Table S1 CRC constituent candidate TFs

Kasumi7_CRC	Kasumi9_CRC	NAGL1_CRC	NALM1_CRC
EGR1	EGR1	ERG	RUNX1
BCL6	BCL6	RUNX1	NFATC1
FOS	FOS	IKZF1	SREBF1
IRF8	IRF8	SOX4	YY1
ERG	ERG	MEF2A	KLF13
RUNX1	RUNX1	HIVEP2	ELF1
NFATC1	NFATC1	EBF1	ETS1
SREBF1	SREBF1	MEF2D	LEF1
SATB1	SATB1	PAX5	MYB
TCF12	TCF12	IRF2	IRF1
IKZF1	IKZF1	KLF13	RARA
YY1	YY1	ELF1	IKZF2
ARID5B	ARID5B	ETS1	FLI1
TCF3	TCF3	LEF1	GATA3
IRF4	IRF4	IRF1	ERF
SOX4	SOX4	ETV6	NR2C2
MEF2A	MEF2A	MEF2C	
HIVEP2	HIVEP2	RUNX3	
EBF1	EBF1	FLI1	
MEF2D	MEF2D	SMAD3	
PAX5	PAX5		
IRF2	IRF2		
KLF13	KLF13		
ELF1	ELF1		
ETS1	ETS1		
LEF1	LEF1		
MYB	MYB		
IRF1	NR4A1		
ETV6	ETS2		
RARA	KLF16		
TFEB	SPI1		
SREBF2			
JUNB			
NR3C1			
SOX11			
MNT			
ATF4			
IRX2			
RELA			
HIC2			
RFX1			
GFI1			
ZNF217			
MAFK			
SPIB			

Table S2 Antibodies used in this study

Antibodies for Western blot	species	product Nr/clone name	clonality	Supplier
ERG	human	C-17(sc-354)	rabbit polyclonal	Santa Cruz Biotehchnology
NFATC1	human	A303-508A	rabbit polyclonal	Bethyl laboratories
RUNX1	human	D33G6(4336)	rabbit monoclonal	Cell Signaling Technology
c-FOS	human	2250(9F6)	rabbit monoclonal	Cell Signaling Technology
SREBF1	human	14088-1-AP	rabbit polyclonal	Proteintech
BCL6	human	14895S(D412V)	rabbit monoclonal	Cell Signaling Technology
IRF8	human	5628S(D20D8)	rabbit monoclonal	Cell Signaling Technology
EGR1	human	4154S(44D5)	rabbit monoclonal	Cell Signaling Technology
PAX5	human	C-20(sc-1974)	goat polyclonal	Santa Cruz Biotehchnology
GAPDH	human	14C10(2118S)	rabbit monoclonal	Cell Signaling Technology
SYK	human	A300-559A	rabbit polyclonal	Bethyl laboratories
Phospho-SYK(Y525/526)	human	2710S(C87C1)	rabbit monoclonal	Cell Signaling Technology
BTK	human	21581-1-AP	rabbit polyclonal	Proteintech
Phospho-BTK(Y223)	human	5082S	rabbit polyclonal	Cell Signaling Technology
MEF2D	human	OAAB07955	rabbit polyclonal	Aviva
p44/42 MAPK(ERK1/2)	human	4695S(137F5)	rabbit monoclonal	Cell Signaling Technology
Phosphp-p44/42 MAPK(T202/Y204)	human	4370S(D13.14.4E)	rabbit monoclonal	Cell Signaling Technology
CREB	human	9197S(48H2)	rabbit monoclonal	Cell Signaling Technology
Phospho CREB(Ser133)	human	9198(87G3)	rabbit monoclonal	Cell Signaling Technology
HA		ab9110	rabbit polyclonal	Abcam

Antibodies for ChIP and ChIP-seq	species	product Nr/clone name	clonality	Supplier
HA		ab9110	rabbit polyclonal	Abcam
H3K27Ac	human	ab4729	rabbit polyclonal	Abcam
c-FOS	human	2250(9F6)	rabbit monoclonal	Cell Signaling Technology
SREBF1	human	14088-1-AP	rabbit polyclonal	Proteintech
EGR1	human	4154S(44D5)	rabbit monoclonal	Cell Signaling Technology
CREB	human	9197S(48H2)	rabbit monoclonal	Cell Signaling Technology
normal rabbit IgG		2729	rabbit polyclonal	Cell Signaling Technology

Antibodies for flow cytometry	species	product Nr	clone name	Supplier
CD8a	human	301004	clone RPA-T8	Biolegend
CD19	human	392505	clone 4G7	Biolegend
CD20	human	560900	clone 2H7	BD Pharmingen
CD45	human	304004	clone HI30	Biolegend
CD179b (lambda5)	human	349804	clone HSL11	Biolegend
pre-BCR	human	347904	clone HSL2	Biolegend
Igμ	human	13-9998-82	clone SA-DA4	eBioscience
B220	mouse	20-0452-U100	clone RA3-6B2	TONBO bioscience
CD19	mouse	12-0193-82	clone 1D3	eBioscience
Igμ	mouse	13-5790-82	clone Il/41	eBioscience
CD179a (VpreB)	mouse	143604	clone R3	BIolegend
Pre-B cell Receptor	mouse	551863	clone SL156	BD Pharmingen
CD16/CD32	mouse	70-161-M001	clone 2.4G2	TONBO bioscience

Table S3 shRNA targets

target gene	target sequence	Ref
GFP4	cggcatcaaggtgaacttcaaga	This study
GFP6	GGCACAAGCTGGAGTACAACT	
Luciferase	CTTACGCTGAGTACTTCGA	
ERG(1)	GACTCTTGGGAGGGAGTTA	Tsuzuki S. Blood. 117:3858-68, 2011
ERG(2)	CGACATCCTTCTCTCACAT	
RUNX1(1)	CCTCGAAGACATCGGCAGAAA	Yamamoto K. PLoS One. 30;8(9):e74864, 2013
RUNX1(2)	ACTTTCCAGTCGACTCTCA	
hBCL6(1)	CCCATGATGTAGTGCCTCTTT	Ying, C. Y. Nat Immunol. 14(10):1084-92, 2013
hBCL6(2)	CCACAGTGACAAACCCTACAA	
hIRF8(1)	GCCCGCATCATGATTAAAGAA	Clone ID:NM_002163.1-1388s1c1 Misshon shRNA (Sigma)
hIRF8(2)	CCATACAAAGTTTACCGAATT	Clone ID:NM_002163.1-363s1c1 Misshon shRNA (Sigma)
hNFATC1(1)	CCGCCAACGTTCCAATTAT	Metzelder SK. Leukemia. 29:1470-7, 2015.
hNFATC1(2)	CGGATTGAGGTGCAGCCCA	
hSREBF1(1)	CCAGAAACTCAAGCAGGAGAA	Lewis CA. Oncogene. 34(40):5128-40, 2015
hSREBF1(2)	GCCATCGACTACATTCGCTTT	
hFOS(1)	GCGGAGACAGACCAACTAGAA	Clone ID:NM_005252.2-654s1c1 Misshon shRNA (Sigma)
hFOS(2)	TCTGCTTTGCAGACCGAGATT	Clone ID:NM_005252.2-684s1c1 Misshon shRNA (Sigma)
hEGR1(2)	CGACATCTGTGGAAGAAAGTT	Clone ID:NM_001964.2-1464s21c1 Misshon shRNA (Sigma)
hEGR1(4)	TACTGGAGTGGAAGGTCTATT	Clone ID:NM_001964.2-2039s21c1 Misshon shRNA (Sigma)
shCREB1(1)	ACAGCACCCACTAGCACTATT	Clone ID:NM_004379.2-905s21c1 Misshon shRNA (Sigma)
shCREB1(2)	ACATTAGCCCAGGTATCTATG	Clone ID:NM_004379.2-284s21c1 Misshon shRNA (Sigma)
shCD79A/Fw	GGGGCTTCCTTAGTCATATTC	Davis RE. Nature 463:88-92, 2010
shCD79B/Fw	GCAACTTGGAGGGAGTTCTCT	
shIgm/Fw	ACCAGAGAGAGGAACTCAAAG	
shSYK(1)/Fw	GGGCATGAGTGATGGGCTTTA	
shSYK(2)/Fw	GCAGATGGTTTGTTAAGAGTT	Clone ID:NM_003177.3-889s1c1 Misshon shRNA (Sigma)
shBTK(1)/Fw	GGGTGATACGTCATTATGTT	Davis RE. Nature 463:88-92, 2010
shBTK(2)/Fw	GGAGCAAATTTCAATCATTGA	

Table S4 Chemicals

inhibitor	supplier	product Nr
Dasatinib	Selleck Chemicals	S1021
Ibrutinib	Selleck Chemicals	S2680
PRT062607	Selleck Chemicals	S8032
Idelalisib	Selleck Chemicals	S2226
FK506(Tacrolimus)	FUJIFILM Wako Pure Chemical Cooperation	063-06071
betulin	SIGMA-ALDRICH_MERK	B9757
Fatostatin hydrobromide	Selleck Chemicals	S8284
FGH10019	MedChemExpress	HY-16207

lipids	supplier	product Nr
cholesterol	SIGMA-ALDRICH_MERK	C3045
25-hydroxycholesterol	SIGMA-ALDRICH_MERK	H1015
Fatty acid supplement	SIGMA-ALDRICH_MERK	F7050

Table S5 primers for the generation of a dominant-negative MEF2D, RT-PCR, and Crispr-I.

primers to generate a dominant-negative MEF2D		
XhoI-MEF2D(1-117)-HA/5sense	TTTTTctcgagCCACCatggggaggaaaaagattcag	
NotI-MEF2D(1-117)-HA/3AS	tttttGCGGCCGCtcaAGCGTAATCTGGAACATCGTATGGGTAgtact tgtcctccagcagg	
RT-PCR primers for MEF2D-HNRNPUL1 (Figure S1C)		
MEF2D-GFP RT-PCR	AGGCAGGAAAGGGGTTAATG GAACTTCAGGGTCAGCTTGC	product size 1292bp
HNRNPUL1(not shared with MEF2D-HNRNPUL1)-GFP RT-PCR	ATAAAGCGAACCGACGAGGA TCACCGGTCCAGGATTCTCT	product size 1039bp
Crispr-I target sequences (Figure S2)		reference
Ctr-1	CGCCAAACGTGCCCTGACGG	Gilbert, L. A.
Ctr-2	AACGACTAGTTAGGCGTGTA	Cell 159:647-661,
Ctr-3	GCTCGGTCCCGCGTCGTCG	2014
IGLL1_1	GAGTCCATGACCGTTACCCC	this study
IGLL1_2	AACCCCAGGGGTAACGGTCA	this study
IGLL1_3	CACCTCCCTCTAGGACCGGT	this study
lambda5	GTGGCTCTGATCTTGCCATA	this study

Table S6
Primers for ChIP-qPCR and RT-qPCR

ChIP-pPCR (Figure S1E)	
GAPDH	CCAATTCCCCATCTCAGTCG
	GTGGGCAGCAGGACACTAGG
IGLL1	ACTCATCACTGCCTGGGACT
	AGGCCTGGACACATCTCAGT
VPREB1	CTTCTTTCCCATGCCTGAGT
	CCGCACCCCAGATAAATAAA
CD79A	CAGGGAAAGGGGAAGAGGAG
	ATGCTGCTACCCCTAAGTCC
BCL6	CCAGCTGGTGTGGTTTTACC
	CACGGACGAATCGTTATTGTT
NFATC1	GTCTCATAGCCCTGGTGCTC
	TGCCTCCTCGTAGGTTTGTT

ChIP-pPCR (Fig. 4D)	
MEF2Dpromoter_region_1	AAGGGGTGTGAAATCACGAG
	CAAGTTTGAGCCCCAGAGAC
MEF2Dpromoter_region_2	ACAACTTCCCTCTGGGGTCT
	TCAGTGCTGTGGGTGAGAAG
MEF2Dpromoter_region_3	GCCTCGGCTGTTGTTGATA
	CACAGGTGCCTCCCATTG
MEF2Dpromoter_region_4	CTGAACCGGCAGAGTTGTG
	AGAGAAGGAGGGAGGAGCTG
MEF2Dpromoter_region_5	TGCAAATTAACCGCCTTCTC
	GCATTCCTTTCTGCTCCAAG
MEF2Dpromoter_region_6	GGATGTGGGGAAATGTCTTG
	CCCTGCATTTCCTTTTTCTT

ChIP-pPCR (Fig. 4E)	
GAPDH	CCAATTCCCCATCTCAGTCG
	GTGGGCAGCAGGACACTAGG
SREBF1_1	ATCCAGCTCCCTTTGTTCCT
	CCAGATCACCTGCCTAGCTC
SREBF1_a	CTGGTTTTGTCTGGACTGGAG
	GCCAGGTGTCTGGACTGG
FOS_2	CCTGCCGGGTTGGATCTCTA
	ACCGCAGACCTGCCTCCAG
FOS_b	CCCCTTACACAGGATGTCCA
	CTTGGCGCGTGTCCTAATCT
EGR1_3	GTGCCAGAGTGGGGTGAC
	GCCCAGAAAGGCAGGAATAG
EGR1_c	GGAAAGACACCGTGCCATAG
	GGGTTCTATCGCTGTCATCC
EGR1_d	CTCCCGGCTTGGAACCAG
	CTTCTTCCCTCCTCCCAGAG
EGR1_e	CTCTGGGAGGAGGGAAGAAG
	GCCTCTATTTGAAGGGTCTGG
SREBF1_α	GGAGGGAATGACCGTGAGTA
	GACTCTCCAGCCCTGTGATG
SREBF1_β	CACCTTCGATGTCGGTCAG
	CCCAGTTTCCGAGGAACTTT
BCL6_4	TGCAAACACACACACACACA
	CGGCATCCCTCAAATCATCG
BCL6_g	AAATAATGATCATGAGCAGCGG
	GCAGTGGTAAAGTCCGAAGC
BCL6_h	GAGGTTCCGGTTCGAGGCTC
	CCTCTCGCTCCCTTTTGTGC
FOS_χ	AGGAACTGCGAAATGCTCAC
	AGATGCGGTTGGAGTACGAG
EGR1_δ	ACAGCACCTCCTCTGGATTC
	GACGCAGTGAGCACGAACT
EGR1_ε	CTGCTCAGTTCGTGCTCACT
	CTTGTGGTGAGGGGTCACTT

RT-PCR (Fig. 3B)	
GAPDH	GTCTCCTCTGACTTCAACAGCG
	ACCACCCTGTTGCTGTAGCCAA
MEF2D-HNRNPUL1	AGGCAGGAAAGGGGTTAATG
	GCTGCAGCTCAATGAACAGA