

Supplementary Information

The transcription factor MafB promotes anti-inflammatory M2 polarization and cholesterol efflux in macrophages

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Supplementary Figure Legends

Fig. S1. Organization of mouse Arg-1 promoter

Fig. S2. Organization of human MafB promoter

Fig. S3. Organization of human FASN promoter

Fig. S4. Putative Smad binding site on MafB promoters.

Fig. S5. Expression of the MAF family members and key mediators of M2 polarization and cholesterol efflux in plaque macrophages of the Reversa mouse model of atherosclerosis regression¹. In this model, poly(I:C) injections induce recombination-mediated inactivation of Mttp in the liver, which in turn acts to restore normal lipid levels and induce atherosclerotic plaque regression in atherosclerosis mice.

Fig. S6. Effect of anti-miR-33 treatment on hepatic gene expression in african green monkeys².

Fig. S7. Effect of treatment of a miR-33a/b-targeting LNA-antimiR on hepatic gene expression in african green monkeys³.

Fig. S1.

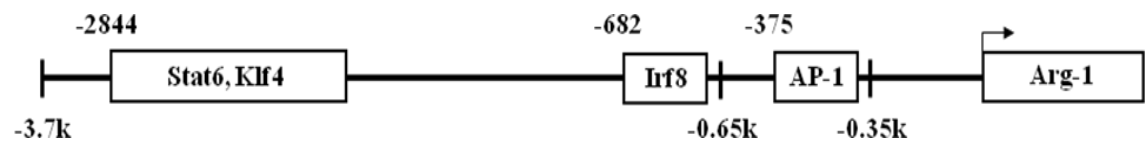


Fig. S2.



Fig. S3.

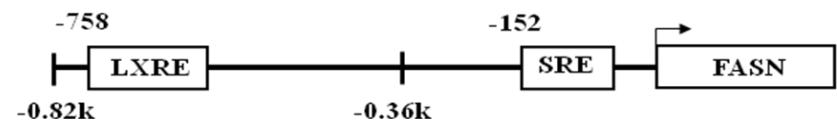


Fig. S4.

MafB	5'	(+235)-----	3'
Human		tccCCAGACAaag	
Chimp		tccCCAGACAaag	
Rhesus		-----	
Mouse		tccCCAGACAaag	
Rat		tccCCAGACAaag	

Fig. S5.

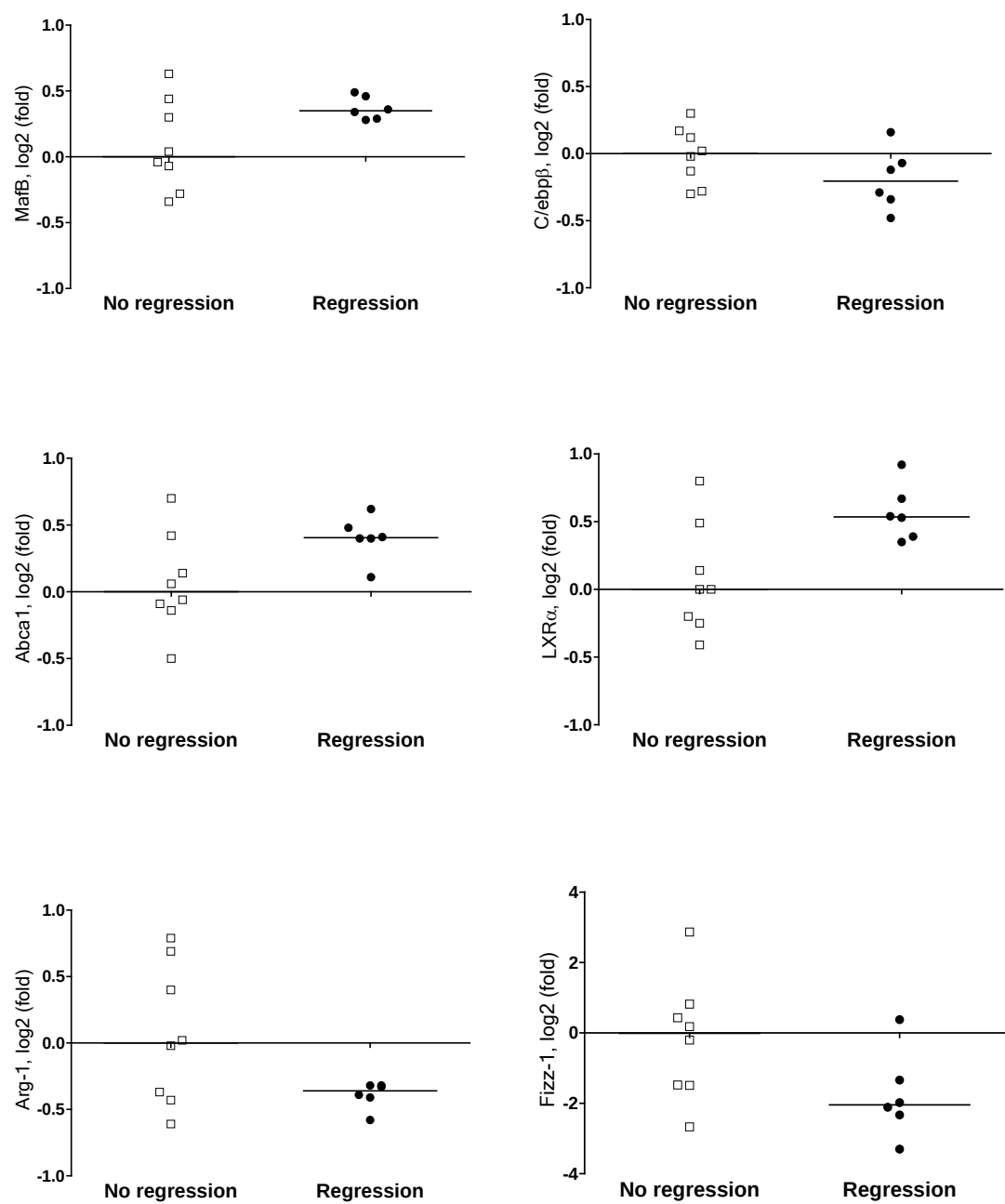


Fig. S6.

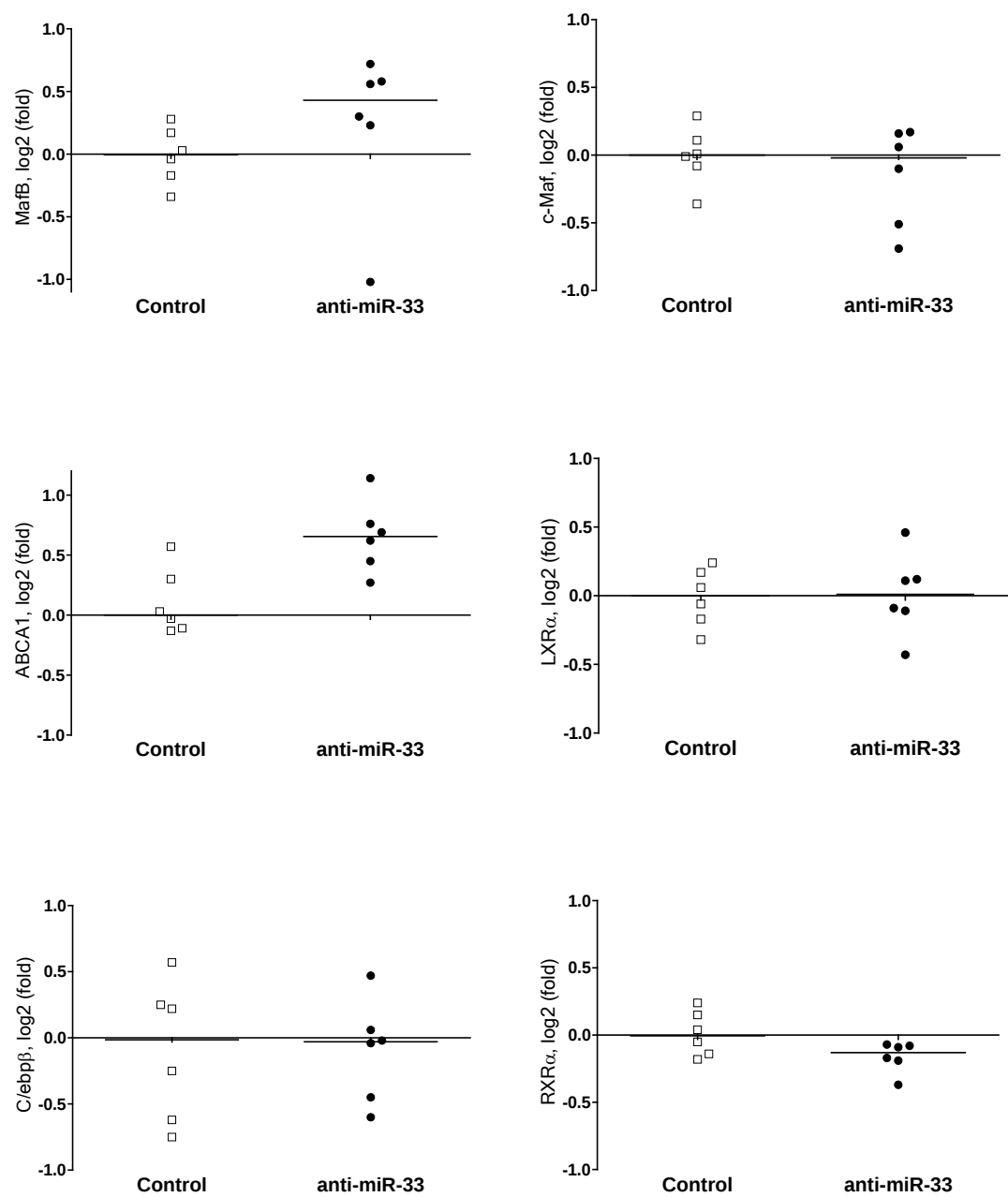
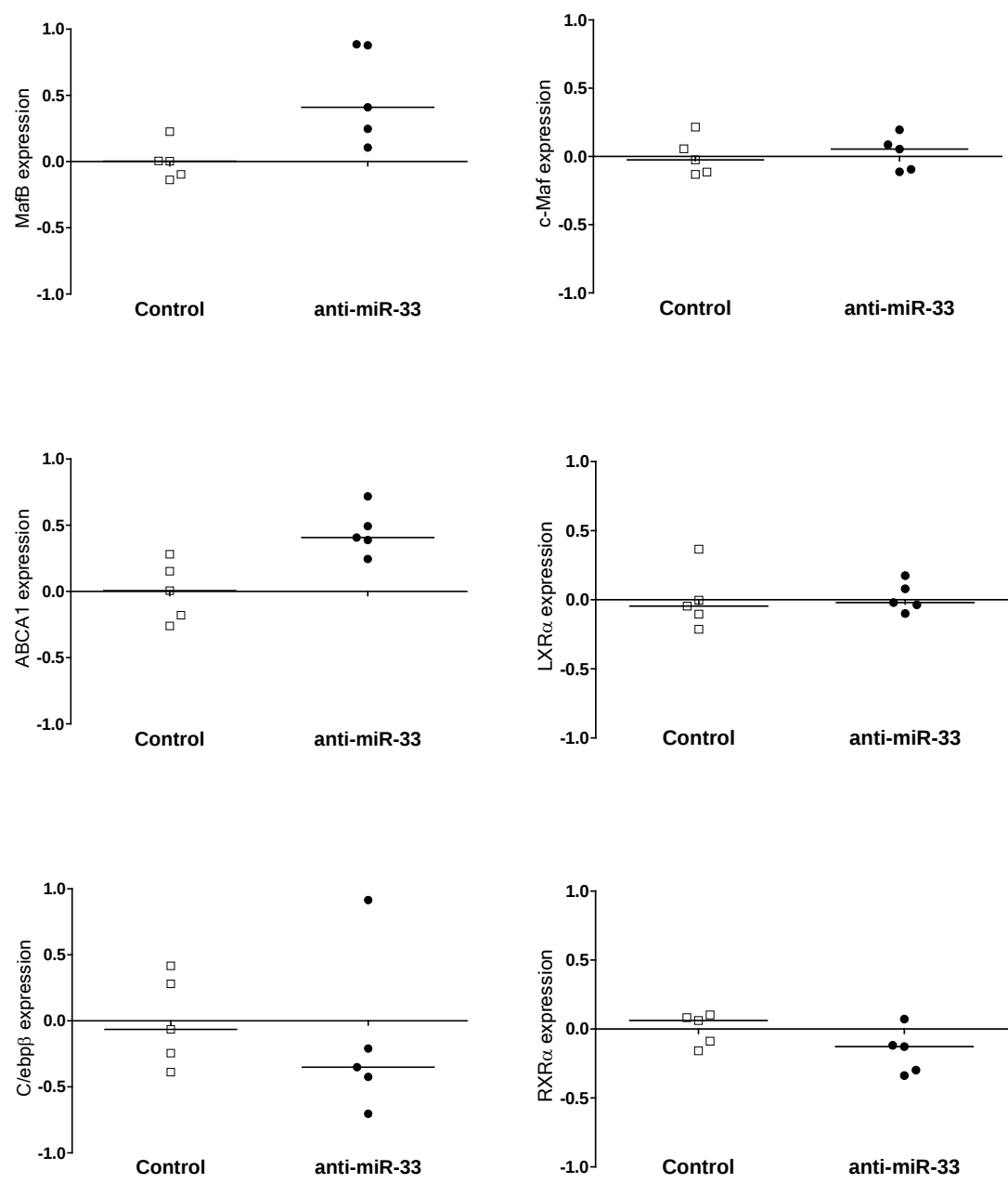


Fig. S7.



Reporter	Transcription factor response element
MafB-Luc	Human MafB promoter (–2077 to +391)
ABCA1-Luc	Human ABCA1 promoter (–808 to +149)
LXRE-Luc	4x LXR responsive element, plus sTATA
FASN-Luc	Human FASN promoter (–823 to +56)
Arg1-Luc	Mouse Arg1 promoter (–3698 to +74)

Supplementary Table S1. Transcriptional luciferase reporters. An indicated response element was inserted into the pGL4 vector (Promega).

Mouse Gene	Direction	Sequence (5' → 3')
Gapdh	f	catcactgccaccagaagactg
	b	atgccagtgagcttcccgttcag
mouse/human MafB	f	gacgcagctcattcagcag
	b	ccggagttggcgagtttct
c-Maf	f	agcagttggtgacctgtcg
	b	tggagatctctgcttgagg
Arg1	f	cattggcttgcgagacgtagac
	g	gctgaagggtctctccatcacc
Fizz-1	f	caaggaacttcttgccaatccag
	g	ccaagatccacaggcaaaagcca
Abca1	f	ggagcctttgtggaactcttc
	b	cgctctcttcagccactttgag
Abcg1	f	gacaccgatgtgaaccggttc
	b	gcatgatgctgaggaaggctct
Klf4	f	ctatgcaggctgtggcaaaacc
	b	ttgcggtagtgctgtgcagtt
LXR α	f	atgccttgctgaagacctctg
	b	ctgctttggcaagcttcccg
RXR α	f	gtgaaagatgggattctctggc
	b	gtcacgcatcttagacaccagc
Irf7	f	gagactggctattgggggag
	g	gaccgaaatgcttcagggt
Irf8	f	caatcaggaggtggatgcttc
	g	gttcagagcacagcgtaacctc
C/ebp β	f	caacctggagacgcagcacaag
	g	gcttgaacaagtccgcagggt
Nos2	f	gagacagggaagtctgaagcac
	b	ccagcagtagttgctctcttc
Cox-2	f	gcgacatactcaagcaggagca
	b	agtggtaaccgctcaggtgtg

Human Gene	Direction	Sequence (5' → 3')
GAPDH	f	gtctctctgacttcaacagcg
	g	accaccctgttgctgtagccaa
mouse/human MafB	f	gacgcagctcattcagcag
	b	ccggagttggcgagtttct
c-MAF	f	gcaatgagcaactccgacctg
	b	gccgggtcatccagtagtagtct
MRC1 (CD206)	f	agccaacaccagctcctaaga
	b	caaaacgctcgcgcatgtcca

ABCA1	f	caggctactacctgaccttggt
	b	ctgctctgagaaacactgtcctc
ABCG1	f	gagggatttgggtctgaactgc
	b	tctcaccagccgactgttctga
KLF4	f	catctcaaggcacacctgcgaa
	b	tcggctcgattttggcactgg
LXR α	f	tggacacctacatgcgtcgaa
	b	caaggatgtggcatgagcctgt
RXR α	f	ttgccaagcagccgacaaacag
	b	aaggaggcgatgagcagctcat
IRF8	f	aggtcttcgacaccagccagtt
	b	gcacgagaatgagtttgagcg
C/EBP β	f	agaagaccgtggacaagcacag
	b	ctccaggaccttgctgcgt

Supplementary Table S2. Real-time PCR Primers.

Probe	Direction	Sequence (5' → 3')
Human FASN (LXRE)	f	tggacgtccgtctcgggtctg
	b	cgcaagtgcgggcgttgacc
Mouse Fasn (SRE, LXRE)	f	cgcagccccgacgctcattg
	b	cgccggcgctatttaaaccgc
Human ABCA1 (LXRE)	f	atgtgtcgtgggcgggtgaac
	b	tatagattcggctgcaccgagc
Mouse Abca1 (LXRE)	f	ctacataaacagaggccgggaag
	b	atagattcggctgtgccgagc
Mouse Arg1 (AP1)	f	tagacagtgtaacctggtgaca
	b	gcaaggtgaggctaaaacagc
Human MafB (Stat6, C/ebp)	f	cctttgcgcacagtggccact
	b	gctccgagtagctctccactg

Supplementary Table S3. Chromatin immunoprecipitation RT-PCR Primers.

References

- 1 Ramsey, S. A. *et al.* Epigenome-guided analysis of the transcriptome of plaque macrophages during atherosclerosis regression reveals activation of the Wnt signaling pathway. *PLoS genetics* **10**, e1004828, (2014).
- 2 Rayner, K. J. *et al.* Inhibition of miR-33a/b in non-human primates raises plasma HDL and lowers VLDL triglycerides. *Nature* **478**, 404-407, (2011).
- 3 Rottiers, V. *et al.* Pharmacological inhibition of a microRNA family in nonhuman primates by a seed-targeting 8-mer antimiR. *Science translational medicine* **5**, 212ra162, (2013).