

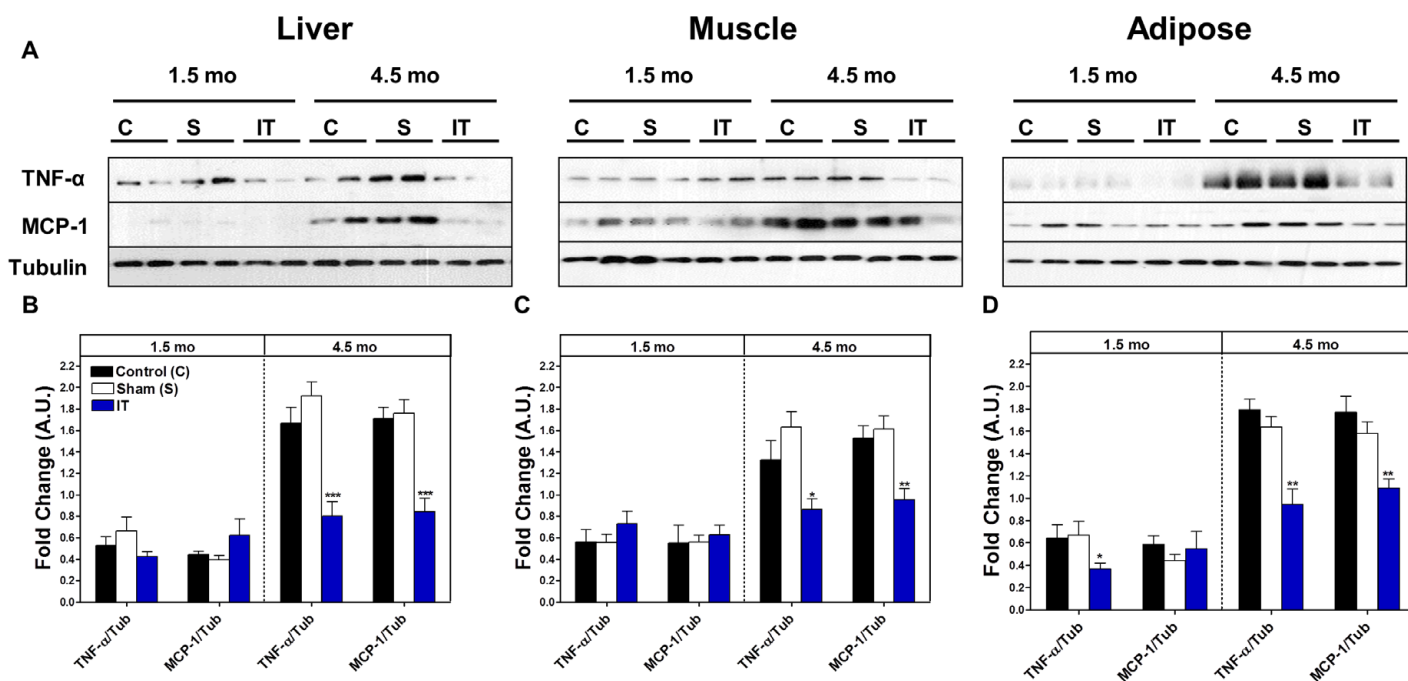


Fig. S1. IT surgery decreases inflammation at 4.5 months after surgery. (A) Representative immunoblots for TNF- α , MCP-1 and tubulin in liver, adipose and muscle at 1.5 and 4.5 months after surgery. (B-D) Results were quantified in densitometric units and expressed relative to tubulin in liver (B), skeletal muscle (C) and mesenteric adipose (D). * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ compared with control and sham by Student's t -test; $n = 12$ per group at 1.5 months and $n = 16$ per group at 4.5 months. Data are expressed as mean $\pm$ s.e.m.

Table S1. Plasma hormones, metabolites and tissue TG content

	Control		Sham		IT	
Short Term Study	Baseline	1.5 mo	Baseline	1.5 mo	Baseline	1.5 mo
Fasting plasma glucose (mmol/L)	5.2 ± 0.1	6.3 ± 0.1 ⁺⁺⁺	5.5 ± 0.1	6.3 ± 0.1 ⁺⁺⁺	5.4 ± 0.1	5.7 ± 0.1 ^{**}
HbA _{1c} (%)	4.1 ± 0.1	4.4 ± 0.2	4.3 ± 0.1	4.5 ± 0.2	4.1 ± 0.1	4.3 ± 0.2 ^{**}
Fasting plasma insulin (pmol/L)	191 ± 28	526 ± 49 ⁺⁺⁺	168 ± 22	519 ± 34 ⁺⁺⁺	165 ± 20	280 ± 20 ^{+++,**}
HOMA-IR (A.U.)	6.5 ± 1.1	21.0 ± 1.9 ⁺⁺⁺	6.1 ± 0.9	20.9 ± 1.6 ⁺⁺⁺	5.7 ± 0.7	10.3 ± 0.8 ^{+++,**}
Fasting plasma TG (mmol/L)	0.8 ± 0.1	1.7 ± 0.1 ⁺⁺⁺	0.8 ± 0.1	1.5 ± 0.1 ⁺⁺⁺	0.8 ± 0.1	1.2 ± 0.1 ^{+++,*}
Fasting plasma cholesterol (mmol/L)	2.3 ± 0.1	2.6 ± 0.1 ⁺⁺	2.5 ± 0.1	2.9 ± 0.1 ⁺⁺	2.5 ± 0.1	2.6 ± 0.1 ⁺
Fasting plasma adiponectin (pmol/L)	137 ± 14	198 ± 12 ⁺⁺	150 ± 15	189 ± 22	167 ± 13	209 ± 7 ⁺⁺
Fasting plasma total GLP-1 (pmol/L)	1.0 ± 0.3	2.1 ± 0.5	1.3 ± 0.3	1.5 ± 0.4	1.2 ± 0.2	4.0 ± 0.6 ^{+++,*}
Liver TG (mg/g liver)	ND	20.9 ± 2.5	ND	17.2 ± 1.7	ND	13.6 ± 1.1 [*]
Skeletal muscle TG (mg/g muscle)	ND	3.0 ± 0.3	ND	3.2 ± 0.4	ND	2.0 ± 0.1 ^{**}
Long Term Study	Baseline	4.5 mo	Baseline	4.5 mo	Baseline	4.5 mo
Fasting plasma glucose (mmol/L)	5.1 ± 0.1	7.5 ± 2.9 ⁺⁺	5.1 ± 0.1	8.3 ± 1.0 ⁺⁺	5.1 ± 0.1	6.0 ± 0.1 ^{+++,*}
HbA _{1c} (%)	4.0 ± 0.1	7.0 ± 0.7 ⁺⁺⁺	4.0 ± 0.2	7.9 ± 0.8 ⁺⁺⁺	4.0 ± 0.1	5.9 ± 0.4 ⁺⁺⁺
Fasting plasma insulin (pmol/L)	189 ± 35	387 ± 47 ⁺⁺	158 ± 19	412 ± 48 ⁺⁺⁺	145 ± 14	411 ± 33 ⁺⁺⁺
HOMA-IR (A.U.)	6.3 ± 1.2	20.4 ± 2.2 ⁺⁺⁺	5.3 ± 0.7	18.5 ± 1.3 ⁺⁺⁺	4.7 ± 0.5	15.4 ± 1.3 ^{+++,*}
Fasting plasma TG (mmol/L)	0.8 ± 0.1	1.4 ± 0.1 ⁺⁺⁺	0.9 ± 0.1	1.4 ± 0.1 ⁺⁺⁺	0.8 ± 0.1	1.4 ± 0.1 ⁺⁺⁺
Fasting plasma cholesterol (mmol/L)	2.3 ± 0.1	3.2 ± 0.1 ⁺⁺⁺	2.4 ± 0.1	3.3 ± 0.1 ⁺⁺⁺	2.3 ± 0.1	3.0 ± 0.1 ⁺⁺⁺
Fasting plasma adiponectin (pmol/L)	167 ± 13	183 ± 12	173 ± 11	169 ± 11	180 ± 7	179 ± 13
Fasting plasma total GLP-1 (pmol/L)	2.0 ± 0.3	4.3 ± 0.5 ⁺⁺⁺	2.2 ± 0.3	3.0 ± 0.5	2.3 ± 0.3	4.3 ± 0.5 ^{+++,*}
Liver TG (mg/g liver)	ND	17.7 ± 2.5	ND	14.5 ± 1.5	ND	17.3 ± 1.4
Skeletal muscle TG (mg/g muscle)	ND	3.5 ± 0.3	ND	3.2 ± 0.2	ND	3.3 ± 0.1

⁺*P*<0.05 compared with sham, ****P*<0.05, *****P*<0.01, ******P*<0.001 compared with control and sham by two-factor repeated measures ANOVA with Bonferroni's post-test, ⁺⁺*P*<0.01, ⁺⁺⁺*P*<0.001 compared to baseline by Student's t-test. *n*=12 per group at 1.5 months, *n*=16 per group at 4.5 months. Data are expressed as mean ± SEM.

Table S2. Percent change in insulin from fasting to peak values during the OGTTs

	1 month OGTT	3 months OGTT	4 months OGTT
	% Change	% Change	% Change
Control	74 ± 11	80 ± 16	62 ± 20
Sham	86 ± 13	68 ± 13	65 ± 12
IT	192 ± 24***	129 ± 17**	100 ± 16*

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ compared with control and sham by two-factor repeated measures ANOVA

with Bonferroni's post-test. $n=28$ per group during the 1 month OGTT, $n=16$ per group during the 3 and 4 month OGTTs. Data are expressed as mean ± SEM.

Table S3. Tissue weights

Short Term Study	Control	Sham	IT
Epididymal fat pads (g)	6.7 ± 0.3	6.0 ± 0.5	4.7 ± 0.3*
Retroperitoneal fat pads (g)	10.2 ± 0.9	9.4 ± 0.8	6.8 ± 0.7*
Subcutaneous fat (g)	34.9 ± 1.9	34.0 ± 5.4	25.9 ± 1.5**
Mesenteric fat (g)	6.0 ± 0.5	7.5 ± 0.7	6.1 ± 0.5
Total white adipose tissue (g)	57.8 ± 3.4	56.9 ± 3.2	43.5 ± 2.8**
Heart (g)	1.4 ± 0.03	1.4 ± 0.03	1.4 ± 0.03
Kidney (g)	1.7 ± 0.03	1.7 ± 0.04	1.7 ± 0.04
Liver (g)	17.2 ± 0.4	17.4 ± 0.4	16.0 ± 0.4*
Long Term Study	Control	Sham	IT
Epididymal fat pads (g)	8.0 ± 0.8	9.2 ± 0.5	9.7 ± 0.6
Retroperitoneal fat pads (g)	11.0 ± 0.9	12.2 ± 0.6	12.9 ± 0.7
Subcutaneous fat (g)	42.2 ± 4.3	43.2 ± 2.6	45.9 ± 2.2
Mesenteric fat (g)	6.8 ± 0.8	8.4 ± 0.6	11.3 ± 0.6*
Total white adipose tissue (g)	68.1 ± 6.5	73.0 ± 4.1	79.9 ± 3.9
Heart (g)	1.5 ± 0.04	1.5 ± 0.03	1.5 ± 0.02
Kidney (g)	2.0 ± 0.05	2.0 ± 0.04	1.9 ± 0.04
Liver (g)	19.6 ± 6.5	20.1 ± 0.4	20.5 ± 0.5

Values are mean ± SEM. *n*=12 per group at 1.5 months, *n*=16 per group at 4.5 months **P*<0.05, ***P*<0.01,

****P*<0.001 compared to control and sham by Student's t-test.

Table S4. Western blot antibodies

Antibody	Source	Host	Dilution for WB
IRE	Abcam	Rabbit	1:1000
ATF6	Abcam	Mouse	1:1000
BiP	Santa-Cruz	Rabbit	1:2000
eIF2	Santa-Cruz	Mouse	1:1000
Akt	Santa-Cruz	Mouse	1:50000
JNK	Santa-Cruz	Mouse	1:10000
MAPK	Cell Signaling	Rabbit	1:50000
MCP-1	Biovision	Rabbit	1:1000
PERK	Santa-Cruz	Rabbit	1:1000
sXBP1	Santa-Cruz	Rabbit	1:1000
TNF-	Santa-Cruz	Goat	1:1000
pPERK (Thr ⁹⁸⁰)	Cell Signaling	Rabbit	1:1000
pAkt (Ser ⁴⁷³)	Cell Signaling	Rabbit	1:100000
peIF2 (Ser ⁵¹)	Santa-Cruz	Rabbit	1:10000
pJNK(Thr ¹⁸³ /Tyr ¹⁸⁵)	Santa-Cruz	Mouse	1:10000
pMAPK(Thr ²⁰² /Tyr ²⁰⁴)	Cell Signaling	Rabbit	1:100000
pIRE (Ser ⁷²⁴)	Abcam	Rabbit	1:1000
CD31	Santa-Cruz	Mouse	1:1000
VEGF	Santa-Cruz	Rabbit	1:1000
Tublin	Santa-Cruz	Mouse	1:100000