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Mitochondrial DNA stress signalling protects the nuclear genome

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Supplementary Tables

Supplementary Table 1. PCR primer sequences

Gene name	Forward and reverse oligo. sequences
mGapdh	GACTTCAACAGCAACTCCCAC TCCACCACCCTGTTGCTGTA
mTfam	AAGGATGATTCCGGCTCAGG GGCTTTGAGACCTAACTGG
mIfna4	CTTTCCTCATGATCCTGGTAATGAT AATCCAAAATCCTTCCTGTCCTTC
mIfnb	CCCTATGGAGATGACGGAGA CCCAGTGCTGGAGAAATTGT
mIfng	TGAGCTCATTGAATGCTTGG ACAGCAAGGCGAAAAAGGAT
mIfnl3	GGAAGTGCACCTCATGTCCT GCCACATTGCTCAGTTCAAG
mIl6	TGATGCACTTGCAGAAAACA ACCAGAGGAAATTTTCAATAGGC
mTnfa	CCACCACGCTCTTCTGTCTAC AGGGTCTGGGCCATAGAACT
mIL1b	GGTCAAAGGTTTGGAAAGCAG TGTGAAATGCCACCTTTTGA
mIRF3	GAGAGCCGAACGAGGTTTCAG CTTCCAGGTTGACACGTCCG
mIRF9	GCTAAGCCTGGGACCTTTTC TGAGGCCATCCTTCTCCTTA
mIfit1	CAAGGCAGGTTTCTGAGGAG GACCTGGTCACCATCAGCAT
mIfit3	TTCCCAGCAGCACAGAAAC AAATTCCAGGTGAAATGGCA
mIfi44	CTGATTACAAAAGAAGACATGACAGAC AGGCAAAACCAAAGACTCCA
mIfi27	GCCACAACCTCCTCCAATCAC ATCAGCAGTGACCAGTGTGG
mTrim30a	TCAGCACTCACAGGTTTCCTTC AGGCACAGTCTTTGCTCTGC
mMx2	GGGAGTCGATGAGGTCAATG ACGGGCCTAGGAGAGAAAGA
mIsg15	CTAGAGCTAGAGCCTGCAG AGTTAGTCACGGACACCAG
mUsp18	GAGAGGACCATGAAGAGGA TAAACCAACCAGACCATGAG
mIrf7	CAATTCAGGGGATCCAGTTG

	AGCATTGCTGAGGCTCACTT
mCycl10	CCAAGTGCTGCCGTCATTTTC GGCTCGCAGGGATGATTTCAA
mStat1	CGCGCATGCAACTGGCATATAACT ATGCTTCCGTTCCCACGTAGACTT
mStat2	TGAAAGGGGCTGTCAAGATT GCTCATACTAGGGACGGGAAG
mDdx60	ATTTCTCCACCAAGGCAATG ACTAGCTCCTCATCGCCAAA
mParp9	ACTGTGCCACTCGTCCTGAT TCTCCAGATTGTCCAAGGCT
mBst2	ATTCTCCAGCTCCTGGTTCA GGAGTCCCTGGAGAAGAAGG
mIrfh	TCATCGAAGCAGCTGACACT GCCTGGAACGTAGACGACAT
mOasl2	GTGTCCAATCCACTGTTCCC TCTGTTGCACGACTGTAGGC
mTfam Del	AGCCCCGGAGTTCCCACGCT GTACCAAAGGCGCGAGAC
m.mtDNA Dloop	AATCTACCATCCTCCGTGAAACC TCAGTTTAGCTACCCCCAAGTTTAA
m.mtDNA Dloop2	CCCTTCCCCATTTGGTCT TGGTTTCACGGAGGATGG
m.mtDNA ND4	AACGGATCCACAGCCGTA AGTCCTCGGGCCATGATT
m.nucDNA Tert	CTAGCTCATGTGTCAAGACCCTCTT GCCAGCACGTTTCTCTCGTT
m. mtDNA (Long PCR primers)	GCCAGCCTGACCCATAGCCATATTAT GAGAGATTTTATGGGTGTATTGCGG

Supplementary Table 2. siRNA sequences

Gene name	IDT Duplex name
mTfam	MMC.RNAI.N009360.12.1
mIrf3	MMC.RNAI.N016849.12.1
mIrf9	mm.Ri.Irf9.13.1
mStat2	mm.Ri.Stat2.13.1
mParp9 #1	mm.Ri.Parp9.13.1
mParp9 #2	mm.Ri.Parp9.13.2
Firefly luciferase (si-Ctrl)	FLuc-S1

Supplementary Table 3. gRNA sequences

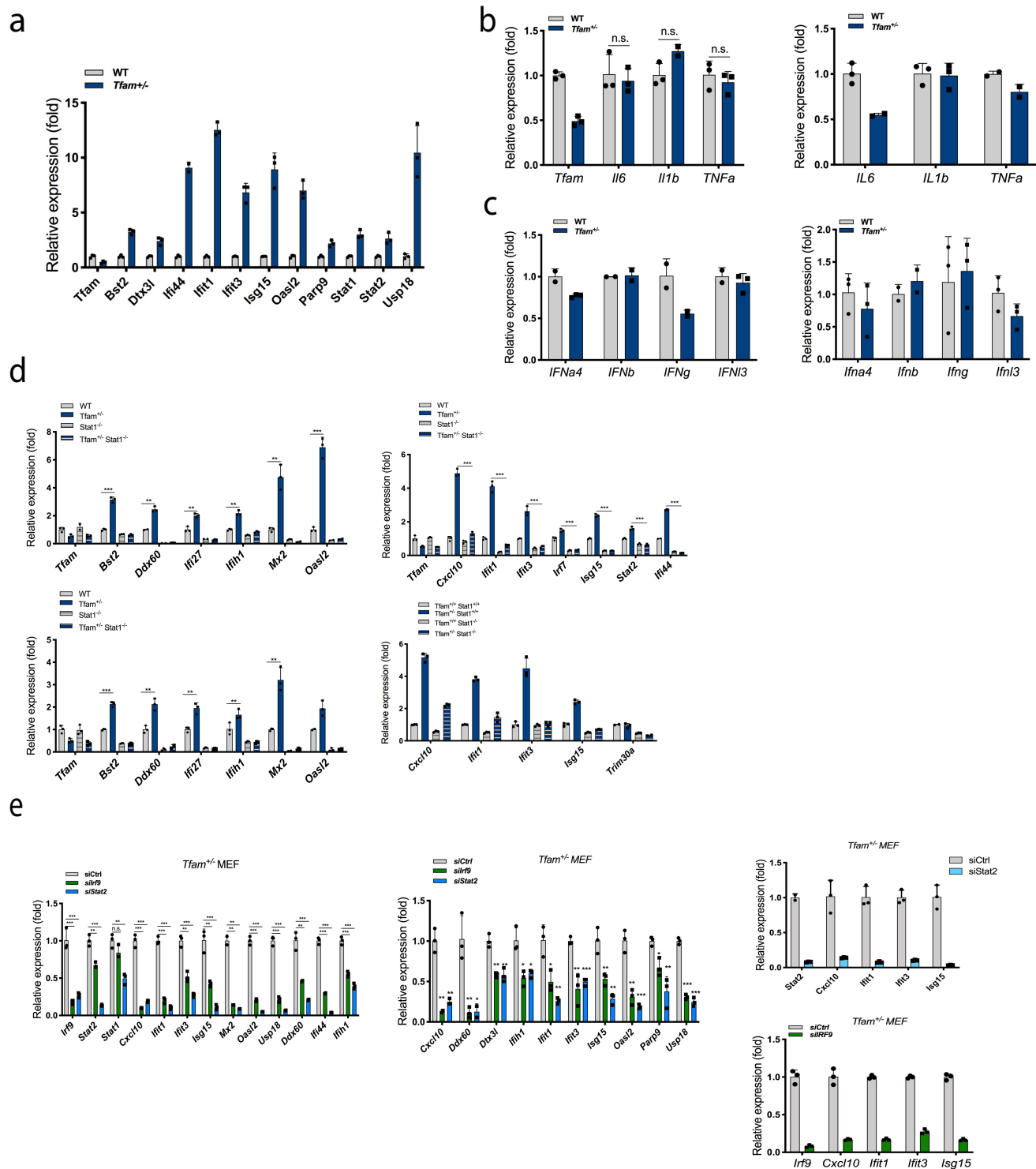
Gene name	gRNA sequences
Tfam	AAAAGCACTGGGGCGCACGG
cGAS	GGTCCTGCTGGGCTGCGTCG
Sting	GAGCGGTGACCTCTGGGCCG
Tbk1	AGAGCACCTCCAACCATCTG
Mavs	AGCAGCCATGACATTTGCTG
IRF3	GCATGGAAACCCCGAAACCG
Scramble (Scr)	GACCGGAACGATCTCGCGTA ¹

Supplementary Table 4. dsDNA90 sequence

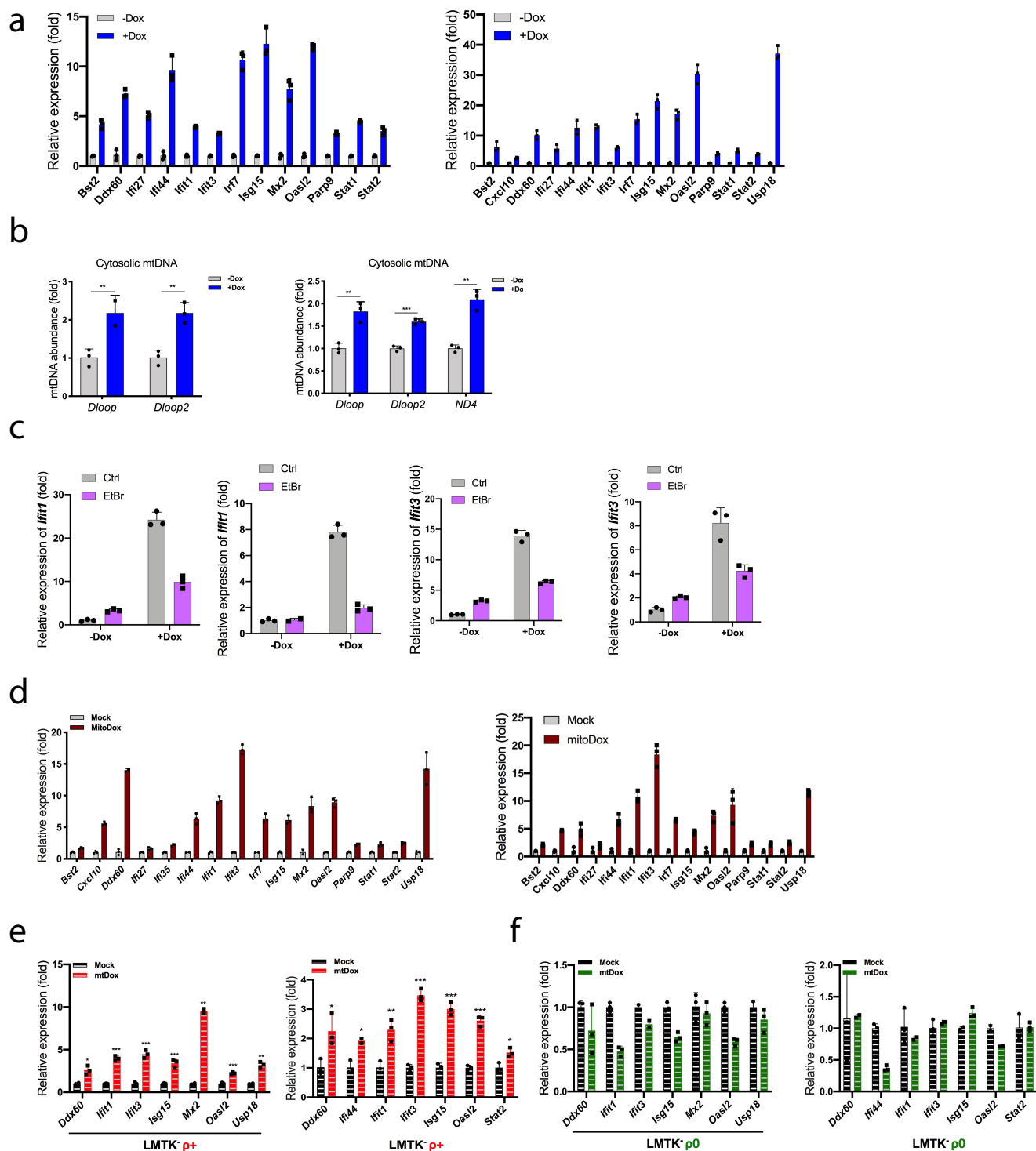
dsDNA90-F	TACAGATCTACTAGTGATCTATGACTGATCTGTACATGATCTACATACATACAGA TCTACTAGTGATCTATGACTGATCTGTACATGATCTACA
dsDNA90-R	TGTAGATCATGTACAGATCAGTCATAGATCACTAGTAGATCTGTATGTATGTA GATCATGTACAGATCAGTCATAGATCAC TAGTAGATCTGTA

Supplementary Reference

1. Gale, M. *et al.* Screen-identified selective inhibitor of lysine demethylase 5A blocks cancer cell growth and drug resistance. *Oncotarget*. 7(26) (2016).

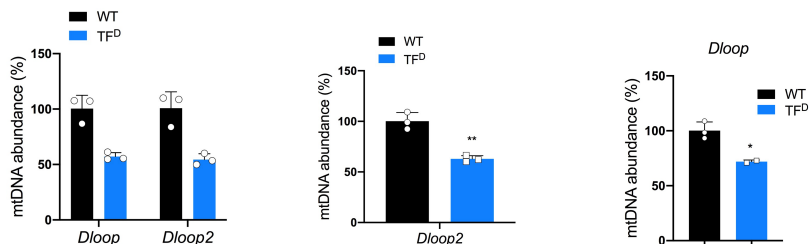


Supplementary Figure 1 | qRT-PCR replicates of data shown in Figure 1. a. qRT-PCR replicates of data shown in Figure 1a; **b.** qRT-PCR replicates of data shown in Figure 1b; **c.** qRT-PCR replicates of data shown in Figure 1c; **d.** qRT-PCR replicates of data shown in Figure 1e; **e.** qRT-PCR replicates of data shown in Figure 1g;

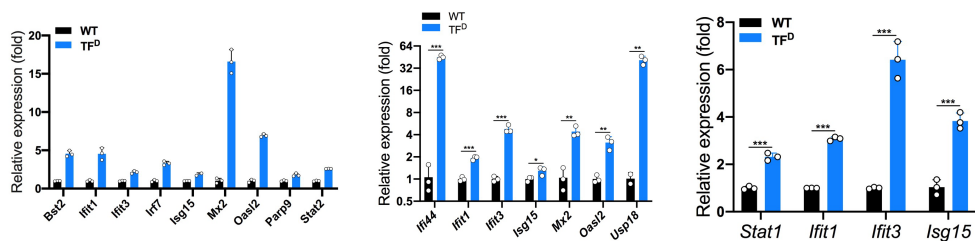


Supplementary Figure 2 | qRT-PCR replicates of data shown in Figure 3. a. qRT-PCR replicates of data shown in Figure 3a; **b.** qRT-PCR replicates of data shown in Figure 3e; **c.** qRT-PCR replicates of data shown in Figure 3f; **d.** qRT-PCR replicates of data shown in Figure 3g; **e.** qRT-PCR replicates of data shown in Figure 3h; **f.** qRT-PCR replicates of data shown in Figure 3i.

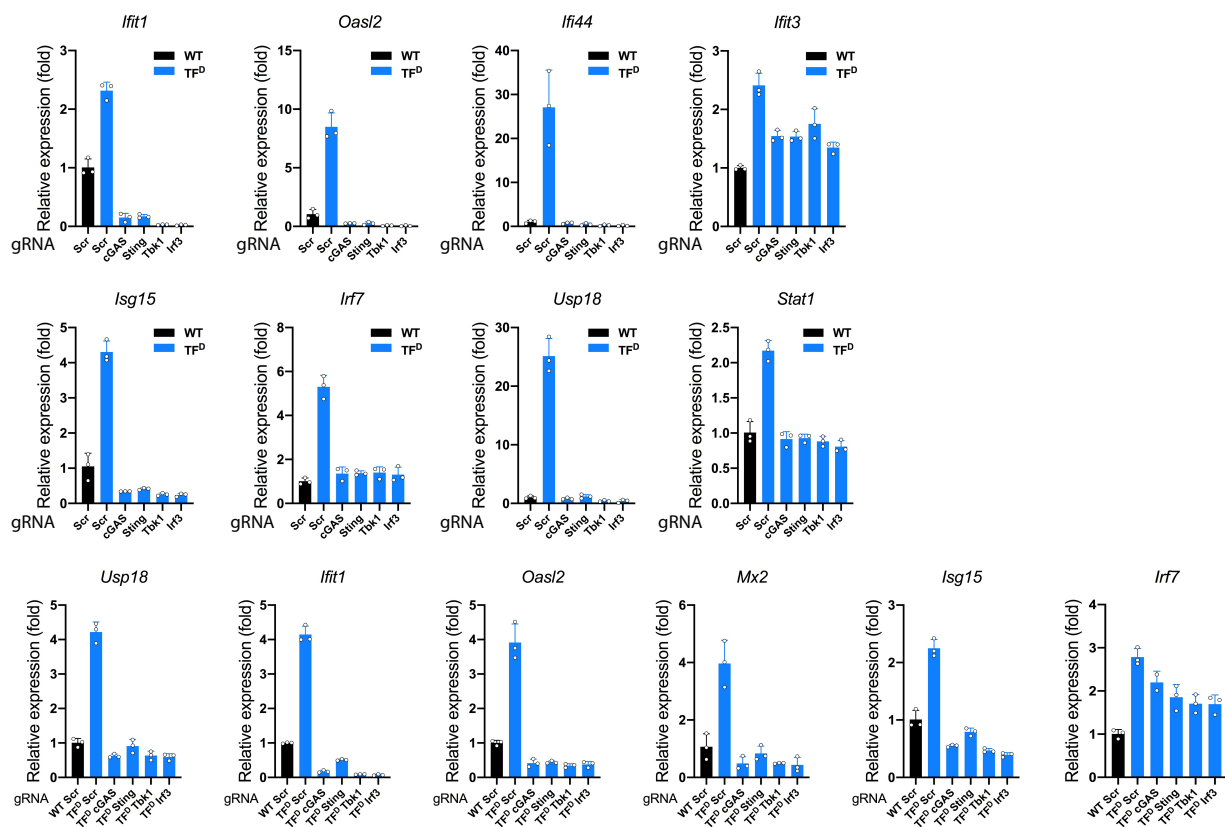
a



b

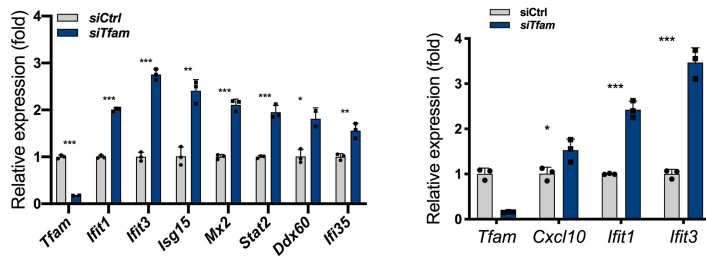


c

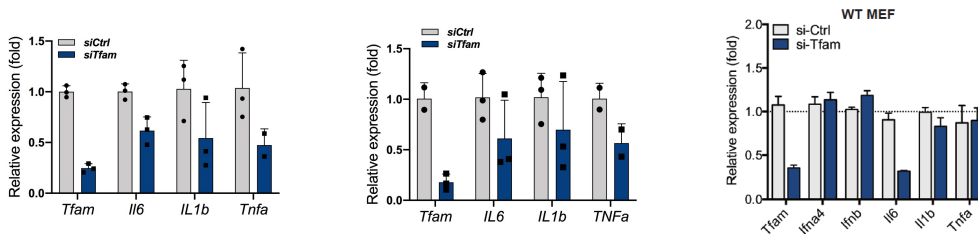


Supplementary Figure 3 | qRT-PCR replicates of data shown in Figure 4. a. qRT-PCR replicates of data shown in Figure 4a; **b.** qRT-PCR replicates of data shown in Extended Data Figure 4b; **c.** qRT-PCR replicates of data shown in Figure 4e.

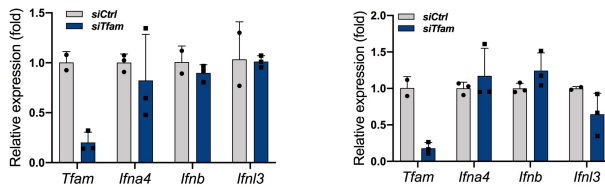
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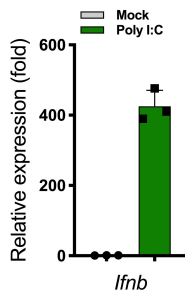
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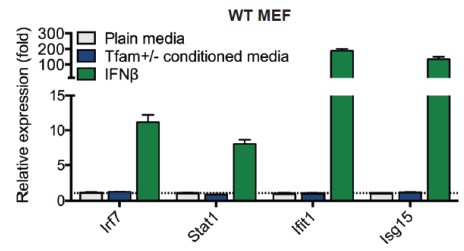
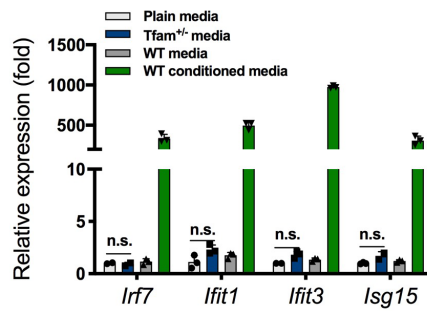
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d

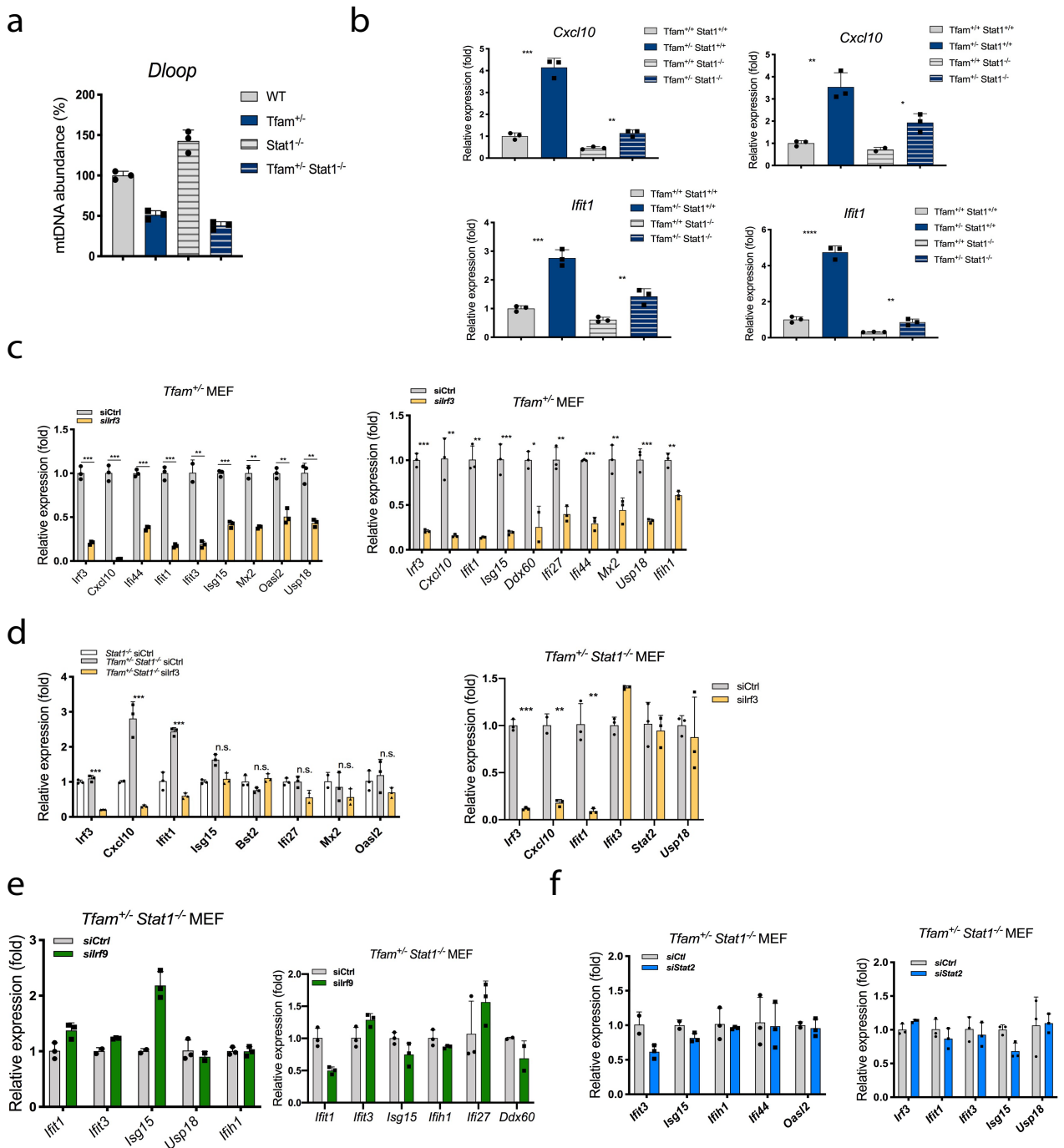


e



Supplementary Figure 4 | qRT-PCR replicates of data shown in Extended Data Figure 1. a.

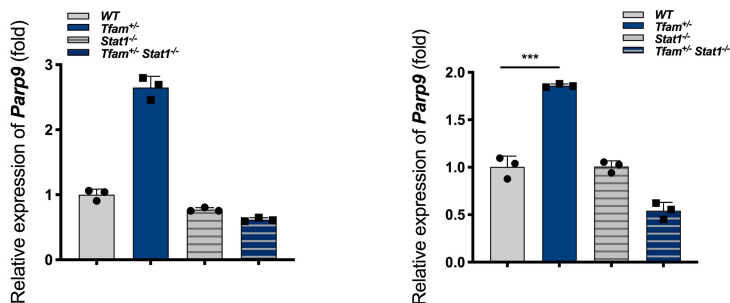
qRT-PCR replicates of data shown in Extended Data Figure 1b; **b.** qRT-PCR replicates of data shown in Extended Data Figure 1c; **c.** qRT-PCR replicates of data shown in Extended Data Figure 1d; **d.** qRT-PCR replicates of data shown in Extended Data Figure 1f; **e.** qRT-PCR replicates of data shown in Extended Data Figure 1g.



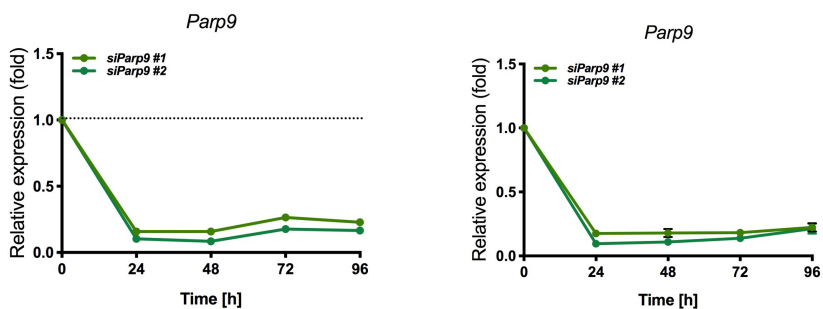
Supplementary Figure 5 | qRT-PCR replicates of data shown in Extended Data Figure 2. **a.**

qRT-PCR replicates of data shown in Extended Data Figure 2b; **b.** qRT-PCR replicates of data shown in Extended Data Figure 2f; **c.** qRT-PCR replicates of data shown in Extended Data Figure 2g; **d.** qRT-PCR replicates of data shown in Extended Data Figure 2h; **e.** qRT-PCR replicates of data shown in Extended Data Figure 2j; **f.** qRT-PCR replicates of data shown in Extended Data Figure 2k.

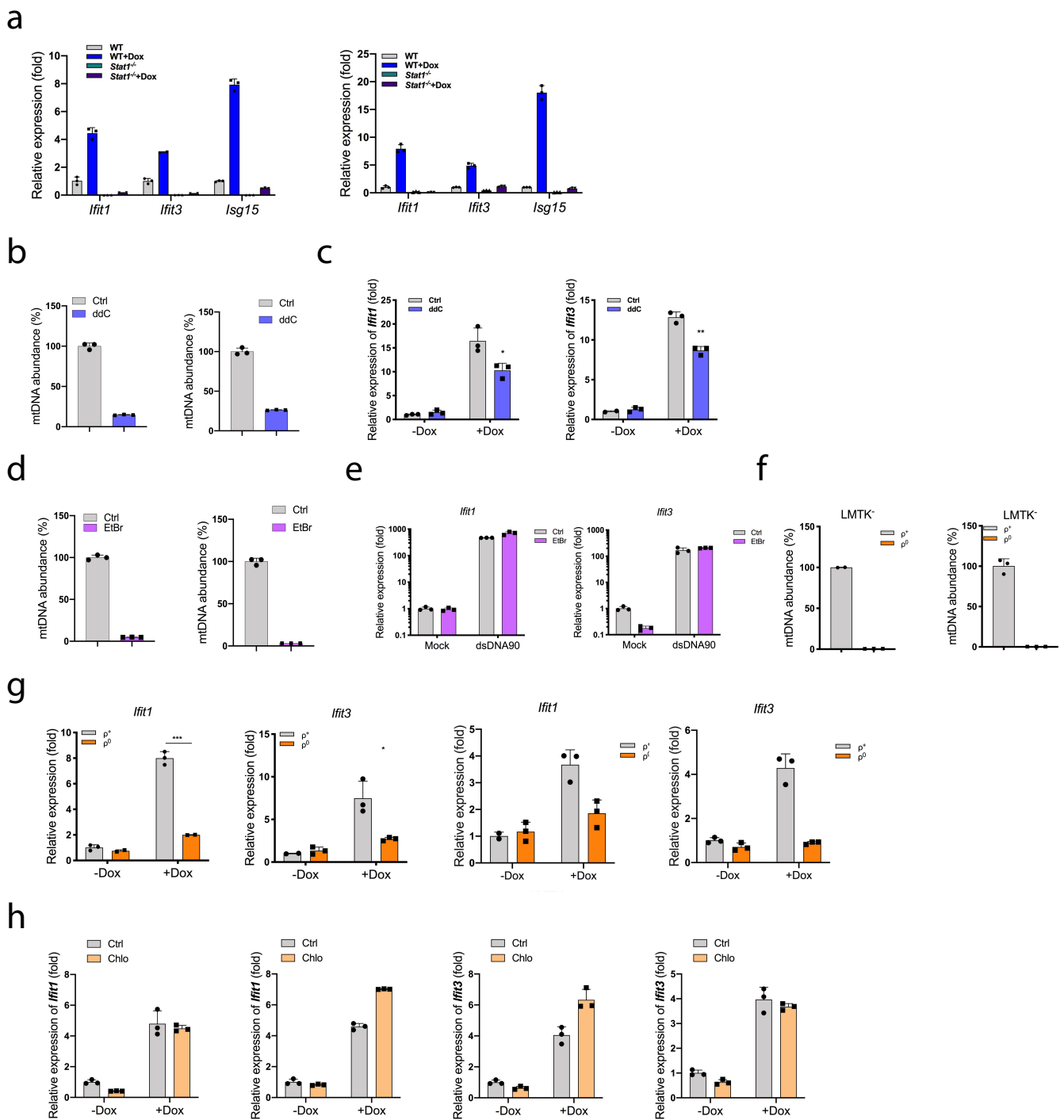
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b

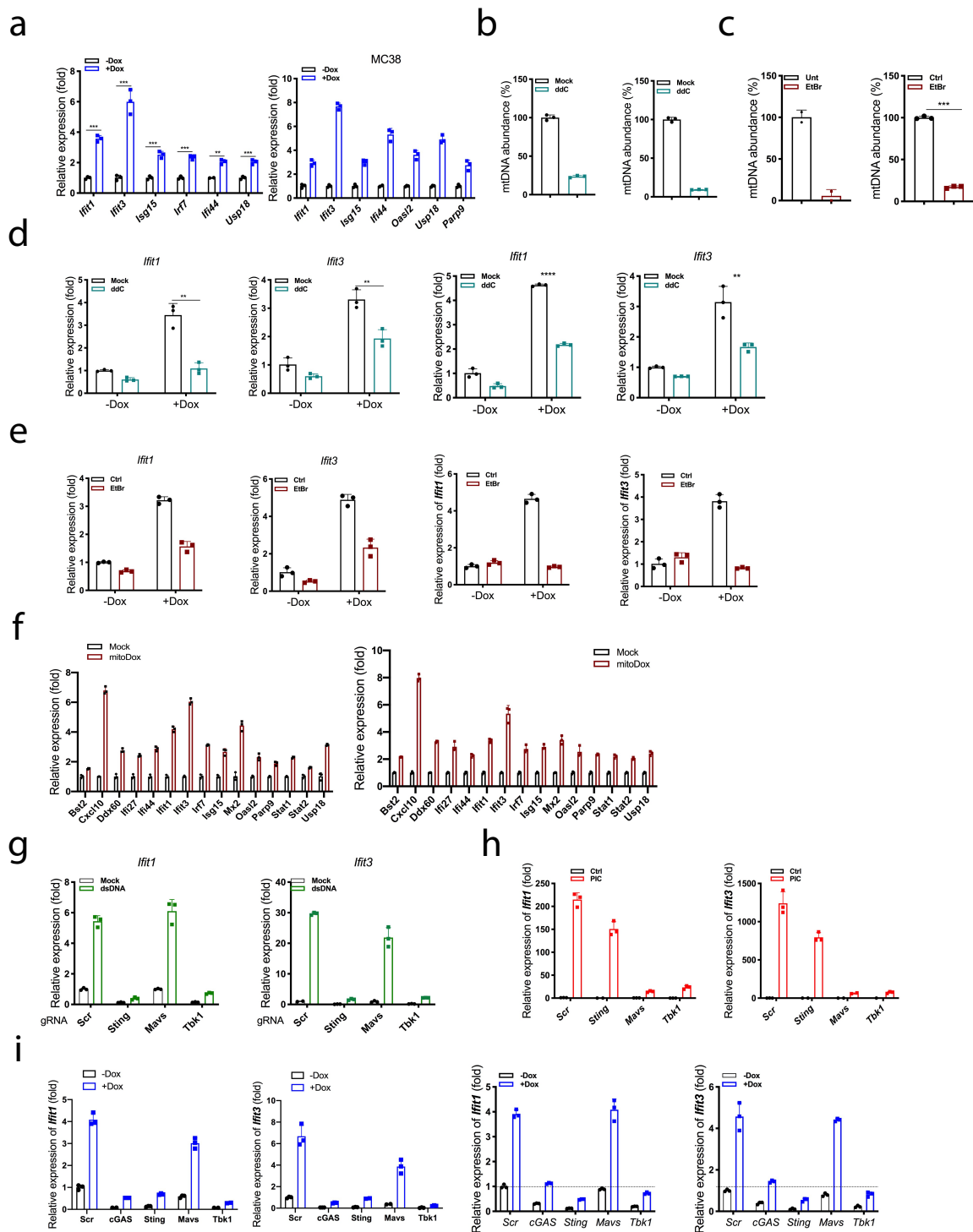


Supplementary Figure 6 | qRT-PCR replicates of data shown in Extended Data Figure 4. a. qRT-PCR replicates of data shown in Extended Data Figure 4b; **b.** qRT-PCR replicates of data shown in Extended Data Figure 4c.



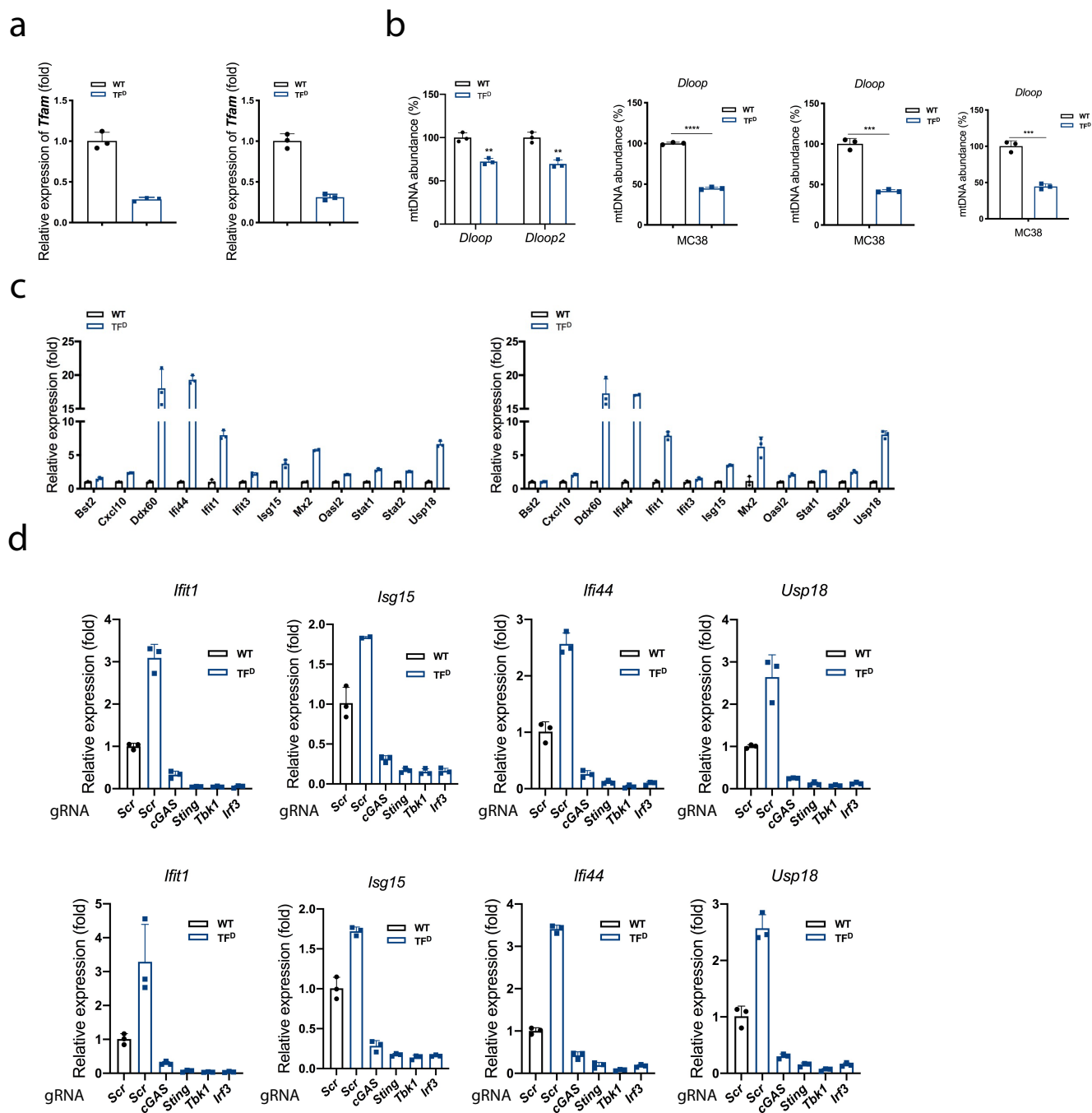
Supplementary Figure 7 | qRT-PCR replicates of data shown in Extended Data Figure 5.

a. qRT-PCR replicates of data shown in Extended Data Figure 5b; **b.** qRT-PCR replicates of data shown in Extended Data Figure 5d; **c.** qRT-PCR replicates of data shown in Extended Data Figure 5e; **d.** qRT-PCR replicates of data shown in Extended Data Figure 5f; **e.** qRT-PCR replicates of data shown in Extended Data Figure 5g; **f.** qRT-PCR replicates of data shown in Extended Data Figure 5h; **g.** qRT-PCR replicates of data shown in Extended Data Figure 5i; **h.** qRT-PCR replicates of data shown in Extended Data Figure 5k.



Supplementary Figure 8 | qRT-PCR replicates of data shown in Extended Data Figure 6.

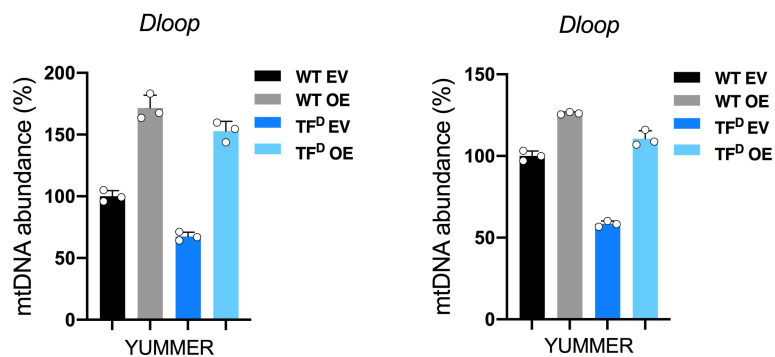
a. qRT-PCR replicates of data shown in Extended Data Figure 6a; **b.** qRT-PCR replicates of data shown in Extended Data Figure 6c; **c.** qRT-PCR replicates of data shown in Extended Data Figure 6d; **d.** qRT-PCR replicates of data shown in Extended Data Figure 6e; **e.** qRT-PCR replicates of data shown in Extended Data Figure 6f; **f.** qRT-PCR replicates of data shown in Extended Data Figure 6g; **g.** qRT-PCR replicates of data shown in Extended Data Figure 6i; **h.** qRT-PCR replicates of data shown in Extended Data Figure 6j; **i.** qRT-PCR replicates of data shown in Extended Data Figure 6k.



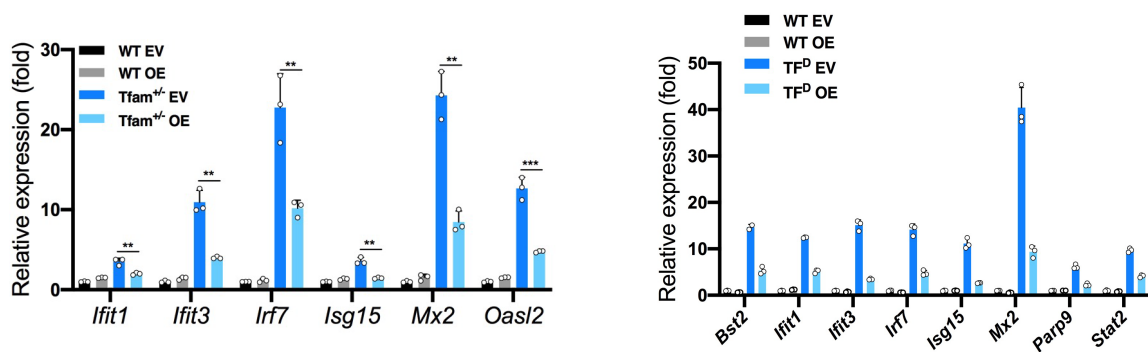
Supplementary Figure 9 | qRT-PCR replicates of data shown in Extended Data Figure 7.

a. qRT-PCR replicates of data shown in Extended Data Figure 7a; **b.** qRT-PCR replicates of data shown in Extended Data Figure 7c; **c.** qRT-PCR replicates of data shown in Extended Data Figure 7e; **d.** qRT-PCR replicates of data shown in Extended Data Figure 7g.

a



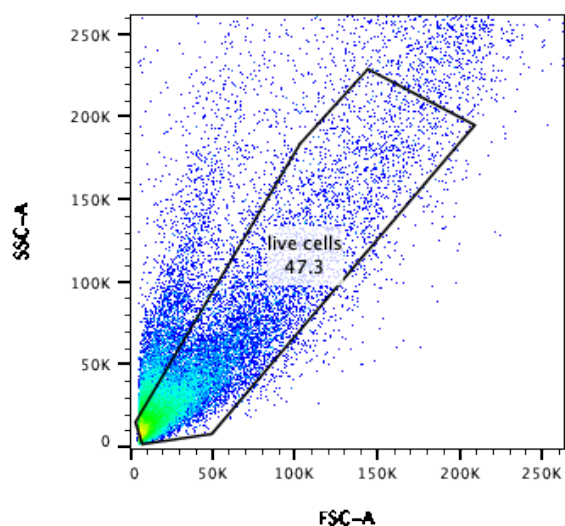
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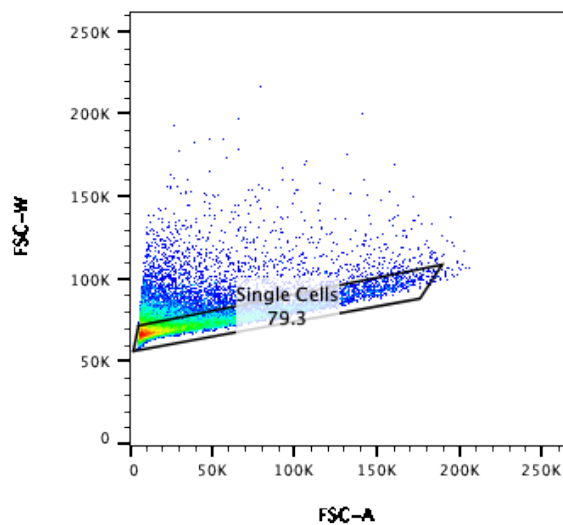
Supplementary Figure 10 | qRT-PCR replicates of data shown in Extended Data Figure 8.

a. qRT-PCR replicates of data shown in Extended Data Figure 8e; **b.** qRT-PCR replicates of data shown in Extended Data Figure 8f.

Live cell Gate



Singlet Gate



Supplementary Figure 11 | FACS gating strategy for Figure 3b, Extended Data Figure 2c and 2d. Forward Scatter (FSC) and Side Scatter (SSC) were used to gate out the cell debris and cell clumps. FSC-W and FSC-A were used for singlets gating.