8 C

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Reverse Primer 5'→3' (I4-2) Tm=63.1 C

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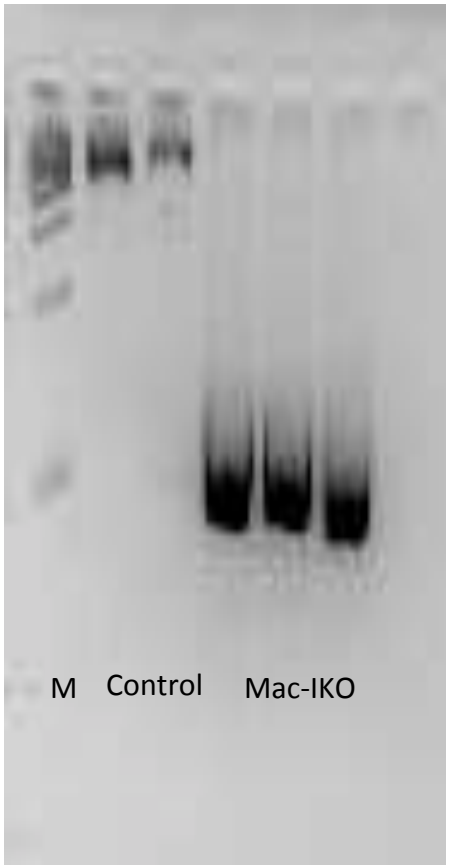
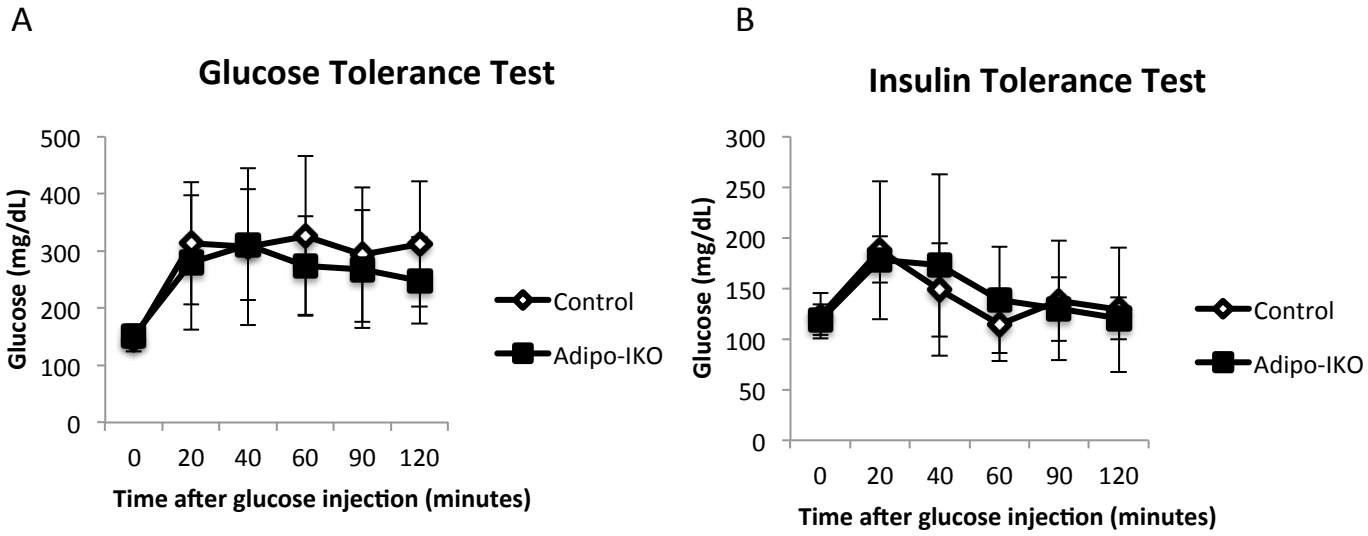


Supplemental Figure 2. *Igf1* deletion in myeloid cells

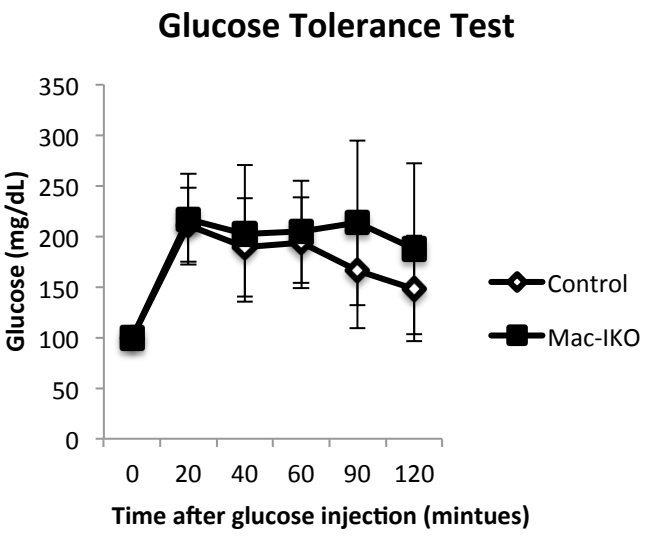
A) Primer design targeted for exon 4 flanking region of *Igf1*. B)PCR product of exon 4 flanking region of *Igf1* from both in Mac-IKO and in control mice (Lane 1: M designates DNA ladder marker, Lane 2 and 3 are control, Lane 4 to 6 are Mac-IKO).



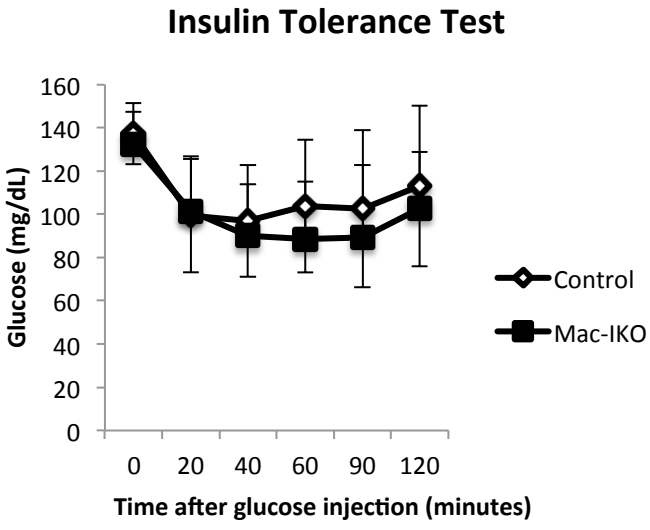
Supplemental Figure 3. Adipocyte-derived IGF1 does not regulate systemic glucose homeostasis in obese mice.

Glucose tolerance tests were performed in obese mice by intraperitoneally injecting of glucose (2g of glucose per kg) following a fast and blood glucose measured at indicated times following injection. Insulin tolerance tests were performed in obese mice by intraperitoneally injection of insulin (1U of insulin per kg) and blood glucose concentrations measured at indicated times (n=5-7 per genotype). Data are presented as means + SD.

A

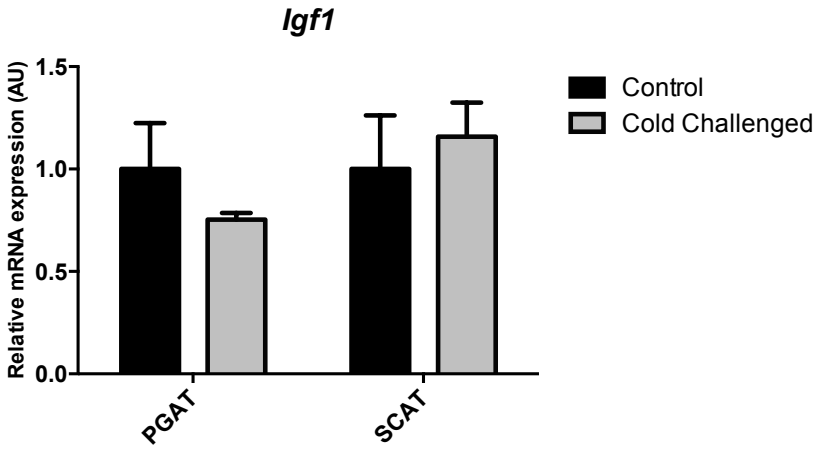


B



Supplemental Figure 4. ATM-derived IGF1 does not regulate systemic glucose homeostasis in obese mice.

Glucose tolerance tests were performed in obese mice by intraperitoneally injecting of glucose (2g of glucose per kg) following a fast and blood glucose measured at indicated times following injection. Insulin tolerance tests were performed in obese mice by intraperitoneally injection of insulin (1U of insulin per kg) and blood glucose concentrations measured at indicated times (n=8-15 per genotype). Data are presented as mean + SD.



Supplemental Figure 5. 8-week-old lean male mice were at either 25°C or 4°C for 72 hours and PGAT and SCAT were collected. Expression of *Igf1* was measured qPCR (n=4 per genotype). Data are presented as mean +/- SD.

Supplemental Methods

Immunophenotyping The cells were incubated in the dark for 30 minutes with 0.5mg/ml FcBlock 51 (BD Pharmingen) and then for an additional 30 minutes with antibodies conjugated with fluorophores. The following antibodies were used to sort cells: Cd45.2-Percp-Cy5.5 (BD Pharmingen), F4/80-APC (AbD Serotec), CD11b-PE (eBioscience), CD11c-PETR (eBioscience), Cd3e-PE (eBioscience), Cd31-PE (e-Bioscience). After incubation with primary antibodies, the cells were washed twice with FACS buffer and were re-suspended in FACS buffer containing 4', 6-diamidino-2-phenylindole dihydrochloride (DAPI). Immune cells and non-immune cells were identified as macrophages: Cd45.2+F4/80+CD11b+ (FB ATMs) or Cd45.2+F4/80+CD11b+CD11c+ (FBC ATMs); monocytes: Cd45.2+CD11b+; lymphocytes: Cd45.2+Cd3e+; endothelial cells:Cd45.2-Cd31+; mesenchymal cells: Cd45.2-Cd31-.