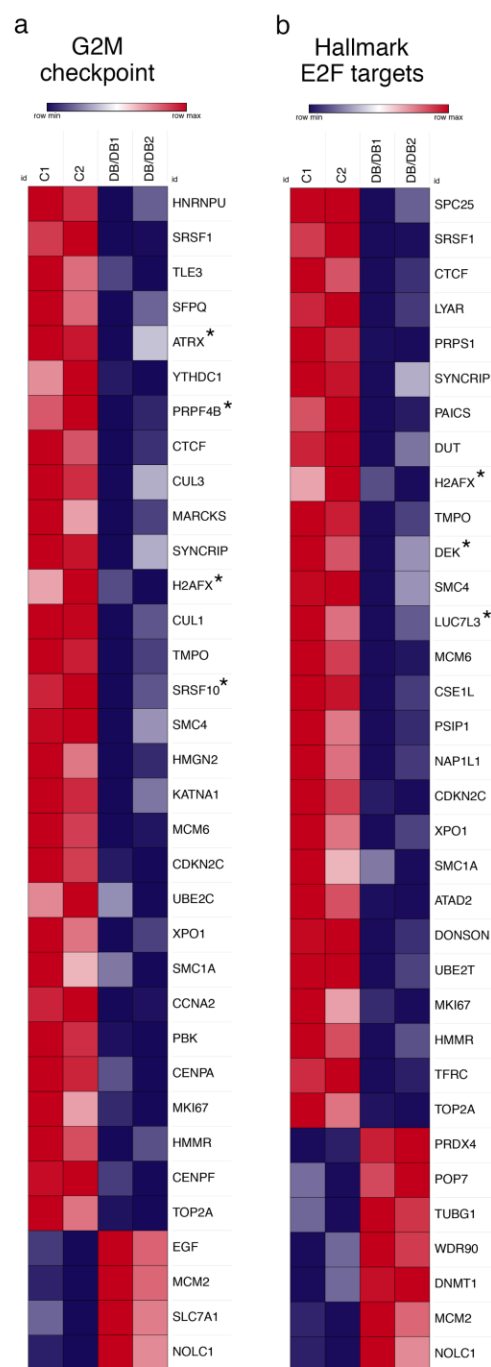


SUPPLEMENTARY INFORMATION

SUPPLEMENTARY FIGURE 1



\* Genes identified as YY1 targets in the Chip-seq that were also differentially expressed in the db/db mice.

**Supplementary figure 1 - RNAseq gene expression from control and db/db mice.** Genes involved in the G2M checkpoint pathway (**A**) and hallmark E2F2 targets (**B**) in control and db/db mice.

## SUPPLEMENTARY METHODS

*Table 1 - Reagents used in this study*

Reagent	Company	Catalog #
High fat diet (60% fat, 20% protein, 20% carbohydrate kcal%)	Open Source Diet	D12492
L-Glutamine	Gibco	21875
foetal bovine serum	Gibco	10106-151
100U/ml penicillin and 0.1g/L streptomycin antibiotics	Gibco	15070063
Direct-zol RNA Microprep Plus	Zymo Research	R2061
SMARTer Stranded RNAseq Kit	Clontech	634839
cOmplete™, Mini, EDTA-free Protease Inhibitor	Roche	4693159001
PhosSTOP™	Sigma Aldrich	4906845001
Accel-NGS™ 2S Plus DNA Library Kit	Swift Biosciences	66096
mouse ultrasensitive specific ELISA	ALPCO	80-INSMSU-E01
Rabbit IRDye® 680RD	Li-cor	929-70050
Mouse IRDye® 800CW	Li-cor	929-70020
High-Capacity cDNA Reverse Transcription Kit	Applied biosystems	4368813
power SYBR® green master mix	Applied biosystems	4368577
Blocking buffer	Li-cor	927-60001
RPMI 1640	Corning Cellgro	10-040-cv

***Supplemental Table 2 - Primer sequences used in Rip-βYY1KO***

<b>Gene</b>	<b>Forward (5` - 3`)</b>	<b>Reverse (5` - 3`)</b>
YY1	ACCTGGCATTGACCTCTCAGAC	CTCATAGCAGAGTTATCCCTGAAC
Glut2	GTTGGAAGAGGAAGTCAGGGCA	ATCACGGAGACCTTCTGCTCAG
Ins1	AGGACCCACAAGTGGAACAAC	GTGCAGCACTGATCCACAATG
Ins2	GCTCTCTACCTGGTGTGTGGG	CTCCACCCAGCTCCAGTTGTG
Arx	CTGCTGAAGCGCAAACAGAGGC	CTCTGTCAGGTCCAGCCTCATG
Nkx6.1	GGAAGTGTGCTGGGCAGACACAG	AAGGTAGGGCGGGTGTGCTTTT
Pdx1	AGG TGC TTA CAC AGC GGA AC	GGG TCC CGC TAC TAC GTT TC

***Supplemental Table 3 - Primer sequences used in Ins1- $\beta$ YY1KO***

<b>Gene</b>	<b>Forward (5' - 3')</b>	<b>Reverse (5' - 3')</b>
Ins2	GCAAGCAGGAAGGTTATTGTTTCA	GCTTGACAAAAGCCTGGGTG
Glut2	CGGTCTACGGCTCTGGCACTG	CACCCCAGCGAAGAGGAAGAA
Pdx1	TGGGCAGGAGGTGCTTACA	TCATGCGACGGTTTTGGAAC

***Table 4- Antibodies used in immunofluorescence staining***

<b>Target</b>	<b>Company</b>	<b>Catalog #</b>	<b>Dilution</b>
Anti-insulin	DAKO	A0564	1:400
Anti-YY1	Santa Cruz	Sc-7341	1:75
Anti-Ki67	Thermo	PA5-19462	1:1000
Anti-p-H2AX	Abcam	Ab81299	1:250
Anti-Nkx6.1	DSHB	F55A10	1:100
Anti-GLUT2	Millipore	07-1402-1	1:100
Anti-Cyclin A2	Abcam	ab32386	1:200

***Table 5 - Antibodies used in wester blotting***

<b>Target</b>	<b>Company</b>	<b>Catalog #</b>	<b>Dilution</b>
Anti-YY1	Sigma Aldrich	PLA0268	1:2000
Anti-tubulin	Sigma Aldrich	T5168	1:2000