#### **Supplementary Materials**

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Table S1. Results from small molecule library screen using DR-ER-Hoxb8 cells

Table S2. Effects of mTOR inhibitors on monocyte marker expression in DR-ER-Hoxb8 cells

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Table S4. Compilation of raw data and analysis





Figure S1. Phenotypic and functional analysis of DR–ER–Hoxb8 cells and their response to mTOR inhibition. A) Expression of myeloid progenitor markers in undifferentiated ER-Hoxb8 cells. Gray shade represents isotype control. B) FACS plot illustrating monocytes (CD115<sup>+</sup>) and granulocytes / undifferentiated cells (CD115<sup>-</sup>) derived from wild-type ER–Hoxb8 progenitors upon estrogen withdrawal. C) FACS plot of gating strategy and baseline fluorescence in DR–ER–Hoxb8 cells and wild-type ER–Hoxb8 cells prior to differentiation. D) Longitudinal analyses of Cx<sub>3</sub>cr1-GFP, CCR2-RFP and Ly6C expression in DR–ER–Hoxb8 cells during the course of differentiation. Monocytes are identified by CD115 staining (blue). E) Intracellular staining of TNF- $\alpha$  and IL-12 production (top and middle panel) 16 hours after LPS stimulation (1 µg/mL) and FACS analysis of fluorescent *Escherichia coli* (1x10<sup>6</sup> particles per 1x10<sup>5</sup> cells) uptake by Ly6C<sup>hi</sup> monocytes (lower panel). Gray shade represents untreated controls. F) FACS plots of DR-ER-Hoxb8 cells differentiated in the presence of neutralizing antibodies to M-CSF or GM-CSF (10 µg/mL). Boxes depict Ly6C<sup>hi</sup> monocytes in the upper panels and Ly6C<sup>lo</sup> monocytes in the lower panels. G) FACS analysis of DR-ER-Hoxb8 cells differentiated in the presence of M-CSF (20 ng/mL) or 6 days. Boxes depict the percentage of Ly6C<sup>lo</sup> monocytes. H) FACS plot of sorted bone marrow CMP (Lin<sup>-</sup> Sca-1<sup>-</sup> c-kit<sup>+</sup> CD127<sup>-</sup> Fc $\gamma$ R II/III<sup>mid</sup> CD34<sup>+</sup>) cultured in low-dose SCF (10 ng/mL) with or without the addition of M-CSF (20 ng/mL) for 4 or 6 days. I) FACS plot of Cas9-EGFP ER-Hoxb8 cells with or without introduction of the indicated gRNA. Cells were analyzed on Day 4 of differentiation. J) Longitudinal analysis of monocyte marker expression in DR–ER–Hoxb8 cells in the presence or absence of rapamycin (500 nM). Results were normalized to the peak expression (MFI) in DMSO-treated cells. K) FACS plots of monocyte differentiation from freshly isolated bone marrow CMP in low dose SCF (10 ng/mL) with or without rapamycin (500 nM). L) Genotype confirmation of Raptor fl/fl and <sup>+/Δ</sup> ER–Hoxb8 cells by conventional PCR and agarose gel electrophoresis.

### Figure S2



**Figure S2. Raptor deletion impairs monocyte development without causing apoptosis.** A) Gating strategy for the analysis of peripheral blood and bone marrow myeloid cells. B) FACS plot of baseline myeloid cell populations in Raptor fl/fl and iKO mice prior to tamoxifen treatment. C) FACS analysis of annexin V staining the peripheral blood, spleen, and lymph nodes from Raptor <sup>fl/fl</sup> or iKO mice two weeks after tamoxifen treatment. Box indicates percentage of annexin V positive events. D) PCR analysis of Raptor deletion in sorted bone marrow cells from Raptor iKO mice 2 weeks after tamoxifen treatment.



**Figure S3. Impaired development of myeloid progenitors in Raptor-deficient mice.** A) Comparison of total bone marrow cell count in Raptor <sup>fl/fl</sup> and Raptor iKO mice (n = 5 per group). B) Annexin V staining of c-kit+ progenitor cells from Raptor <sup>fl/fl</sup> and Raptor iKO mice. Cells heat-shocked at 45°C for 30 min were used as positive control. C) Gating strategy and quantification of splenic DC subsets in Raptor <sup>fl/fl</sup> and Raptor iKO mice two weeks after tamoxifen treatment (n = 3 per group). D) Quantification of peripheral blood cell subsets (n = 5 per group) and E) bone marrow progenitors in Mx-Cre Raptor <sup>fl/fl</sup> mice (n = 3 per group) two weeks after poly I:C treatment. F) FACS analysis of bone marrow myeloid cells in Mx-Cre Raptor <sup>fl/fl</sup> mice and controls two weeks after poly I:C treatment. Boxes indicate Ly6C<sup>hi</sup> monocytes (upper), neutrophils (middle) and Ly6C<sup>lo</sup> monocyte / macrophages (lower panel). G) FACS plots of peripheral blood cells in CD45.1<sup>+</sup> recipient mice transplanted with bone marrow cells from CD45.1<sup>+</sup> wild-type and CD45.2<sup>+</sup> MxCre Raptor <sup>fl/fl</sup> mice. Analysis was performed two weeks after poly I:C treatment (see schematic in Fig 3E). \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

### Figure S4



Figure S4. Myeloid-specific deletion of Raptor does not affect monocyte or neutophil homeostasis. A) FACS analysis of sorted GMP and Ly6C<sup>hi</sup> monocytes from Raptor iKO mice cultured in medium containing SCF and M-CSF (10 ng/mL)  $\pm$  4OH-tamoxifen (1  $\mu$ M) for 4 days. B) PCR confirmation of myeloid-specific Raptor deletion in LysMCre mice. C) FACS plots of bone marrow and spleen myeloid cells in LysMCre Raptor <sup>fl/fl</sup> and control mice. D) Quantification of bone marrow progenitors from LysMCre <sup>+/+</sup> Raptor <sup>fl/fl</sup> and control mice (n = 4 per group). Bars represent mean  $\pm$  SEM. \* p < 0.05

Figure S5



**Figure S5. Deletion of Tsc2 augments myelopoiesis via mTORC1 activation.** A) PCR analysis of Tsc2 deletion in sorted bone marrow cells from Tsc2 KO after poly I:C treatment. B) Intracellular flow cytometry analysis of phospho-S6 and phospho-4E-BP1 in total bone marrow cells (n =2 per group). C) Quantification of bone marrow cell subsets and D) peripheral blood myeloid cells in Tsc2 KO vs. control mice (n = 3 per group). E) Measurement of spleen weight / total body weight ratio and F) quantification of spleen cell subsets in Tsc2 KO mice and controls (n = 3 per group). G) FACS plots illustrating the gating scheme for spleen myeloid progenitor cell analysis. Boxes indicate progenitor cell subsets and percentage of total bone marrow cells. For panels B-G, animals were analyzed 4 weeks after poly I:C treatment. H) FACS plots and Giemsa-Wright

staining of cells differentiated from sorted Tsc2 KO LSK cells cultured in the presence of rapamycin (100 ng/mL) or the JNK inhibitor SP600125 (5  $\mu$ M) for 6 days. I) FACS plots of sorted Tsc2 KO LSK cells cultured in the presence of indicated antibodies for 8 days. J) FACS plots of control LSK cells (CD45.1) and Tsc2 KO LSK cells co-cultured in the presence of SCF for 8 days. Boxes in panel H-J indicate CD11b<sup>+</sup> F4/80<sup>+</sup> macrophages. Bars represent mean  $\pm$  SEM. \* p < 0.05, \*\* p < 0.01, \*\*\* p< 0.001



**Figure S6. mTORC1 modulates myeloid development via S6K1**. A) Longitudinal analysis of phospho-S6 and phospho-4E-BP1 staining in ER-Hoxb8 cells treated with rapamycin (100 nM). Values represent average MFI of duplicate samples normalized to pre-stimulation control (0 hr). B) Intracellular staining of phospho-S6 and phospho-4E-BP1 in ER-Hoxb8 cells treated with DMSO or SL0101-01 (10 nM) for 24 hr (n = 2 per condition). C) FACS plots and quantification of DR-ER-Hoxb8 cells differentiated in the presence of DMSO, rapamycin (100 nM) or SL0101-01 (10 nM) for 4 days. Box in FACS plots (upper panel) indicates the percentage of Ly6C<sup>hi</sup> monocytes. Bar graph depicts relative expression of monocyte markers normalized to DMSO-treated cells. Bars present mean  $\pm$  SEM of triplicate samples. \* p < 0.05, \*\* p < 0.01

Figure S7



**Figure S7. mTORC1-S6K signaling modulates the expression of Myc and its target genes.** A) Bar graph display of myeloid transcription factors differentially expressed in GMPs of Raptor <sup>fl/fl</sup> vs. Raptor iKO and Tsc2 <sup>fl/fl</sup> vs. Tsc2 KO mice on RNA-seq analysis (n = 3 per group). Bars represent mean ± SEM. Positive values indicate greater expression in the KO group while negative values indicate greater expression in the control group. B) Heat map display of Myc target gene set V1 (from GSEA) in ER-Hoxb8 cells differentiated in the presence of DMSO vs. Rapamycin (100 nM) for 4 days (n = 2 per group). C-F) RNA-seq analysis of myeloid transcription factors in ER-Hoxb8 cells differentiated for 4 days in the presence of DMSO vs. SL0101-01 (10 nM). C) Display of transcription factors with significant difference between DMSO vs. SL0101-01 treatment. D) Top 5 enriched gene sets in DMSO vs. SL0101-01-treated ER-Hoxb8 cells based on normalized enrichment score (NES) from GSEA. E) Enrichment plot of Myc target gene sets from GSEA. F) Heat map display of Myc

target gene set V1 (from GSEA) in ER-Hoxb8 cells differentiated in the presence of DMSO vs. SL0101-01 for 4 days (n = 2 per condition). G) Quantification of GFP and myeloid marker expression in sorted CMP from Myc<sup>GFP</sup> mice cultured in the presence of DMSO, rapamycin (100 nM) or SL0101-01 (10 nM) for 3 days (n = 2 per condition). J) FACS analysis of baseline GFP expression in wild-type and Myc<sup>GFP</sup> ER-Hoxb8 cells. I) Histogram and quantification of intracellular pS6 staining in ER-Hoxb8 cells differentiated in the presence of DMSO, rapamycin (100 nM) for 4 days (n = 2 per condition). \* p < 0.05, \*\* p < 0.01

# Figure S8

A Raptor iKO (Fig S2D)



B LysMCre Raptor fl/fl (Fig S4B)



C TSC2 KO (Fig S5A)



Figure S8. Unmodified images from gel electrophoresis. Boxes indicate the area cropped for figure display.

## Table S1. Results from small molecule library screen using DR-ER-Hoxb8 cells \*

Page	1	of 3	
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			Optimized				1 480 1 0
Plate	Well	Compound	Concentration	Lv6C MFI	Cx3cr1 MFI	CD115 MFI	Ccr2 MFI
	Control	DMSO	0.10%	100%	100%	100%	100%
-	1 A2	TG003	10 uM	35%	29%	35%	66%
1	1 A3	AG-879	10 µM	128%	46%	50%	108%
1	1 A4	Chelerythrine chloride	1 uM	117%	119%	108%	110%
	1 45	Capertinib (bydrochloride)	1 µM	147%	61%	82%	78%
-	1 A6	CHIR99021	10 µM	36%	17%	4%	19%
1	1 A7	BisindolyImaleimide IV	1 uM	148%	62%	74%	98%
1	1 A8	NU 6102	10 μM	95%	31%	49%	87%
-	1 A9	SU 6656	1 uM	106%	142%	83%	100%
1	1 A10	ABT-869	1 µM	86%	79%	52%	87%
	1 A11	U-0126	10 µM	105%	116%	67%	196%
	1 B2	PKC 412	10 µM	146%	113%	109%	94%
	1 B3	1-NA-PP1	1 uM	106%	82%	105%	90%
-	1 B4	Tunicamycin	10 mM	116%	86%	88%	98%
	1 B5	SB /315/2	10 mM	Q1%	37%	85%	63%
-	1 B6	BIO	1 uM	109%	77%	85%	77%
	1 87	Po 31-6045	10 μM	72%	68%	101%	323%
		KNL62	10 μM	1/7%	36%	78%	50%
-			10 μM	010/	50%	0.20/	1110/
		CAV10622	10 μW	1069/	60%	92 /0	070/
		CAT 10022 Stouroopporing	10 µW	100%	00%	7770	0170
		Deremenimed	1 μινι 1 μ.Μ	2170	23%	24%	40%
			1 μινι 100 πM	43%	48%	00%	83%
				46%	12%	17%	66%
		AZD 7762	1 μινι 1 Μ	119%	121%	76%	104%
		PD 173074	1 µVI	91%	36%	87%	86%
1			1 μΝ	85%	42%	57%	69%
		NSC 663284	1 µVI	120%	43%	83%	79%
1		KN-93	1 μIVI	112%	60%	100%	74%
1	I C9	SB 203580 (hydrochloride)	10 μM	32%	15%	60%	50%
1	I C10	17β-hydroxy Wortmannin	1 μM	92%	30%	50%	117%
1	I C11	KN-92 (hydrochloride)	10 μM	67%	58%	83%	75%
1	1 D2	Paclitaxel	1 μM	131%	133%	125%	110%
1	1 D3	BisindolyImaleimide II	1 μM	77%	27%	55%	188%
1	1 D4	GSK 1059615	1 μM	34%	22%	53%	85%
1	1 D5	Valproic Acid (sodium salt)	10 μM	107%	47%	107%	73%
1	1 D6	Sunitinib Malate	-	cell death	at all tested co	oncentrations	
1	1 D7	D 4476	10 μM	74%	37%	90%	76%
1	1 D8	CGP 57380	10 μM	61%	13%	43%	55%
1	1 D9	CAY10621	1 μM	81%	65%	104%	112%
1	I D10	CAY10626	100 nM	48%	25%	51%	71%
1	I D11	AS-605240 (potassium salt)	10 μM	24%	25%	65%	72%
1	1 E2	Erlotinib	1 μM	43%	71%	58%	71%
1	1 E3	BIBF 1120	1 μM	51%	86%	61%	74%
1	1 E4	Ruxolitinib	10 μM	52%	21%	31%	51%
1	1 E5	PD 0325901	1 μM	60%	50%	58%	81%
1	I E6	Gefitinib	1 μM	90%	39%	68%	69%
1	1 E7	NU 7026	10 μM	55%	18%	37%	78%
1	I E8	Iso-Olomoucine	10 μM	111%	65%	94%	81%
1	1 E9	YM-201636	1 μM	68%	24%	35%	96%
1	I E10	SU 6668	10 μM	104%	69%	86%	99%

\* Results are expressed as percentage of mean fluorescence intensity relative to DMSO control

			Optimized				
Plate	Well	Compound	Concentration	Ly6C MFI	Cx3cr1 MFI	CD115 MFI	Ccr2 MFI
1	E11	PD 166326	1 μM	88%	88%	70%	128%
1	F2	Necrostatin-5	1 μM	104%	90%	110%	101%
1	F3	SMI-4a	10 μM	129%	53%	106%	83%
1	F4	Necrostatin-1	10 μM	113%	51%	92%	82%
1	F5	SB 203580	10 μM	44%	13%	36%	49%
1	F6	PP2	1 μM	102%	102%	112%	115%
1	F7	Gö 6983	1 μM	85%	23%	39%	229%
1	F8	(S)-Glycyl-H-1152 (hydrochloride)	1 μM	114%	66%	93%	98%
1	F9	ZM 447439	1 μM	124%	149%	156%	137%
1	F10	CAY10572	1 μM	122%	39%	60%	145%
1	F11	O-1918	10 μM	108%	75%	125%	100%
1	G2	NVP-BEZ235	10 μM	28%	20%	26%	59%
1	G3	CAY10657	1 μΜ	113%	55%	67%	90%
1	G4	SB 505124	10 μΜ	68%	78%	79%	52%
1	G5	VX-702	10 μΜ	27%	51%	57%	61%
1	G6	3-Methyladenine	10 µM	84%	61%	81%	82%
1	G7	H-9 (hydrochloride)	10 µM	88%	55%	78%	87%
1	G8	Ro 31-7549 (acetate)	1 uM	76%	28%	41%	89%
1	G9	AS-041164	10 µM	98%	65%	85%	88%
1	G10	N N-Dimethylsphingosine	1 µM	79%	71%	91%	104%
1	G11	Y-27632 (hydrochloride)	10 µM	57%	72%	59%	113%
1	H2	Phthalazinone pyrazole	1 µM	86%	37%	46%	62%
1	H3	AS-703026	10 µM	110%	102%	81%	79%
1	H4	INK128	100 pM	31%	11%	22%	53%
1	H5	Emodin	10 uM	150%	46%	72%	106%
1	H6	Bisindoly/maleimide I	1 uM	105%	38%	49%	165%
1	H7	Indirubin-3'-monoxime	1 µM	109%	60%	63%	89%
1	HR	ST638	10 µM	90%	37%	51%	67%
1	НО	PP242	1 uM	/1%	21%	28%	69%
1	H10	I V294002	10 µM	20%	13%	18%	36%
1			1 uM	2070	01%	81%	1110/
2	1111		10 μM	86%	1/2%	70%	17/0
2	12	Loolamino (hydrochlorido)	1 uM	01%	172/0	112%	118%
2			10 μΜ	31/0	1/0/	2/0	649/
2	A4	JU-1 Trigiribing	100 µM	ZZ %	14%	24%	04%
2	AG AG		10M	04 %	30%	34 %	63 % E 00/
2	A0	SD 413200	10 µW	03%	49%	7270	00% 60%
2	A7		10 µW	40%	19% 50%	30%	1070/
2	A8			120%	58%	71%	107%
2	A9		1 μινι 10 μΜ	89%	73%	07%	70%
2	AIU			88%	67%	97%	11%
2				110%	85%	11%	86%
2	B2	PD 169316	1 μM	12%	16%	41%	/1%
2	B3			76%	87%	91%	134%
2	B4	(R)-ROSCOVITINE	1 μM	150%	100%	98%	88%
2	D0		1 μΜ	84%	94%	79%	106%
	B0	AG-17	1 μM	90%	63%	64%	139%
2	B/	KG-13022	10 μM	87%	51%	47%	140%
	BO	SP 600125	1 μM	55%	65%	58%	8/%
2	BS		1 μM	79%	80%	81%	103%
2	B9	HA-1077 (hydrochloride)	10 µM	77%	57%	40%	161%

Plate   Well   Concentration   Ly6C MFI   Cs21 MFI   Cort MFI   Cs12 MFI   Cort MFI   Cs12 MFI   MIDE   Cs12 MFI   MIDE   Cs12 MFI   Cs12 MFI   Cs12 MFI   Cs12 MFI   Cs12 MFI   Cs12 MFI   MIDE   MIDE   MIDE   MIDE   MIDE   MIDE   MIDE   MIDE </th <th></th> <th></th> <th></th> <th>Optimized</th> <th></th> <th></th> <th></th> <th></th>				Optimized				
2   B10   NH125   1 μM   70%   91%   100%   72%     2   B11   Rapamycin   100 nM   48%   46%   66%   100%     2   C2   TGX-221   10 µM   102%   37%   37%   75%     2   C3   Lauric Acid Leelamide   10 µM   102%   36%   59%   93%     2   C4   BAY-43.9066   10 µM   48%   55%   69%   102%     2   C5   Kerpaullone   1 µM   48%   55%   69%   107%     2   C6   H-8 (nytrochoride)   10 µM   132%   86%   19%   109%     2   C10   TW119   10 µM   132%   86%   109%   110%     2   D4   CAY10561   1 µM   105%   13%   95%   108%     2   D5   Obromocine   10 µM   78%   16%   110%   124%     2   D6   LFM-A13   10 µM </th <th>Plate</th> <th>Well</th> <th>Compound</th> <th>Concentration</th> <th>Ly6C MFI</th> <th>Cx3cr1 MFI</th> <th>CD115 MFI</th> <th>Ccr2 MFI</th>	Plate	Well	Compound	Concentration	Ly6C MFI	Cx3cr1 MFI	CD115 MFI	Ccr2 MFI
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	2	B10	NH125	1 μM	70%	91%	100%	72%
2   C2   TGX-221   10 µM   42%   37%   37%   75%     2   C3   Lauric Add Leelamide   10 µM   102%   36%   59%   93%     2   C4   BAY-43.906   10 µM   48%   55%   69%   102%     2   C5   Kenpaullone   1 µM   48%   55%   69%   107%     2   C6   H-8<(tydcrochloride)	2	B11	Rapamycin	100 nM	48%	46%	66%	100%
2 C3   Lauric Acid Leelamide   10 µM   102%   36%   59%   93%     2 C4   BAY-43-9006   10 µM   99%   61%   59%   102%     2 C5   Kerpaulione   1 µM   48%   35%   32%   69%     2 C6   H-8 (hydrochoride)   10 µM   160%   55%   69%   107%     2 C7   RG-14620   1 µM   197%   113%   113%   119%     2 C8   5-lodotubercidin   1 µM   107%   123%   86%   79%   93%     2 C10   TWSH19   10 µM   69%   37%   70%   121%     2 D3   (A)-1152 (hydrochoride)   1 µM   10%   73%   70%   121%     2 D4   CAY10561   1 µM   88%   139%   90%   111%     2 D5   Olornoucine   10 µM   78%   68%   14%     2 D6   UPA-131   10 µM   73%   43%   49%     2 D6   Olornoucine   10 µM	2	C2	TGX-221	10 uM	42%	37%	37%	75%
2 C4   BAY-43-9006   10 MM   99%   61%   59%   102%     2 C5   Kenpaullone   1 µM   48%   35%   69%   107%     2 C6   H-8 (hydrochloride)   10 µM   160%   55%   69%   107%     2 C7   RG-14620   1 µM   137%   115%   109%   101%     2 C8   A-6-370   10 µM   132%   86%   79%   93%     2 C10   TWS119   10 µM   105%   73%   49%   102%     2 D4   CAY10561   1 µM   105%   73%   90%   111%     2 D5   Olonoucine   10 µM   72%   168%   109%   124%     2 D6   LFM-A13   10 µM   73%   43%   95%   108%     2 D7   AG-490   1 µM   73%   43%   49%   95%   104%     2 D8   SD2100   10 µM   73%   43%   49%   95%   104%     2 E10   NSC 210902	2	C3	Lauric Acid Leelamide	10 µM	102%	36%	59%	93%
2 CS   Kenpaultone   1 µM   48%   35%   32%   69%     2 C6   H-8 (hydrochloride)   10 µM   160%   55%   69%   107%     2 C7   RC-14620   1 µM   137%   115%   109%   101%     2 C8   S-loototbercidin   1 µM   132%   86%   79%   93%     2 C10   TWS119   10 µM   69%   37%   49%   102%     2 D2   (S)-H-1152 (hydrochloride)   1 µM   10 µM   39%   34%   81%   72%     2 D4   CAY10561   1 µM   88%   139%   90%   111%     2 D5   Olomoucine   10 µM   95%   113%   95%   108%     2 D6   LFM-A13   10 µM   95%   113%   95%   108%     2 D6   Vortmannin   1 µM   73%   43%   49%   95%     2 D10   NSC 210902   10 µM   11%   89%   69%   25%   42%   41%   63%	2	C4	BAY-43-9006	10 μM	99%	61%	59%	102%
2 C6   H-8 (hydrochloride)   10 µM   160%   55%   69%   107%     2 C7   RG-14620   1 µM   137%   115%   109%   117%   59%     2 C8   S-lodotubercidin   1 µM   90%   22%   17%   59%     2 C10   TVX5119   10 µM   132%   86%   79%   102%     2 D2   (S)-H-1152 (hydrochloride)   1 µM   105%   73%   49%   102%     2 D4   CAY10561   1 µM   95%   113%   95%   108%     2 D5   Olomoucine   10 µM   72%   668%   47%   74%     2 D6   SB 202190   10 µM   73%   68%   47%   74%     2 D9   Wortmannin   1 µM   73%   43%   49%   95%     2 D10   NSC 210902   10 µM   73%   86%   93%   93%     2 E3   CAY10505   10 µM   73%   86%   93%   12%     2 E4   A5604850	2	C5	Kenpaullone	1 µM	48%	35%	32%	69%
2 C7   RG-14620   1 µM   137%   115%   109%   101%     2 C8   S-lodotubercidin   1 µM   90%   22%   17%   59%     2 C10   TWS119   10 µM   69%   37%   79%   93%     2 D2   (S)-H-1152 (tydrochloride)   1 µM   10 µM   69%   37%   70%   121%     2 D3   AS-252424   10 µM   19%   34%   81%   72%     2 D4   CAY10561   1 µM   95%   113%   95%   108%     2 D5   Obmoucine   10 µM   72%   168%   47%   74%     2 D6   LFM-A13   10 µM   17%   43%   49%   95%     2 D0   Wortmannin   1 µM   10%   14%   63%   10%     2 E3   CAV10505   10 µM   73%   86%   63%   12%     2 E4   AS-604850   10 µM   57%   63%   12%     2 E6   SC-514   10 µM   59% <td>2</td> <td>C6</td> <td>H-8 (hvdrochloride)</td> <td>10 µM</td> <td>160%</td> <td>55%</td> <td>69%</td> <td>107%</td>	2	C6	H-8 (hvdrochloride)	10 µM	160%	55%	69%	107%
2 C8   5-lodotubercidin   1 µM   90%   22%   17%   99%     2 C9   AG-370   10 µM   132%   86%   79%   93%     2 L0   (S)+H-1152 (hydrochloride)   1 µM   105%   73%   70%   121%     2 D3   AS-252424   10 µM   93%   34%   81%   72%     2 D4   CAY10561   1 µM   10 µM   95%   113%   95%   108%     2 D5   Olomoucine   10 µM   95%   113%   95%   108%     2 D6   LFM-A13   10 µM   95%   113%   95%   108%     2 D8   SB 202190   10 µM   13%   43%   49%   85%     2 D0   Wortmannin   1 µM   73%   86%   104%   25%   42%   20%   244   45604850   10 µM   73%   86%   93%   59%     2 E13   CAY10505   10 µM   73%   86%   66%   65%   103%     2 E16<	2	C7	RG-14620	1 µM	137%	115%	109%	101%
2 C3   AG-370   10 µM   132%   86%   79%   93%     2 C10   TWS119   10 µM   69%   37%   49%   102%     2 D3   AS-252424   10 µM   39%   34%   81%   72%     2 D4   CAY10561   1 µM   88%   119%   90%   111%     2 D5   Olornoucine   10 µM   72%   168%   110%   124%     2 D6   LFM-A13   10 µM   73%   68%   47%   74%     2 D8   SB 202190   10 µM   11%   93%   88%   104%     2 D9   Wortmannin   1 µM   73%   43%   49%   95%     2 D10   NSC 210902   10 µM   111%   89%   86%   104%     2 E4   AS-604850   10 µM   73%   65%   65%   103%     2 E6   SC-514   10 µM   59%   66%   65%   103%     2 E6   SC-514   10 µM   10%   62%<	2	C8	5-lodotubercidin	1 μM	90%	22%	17%	59%
2 C10   TWS119   10 µM   69%   37%   49%   102%     2 D2   (S)-H1152 (hydrochloride)   1 µM   105%   73%   70%   121%     2 D4   CAY10561   1 µM   88%   139%   90%   111%     2 D5   Olomoucine   10 µM   95%   113%   95%   10%     2 D6   LFM-A13   10 µM   95%   113%   95%   10%     2 D7   AG-400   1 µM   10%   14%   25%   42%     2 D8   SB 202190   10 µM   10%   14%   25%   42%     2 D9   Wortmannin   1 µM   73%   43%   49%   85%     2 D10   NSC 210902   10 µM   111%   89%   86%   104%     2 E2   AS-605240   10 µM   33%   21%   41%   63%     2 E6   SC-514   10 µM   5%   74%   63%   12%     2 E7   AG-82   10 µM   25%	2	C9	AG-370	10 μM	132%	86%	79%	93%
2 D2   (6)-H-1152 (hydrochloride)   1 μM   105%   73%   70%   121%     2 D3   AS-25242   10 μM   39%   34%   81%   72%     2 D4   CAY10561   1 μM   88%   113%   99%   111%     2 D5   Olornoucine   10 μM   72%   168%   111%   124%     2 D6   LFM-A13   10 μM   95%   113%   99%   108%     2 D7   AG-490   1 μM   78%   68%   47%   74%     2 D8   SB 202190   10 μM   11%   89%   86%   104%     2 D10   NSC 210902   10 μM   33%   21%   41%   63%     2 E3   CAY10505   10 μM   73%   86%   93%   59%     2 E4   AS-604850   10 μM   5%   74%   63%   122%     2 E6   SC-514   10 μM   125%   19%   62%   47%     2 E8   CAY10571   10 μM   10 M <td>2</td> <td>C10</td> <td>TWS119</td> <td>10 μM</td> <td>69%</td> <td>37%</td> <td>49%</td> <td>102%</td>	2	C10	TWS119	10 μM	69%	37%	49%	102%
2 D3   AS-252424   10 μM   39%   39%   91%   72%     2 D4   CAY10561   1 μM   88%   139%   90%   111%     2 D5   Olomoucine   10 μM   72%   168%   110%   124%     2 D6   LFM-A13   10 μM   95%   113%   95%   108%     2 D7   AG-490   1 μM   78%   68%   47%   74%     2 D8   SB 202190   10 μM   10%   14%   25%   42%     2 D9   Vortmannin   1 μM   73%   43%   49%   95%     2 E10   NSC 210902   10 μM   13%   21%   41%   63%     2 E2   AS-605240   10 μM   5%   74%   91%   68%     2 E4   AS-604850   10 μM   5%   74%   91%   68%     2 E5   AG-434   1 μM   11%   91%   68%   103%     2 E6   SC-514   10 μM   5%   74%	2	D2	(S)-H-1152 (hydrochloride)	1 μM	105%	73%	70%	121%
2 D4   CAY10561   1 μM   88%   139%   90%   111%     2 D5   Olomoucine   10 μM   95%   113%   95%   108%     2 D7   AG-490   1 μM   72%   68%   47%   74%     2 D8   SB 202190   10 μM   10%   14%   25%   42%     2 D9   Wortmannin   1 μM   73%   43%   49%   95%     2 D10   NSC 210902   10 μM   111%   89%   86%   104%     2 E3   CAY10505   10 μM   73%   86%   93%   59%     2 E4   AS-604850   10 μM   5%   74%   61%   122%     2 E6   SC-514   10 μM   25%   14%   68%   69%   122%     2 E7   AG-82   10 μM   25%   19%   62%   47%     2 E9   AG-1266   1 μM   114%   115%   93%   114%     2 F10   CAY10577   10 μM   16%	2	D3	AS-252424	10 μM	39%	34%	81%	72%
2 D5   Olomoucine   10 μM   72%   168%   11%   12%     2 D6   LFM-A13   10 μM   95%   113%   95%   108%     2 D7   AG-490   1 μM   76%   68%   47%   74%     2 D8   SB 202190   10 μM   10%   14%   25%   42%     2 D9   Wortmannin   1 μM   73%   43%   94%   95%     2 E10   NSC 210902   10 μM   111%   89%   86%   104%     2 E2   AS-605240   10 μM   73%   86%   93%   59%     2 E4   AS-604850   10 μM   5%   74%   63%   122%     2 E5   AG-494   1 μM   15%   66%   65%   103%     2 E7   AG-82   10 μM   72%   85%   99%   125%     2 E8   AG-1296   1 μM   114%   115%   93%   114%     2 F10   CAY10571   10 μM   15%   19%	2	D4	CAY10561	1 μM	88%	139%	90%	111%
2 D6   LFM-A13   10 μM   95%   113%   95%   108%     2 D7   AG-490   1 μM   78%   68%   47%   74%     2 D9   Wortmannin   1 μM   73%   43%   49%   95%     2 D10   NSC 210902   10 μM   111%   89%   86%   104%     2 E3   CAY10505   10 μM   73%   86%   93%   59%     2 E4   AS-60850   10 μM   73%   86%   93%   59%     2 E6   SC-514   10 μM   59%   66%   65%   102%     2 E7   AG-82   10 μM   72%   85%   69%   125%     2 E8   CAY10577   10 μM   14%   82%   92%   109%     2 F10   CAY10577   10 μM   14%   67%   92%   109%     2 F2   D-erythro-Sphingosine C-18   1 μM   114%   114%   25%   92%   109%     2 F3   PI-103   100 nM	2	D5	Olomoucine	10 μM	72%	168%	110%	124%
2 D7   AG-490   1 μM   78%   68%   47%   74%     2 D8   B8 202190   10 μM   10%   14%   25%   42%     2 D9   Wortmannin   1 μM   73%   43%   49%   95%     2 D10   NSC 210902   10 μM   111%   88%   86%   104%     2 E2   AS-605240   10 μM   33%   21%   41%   63%     2 E4   AS-604850   10 μM   5%   74%   91%   68%     2 E5   AG-494   1 μM   92%   74%   63%   12%     2 E6   SC-514   10 μM   75%   66%   65%   103%     2 E8   CAY10571   10 μM   25%   19%   62%   47%     2 E10   CAY10577   10 μM   106%   82%   92%   109%     2 F3   PI-103   100 rM   124%   67%   92%   79%     2 F4   PI3-Kinase a Inhibitor 2   1 μM   31%   <	2	D6	LFM-A13	10 μM	95%	113%	95%	108%
2 D8   SB 202190   10 μM   10%   14%   25%   42%     2 D9   Wortmannin   1 μM   73%   43%   49%   95%     2 D10   NSC 210902   10 μM   111%   89%   86%   104%     2 E2   AS-605240   10 μM   73%   86%   93%   59%     2 E3   CAY10505   10 μM   73%   86%   93%   59%     2 E4   AS-604850   10 μM   74%   61%   68%   122%     2 E6   SC-514   10 μM   92%   74%   63%   125%     2 E8   CAY10571   10 μM   14%   115%   93%   114%     2 E10   CAY10577   10 μM   106%   82%   92%   109%     2 F2   D-erythro-Sphingosine C-18   1 μM   114%   91%   106%   70%     2 F4   P13-Kinase α Inhibitor 2   1 μM   31%   17%   35%   87%     2 F7   AG-82   10 μM	2	D7	AG-490	1 μM	78%	68%	47%	74%
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	2	D8	SB 202190	10 μM	10%	14%	25%	42%
2 D10   NSC 210902   10 μM   111%   89%   86%   104%     2 E2   AS-605240   10 μM   73%   86%   93%   59%     2 E4   AS-604850   10 μM   5%   74%   91%   68%     2 E5   AG-494   1 μM   92%   74%   63%   122%     2 E6   SC-514   10 μM   72%   85%   69%   125%     2 E8   CAY10571   10 μM   14%   115%   93%   114%     2 E9   AG-1266   1 μM   114%   115%   93%   114%     2 E10   CAY10577   10 μM   106%   82%   92%   109%     2 F2   D-erythro-Sphingosine C-18   1 μM   111%   91%   106%   70%     2 F4   P13-Kinase at Inhibitor 2   1 μM   131%   17%   35%   87%     2 F5   AG-825   10 μM   86%   29%   220%   20%     2 F6   Apigenin   10 μM	2	D9	Wortmannin	1 μM	73%	43%	49%	95%
2   E2   AS-605240   10 μM   33%   21%   41%   63%     2   E3   CAY10505   10 μM   73%   86%   93%   59%     2   E4   AS-604850   10 μM   5%   74%   63%   122%     2   E6   SC-514   10 μM   92%   66%   66%   103%     2   E7   AG-82   10 μM   15%   19%   62%   47%     2   E8   CAY10571   10 μM   11%   11%   93%   114%     2   E10   CAY10577   10 μM   131%   91%   106%   70%     2   F2   D-erythro-Sphingosine C-18   1 μM   131%   91%   106%   70%     2   F3   PI-103   100 nM   12%   67%   92%   79%     2   F5   AG-825   10 μM   85%   70%   68%   12%     2   F6   Apigenin   10 μM   97% <td>2</td> <td>D10</td> <td>NSC 210902</td> <td>10 μM</td> <td>111%</td> <td>89%</td> <td>86%</td> <td>104%</td>	2	D10	NSC 210902	10 μM	111%	89%	86%	104%
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2	E2	AS-605240	10 μM	33%	21%	41%	63%
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2	E3	CAY10505	10 μM	73%	86%	93%	59%
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2	E4	AS-604850	10 μM	5%	74%	91%	68%
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2	E5	AG-494	1 μM	92%	74%	63%	122%
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2	E6	SC-514	10 μM	59%	66%	65%	103%
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2	E7	AG-82	10 μM	72%	85%	69%	125%
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2	E8	CAY10571	10 μM	25%	19%	62%	47%
2 E10   CAY10577   10 μM   106%   82%   92%   109%     2 F2   D-erythro-Sphingosine C-18   1 μM   131%   91%   106%   70%     2 F3   PI-103   100 nM   124%   67%   92%   79%     2 F4   PI3-Kinase α Inhibitor 2   1 μM   31%   17%   35%   87%     2 F5   AG-825   10 μM   85%   70%   68%   112%     2 F6   Apigenin   10 μM   68%   56%   68%   122%     2 F7   AG-99   10 μM   97%   61%   82%   104%     2 F9   Janex 1   10 μM   97%   61%   82%   104%     2 G2   OSU03012   1 μM   121%   71%   106%   69%   26%   26%   26%   26%   104%   76%   103%   26   AG-1478   1 μM   97%   53%   99%   62%   26%   26%   104%   15%   104%   15%   108%	2	E9	AG-1296	1 μM	114%	115%	93%	114%
2 F2   D-erythro-Sphingosine C-18   1 μM   131%   91%   106%   70%     2 F3   PI-103   100 nM   124%   67%   92%   79%     2 F4   PI3-Kinase a Inhibitor 2   1 μM   31%   17%   35%   87%     2 F5   AG-825   10 μM   85%   70%   68%   112%     2 F6   Apigenin   10 μM   68%   56%   68%   122%     2 F7   AG-99   10 μM   27%   68%   29%   220%     2 F8   Nilotinib   10 μM   97%   61%   82%   104%     2 F9   Janex 1   10 μM   90%   29%   56%   106%     2 G2   OSU03012   1 μM   121%   71%   106%   69%     2 G3   Sphingosine Kinase Inhibitor 2   1 μM   92%   104%   76%   103%     2 G4   CAY10577   10 μM   97%   53%   99%   62%     2 G5   AG-1478   1 μ	2	E10	CAY10577	10 μM	106%	82%	92%	109%
2 F3 PI-103 100 nM 124% 67% 92% 79%   2 F4 PI3-Kinase α Inhibitor 2 1 μM 31% 17% 35% 87%   2 F5 AG-825 10 μM 85% 70% 68% 112%   2 F6 Apigenin 10 μM 68% 56% 68% 122%   2 F7 AG-99 10 μM 27% 68% 29% 220%   2 F8 Nilotinib 10 μM 97% 61% 82% 104%   2 F9 Janex 1 10 μM 50% 29% 56% 106%   2 G2 OSU03012 1 μM 121% 71% 106% 69%   2 G3 Sphingosine Kinase Inhibitor 2 1 μM 92% 104% 76% 103%   2 G4 CAY10567 10 μM 97% 53% 99% 62%   2 G5 AG-1478 1 μM 67% 71% 73% 108%   2 G6 AG-18 10 μM 40% 55% 41% 157%   2 G10 PD 184161 1 μM	2	F2	D-erythro-Sphingosine C-18	1 μM	131%	91%	106%	70%
2   F4   PI3-Kinase α Inhibitor 2   1 μM   31%   17%   35%   87%     2   F5   AG-825   10 μM   85%   70%   68%   112%     2   F6   Apigenin   10 μM   88%   56%   68%   122%     2   F7   AG-99   10 μM   27%   68%   29%   220%     2   F8   Nilotinib   10 μM   97%   61%   82%   104%     2   F9   Janex 1   10 μM   50%   29%   56%   106%     2   G1   CAY10578   10 μM   96%   93%   77%   101%     2   G3   Sphingosine Kinase Inhibitor 2   1 μM   121%   71%   106%   69%     2   G4   CAY10567   10 μM   97%   53%   99%   62%     2   G5   AG-1478   1 μM   67%   71%   73%   108%     2   G6   AG-18   10 μM	2	F3	PI-103	100 nM	124%	67%	92%	79%
2   F5   AG-825   10 μM   85%   70%   66%   112%     2   F6   Apigenin   10 μM   68%   56%   68%   122%     2   F7   AG-99   10 μM   27%   68%   29%   220%     2   F8   Nilotinib   10 μM   97%   61%   82%   104%     2   F9   Janex 1   10 μM   90%   29%   56%   106%     2   G2   OSU03012   1 μM   121%   71%   106%   69%     2   G3   Sphingosine Kinase Inhibitor 2   1 μM   92%   104%   76%   103%     2   G4   CAY10567   10 μM   97%   53%   99%   62%     2   G5   AG-1478   1 μM   67%   71%   73%   108%     2   G6   AG-213   10 μM   40%   55%   41%   15%     2   G10   PD 184161   1 μM   91	2	F4	PI3-Kinase $\alpha$ Inhibitor 2	1 μM	31%	17%	35%	87%
2   F6   Apigenin   10 μM   68%   56%   68%   122%     2   F7   AG-99   10 μM   27%   68%   29%   220%     2   F8   Nilotinib   10 μM   97%   61%   82%   104%     2   F9   Janex 1   10 μM   50%   29%   56%   106%     2   G2   OSU03012   1 μM   96%   93%   77%   101%     2   G2   OSU03012   1 μM   92%   104%   76%   103%     2   G4   CAY10567   10 μM   97%   53%   99%   62%     2   G5   AG-1478   1 μM   67%   71%   73%   108%     2   G6   AG-18   10 μM   40%   55%   41%   157%     2   G7   AG-213   10 μM   42%   59%   46%   165%     2   G10   PD 184161   1 μM   91%   123%	2	F5	AG-825	10 μM	85%	70%	68%	112%
2   F7   AG-99   10 μM   27%   68%   29%   220%     2   F8   Nilotinib   10 μM   97%   61%   82%   104%     2   F9   Janex 1   10 μM   50%   29%   56%   106%     2   F10   CAY10578   10 μM   96%   93%   77%   101%     2   G2   OSU03012   1 μM   121%   71%   106%   69%     2   G3   Sphingosine Kinase Inhibitor 2   1 μM   92%   104%   76%   103%     2   G4   CAY10567   10 μM   97%   53%   99%   62%     2   G5   AG-1478   1 μM   67%   71%   73%   108%     2   G6   AG-18   10 μM   40%   55%   41%   157%     2   G7   AG-213   10 μM   40%   59%   46%   165%     2   G9   CAY10574   10 μM   37	2	F6	Apigenin	10 μM	68%	56%	68%	122%
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2	F7	AG-99	10 μM	27%	68%	29%	220%
2 F9Janex 110 μM50%29%56%106%2 F10CAY1057810 μM96%93%77%101%2 G2OSU030121 μM121%71%106%69%2 G3Sphingosine Kinase Inhibitor 21 μM92%104%76%103%2 G4CAY1056710 μM97%53%99%62%2 G5AG-14781 μM67%71%73%108%2 G6AG-1810 μM40%55%41%157%2 G7AG-21310 μM42%59%46%165%2 G9CAY1057410 μM37%29%50%25%2 G10PD 1841611 μM91%123%110%99%2 H2JNJ-10198409100 nM101%93%92%109%2 H4ML-91 μM71%90%84%107%2 H5SB 21676310 μM38%169%110%113%2 H6CAY1055410 μM40%69%65%93%2 H7AG-18310 μM40%69%65%93%2 H8L-threo-Sphingosine C-1810 μM106%54%85%65%	2	F8	Nilotinib	10 μM	97%	61%	82%	104%
2 F10   CAY10578   10 μM   96%   93%   77%   101%     2 G2   OSU03012   1 μM   121%   71%   106%   69%     2 G3   Sphingosine Kinase Inhibitor 2   1 μM   92%   104%   76%   103%     2 G4   CAY10567   10 μM   97%   53%   99%   62%     2 G5   AG-1478   1 μM   67%   71%   73%   108%     2 G6   AG-1478   1 μM   67%   71%   73%   108%     2 G6   AG-1478   10 μM   40%   55%   41%   157%     2 G7   AG-213   10 μM   42%   59%   46%   165%     2 G9   CAY10574   10 μM   37%   29%   50%   25%     2 G10   PD 184161   1 μM   91%   123%   110%   99%     2 H2   JNJ-10198409   100 nM   101%   93%   92%   109%     2 H3   Piceatannol   10 μM   1	2	F9	Janex 1	10 μM	50%	29%	56%	106%
2G2OSU030121 $\mu$ M121%71%106%69%2G3Sphingosine Kinase Inhibitor 21 $\mu$ M92%104%76%103%2G4CAY1056710 $\mu$ M97%53%99%62%2G5AG-14781 $\mu$ M67%71%73%108%2G6AG-1810 $\mu$ M40%55%41%157%2G7AG-21310 $\mu$ M42%59%46%165%2G9CAY1057410 $\mu$ M37%29%50%25%2G10PD 1841611 $\mu$ M91%123%110%99%2H2JNJ-10198409100 nM101%93%92%109%2H3Piceatannol10 $\mu$ M71%90%84%107%2H4ML-91 $\mu$ M71%90%84%107%2H5SB 21676310 $\mu$ M40%69%65%93%2H6CAY1055410 $\mu$ M40%69%65%93%2H8L-threo-Sphingosine C-1810 $\mu$ M106%54%85%65%2H9CAY1057510 $\mu$ M106%54%85%65%	2	F10	CAY10578	10 μM	96%	93%	77%	101%
2 G3 Sphingosine Kinase Inhibitor 2 1 μM 92% 104% 76% 103%   2 G4 CAY10567 10 μM 97% 53% 99% 62%   2 G5 AG-1478 1 μM 67% 71% 73% 108%   2 G6 AG-18 10 μM 40% 55% 41% 157%   2 G7 AG-213 10 μM 42% 59% 46% 165%   2 G9 CAY10574 10 μM 37% 29% 50% 25%   2 G10 PD 184161 1 μM 91% 123% 110% 99%   2 H2 JNJ-10198409 100 nM 101% 93% 92% 109%   2 H3 Piceatannol 10 μM 109% 82% 118% 101%   2 H4 ML-9 1 μM 71% 90% 84% 107%   2 H5 SB 216763 10 μM 38% 169% 110% 113%   2 H6 CAY10554 10 μM 40% 69% 65% 93%   2 H8 L-threo-Sphingosine C-18 <td< td=""><td>2</td><td>G2</td><td>OSU03012</td><td>1 μM</td><td>121%</td><td>71%</td><td>106%</td><td>69%</td></td<>	2	G2	OSU03012	1 μM	121%	71%	106%	69%
2   G4   CAY10567   10 μM   97%   53%   99%   62%     2   G5   AG-1478   1 μM   67%   71%   73%   108%     2   G6   AG-18   10 μM   40%   55%   41%   157%     2   G7   AG-213   10 μM   42%   59%   46%   165%     2   G9   CAY10574   10 μM   37%   29%   50%   25%     2   G10   PD 184161   1 μM   91%   123%   110%   99%     2   H2   JNJ-10198409   100 nM   101%   93%   92%   109%     2   H3   Piceatannol   10 μM   109%   82%   118%   101%     2   H4   ML-9   1 μM   71%   90%   84%   107%     2   H5   SB 216763   10 μM   38%   169%   110%   113%     2   H6   CAY10554   10 μM   40%	2	G3	Sphingosine Kinase Inhibitor 2	1 μM	92%	104%	76%	103%
2 G5 AG-1478 1 μM 67% 71% 73% 108%   2 G6 AG-18 10 μM 40% 55% 41% 157%   2 G7 AG-213 10 μM 42% 59% 46% 165%   2 G9 CAY10574 10 μM 37% 29% 50% 25%   2 G10 PD 184161 1 μM 91% 123% 110% 99%   2 H2 JNJ-10198409 100 nM 101% 93% 92% 109%   2 H3 Piceatannol 10 μM 109% 82% 118% 101%   2 H4 ML-9 1 μM 71% 90% 84% 107%   2 H5 SB 216763 10 μM 38% 169% 110% 113%   2 H6 CAY10554 10 μM 40% 69% 65% 93%   2 H8 L-threo-Sphingosine C-18 10 μM 100% 84% 80% 88%   2 H9 CAY10575 10 μM 106% 54% 85% 65%	2	G4	CAY10567	10 μM	97%	53%	99%	62%
2 G6 AG-18 10 μM 40% 55% 41% 157%   2 G7 AG-213 10 μM 42% 59% 46% 165%   2 G9 CAY10574 10 μM 37% 29% 50% 25%   2 G10 PD 184161 1 μM 91% 123% 110% 99%   2 H2 JNJ-10198409 100 nM 101% 93% 92% 109%   2 H3 Piceatannol 10 μM 109% 82% 118% 101%   2 H4 ML-9 1 μM 71% 90% 84% 107%   2 H5 SB 216763 10 μM 38% 169% 110% 113%   2 H6 CAY10554 10 μM 40% 69% 65% 93%   2 H7 AG-183 10 μM 62% 105% 87% 137%   2 H8 L-threo-Sphingosine C-18 10 μM 100% 84% 80% 88%   2 H9 CAY10575 10 μM 106% 54% 85% 65%	2	G5	AG-1478	1 μM	67%	/1%	/3%	108%
2 G7 AG-213 10 μM 42% 59% 46% 165%   2 G9 CAY10574 10 μM 37% 29% 50% 25%   2 G10 PD 184161 1 μM 91% 123% 110% 99%   2 H2 JNJ-10198409 100 nM 101% 93% 92% 109%   2 H3 Piceatannol 10 μM 109% 82% 118% 101%   2 H4 ML-9 1 μM 71% 90% 84% 107%   2 H5 SB 216763 10 μM 38% 169% 110% 113%   2 H6 CAY10554 10 μM 40% 69% 65% 93%   2 H7 AG-183 10 μM 62% 105% 87% 137%   2 H8 L-threo-Sphingosine C-18 10 μM 100% 84% 80% 88%   2 H9 CAY10575 10 μM 106% 54% 85% 65%	2	GG	AG-18	10 µM	40%	55%	41%	157%
2 G9   CAY10574   10 μM   37%   29%   50%   25%     2 G10   PD 184161   1 μM   91%   123%   110%   99%     2 H2   JNJ-10198409   100 nM   101%   93%   92%   109%     2 H3   Piceatannol   10 μM   109%   82%   118%   101%     2 H4   ML-9   1 μM   71%   90%   84%   107%     2 H5   SB 216763   10 μM   38%   169%   110%   113%     2 H6   CAY10554   10 μM   40%   69%   65%   93%     2 H7   AG-183   10 μM   62%   105%   87%   137%     2 H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2 H9   CAY10575   10 μM   106%   54%   85%   65%	2	G7	AG-213	10 μM	42%	59%	46%	165%
2 G10   PD 184161   1 μM   91%   123%   110%   99%     2 H2   JNJ-10198409   100 nM   101%   93%   92%   109%     2 H3   Piceatannol   10 μM   109%   82%   118%   101%     2 H4   ML-9   1 μM   71%   90%   84%   107%     2 H5   SB 216763   10 μM   38%   169%   110%   113%     2 H6   CAY10554   10 μM   40%   69%   65%   93%     2 H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2 H9   CAY10575   10 μM   106%   54%   85%   65%	2	G9	CAY10574	10 µM	37%	29%	50%	25%
2   H2   JNJ-10198409   100 nM   101%   93%   92%   109%     2   H3   Piceatannol   10 μM   109%   82%   118%   101%     2   H4   ML-9   1 μM   71%   90%   84%   107%     2   H5   SB 216763   10 μM   38%   169%   110%   113%     2   H6   CAY10554   10 μM   40%   69%   65%   93%     2   H7   AG-183   10 μM   62%   105%   87%   137%     2   H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2   H9   CAY10575   10 μM   106%   54%   85%   65%	2	G10	PD 184161	1 μM	91%	123%	110%	99%
2 H3   Piceatannol   10 μM   109%   82%   118%   101%     2 H4   ML-9   1 μM   71%   90%   84%   107%     2 H5   SB 216763   10 μM   38%   169%   110%   113%     2 H6   CAY10554   10 μM   40%   69%   65%   93%     2 H7   AG-183   10 μM   62%   105%   87%   137%     2 H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2 H9   CAY10575   10 μM   106%   54%   85%   65%	2		JINJ-10198409		101%	93%	92%	109%
2   H4   ML-9   1 μM   71%   90%   84%   107%     2   H5   SB 216763   10 μM   38%   169%   110%   113%     2   H6   CAY10554   10 μM   40%   69%   65%   93%     2   H7   AG-183   10 μM   62%   105%   87%   137%     2   H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2   H9   CAY10575   10 μM   106%   54%   85%   65%	2	H3	Piceatannoi		109%	82%	118%	101%
2 HS   SB 216763   10 μM   38%   169%   110%   113%     2 H6   CAY10554   10 μM   40%   69%   65%   93%     2 H7   AG-183   10 μM   62%   105%   87%   137%     2 H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2 H9   CAY10575   10 μM   106%   54%   85%   65%	2	H4	ML-9	1 μIVI 10 μΜ	71%	90%	84%	107%
2   H7   AG-183   10 μM   40%   69%   65%   93%     2   H7   AG-183   10 μM   62%   105%   87%   137%     2   H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2   H9   CAY10575   10 μM   106%   54%   85%   65%			SD 210/03	10 µlVl	38%	169%		113%
2   Π   AG-163   10 μW   62%   105%   87%   137%     2   H8   L-threo-Sphingosine C-18   10 μM   100%   84%   80%   88%     2   H9   CAY10575   10 μM   106%   54%   85%   65%		. F10			40%	69%	65%	93%
2 H9   CAY10575   10 μM   100%   84%   80%   88%     2 H9   CAY10575   10 μM   106%   54%   85%   65%		Г1/ Цо	AG-103	10 µlVl	<u>لاکھ (</u>	105%	8/%	13/%
2 Π9 CATIU373 IU μIVI IU0% 34% 85% 65%					100%	04%	8U%	00%
2 H10 CCT019150 10M 1060/ 700/ 1000/ 700/			CCT019150		100%	D4%	00% 400%	00%

Table S2. Effects of mTOR inhibitors on the expression of monocyte markers in DR-ER-Hoxb8 cells \*.

Compound	Concentration	Ly6C	CX₃CR1-GFP	CD115	CCR2-RFP
DMSO (Control)	-	100%	100%	100%	100%
CAY10626	100 nM	48%	25%	51%	71%
INK128	100 nM	31%	11%	22%	53%
NVP-BEZ235	1 μM	28%	20%	26%	59%
PP242	1 μM	41%	21%	28%	69%
Rapamycin	100 nM	48%	46%	66%	100%
Torin 1	100 nM	46%	12%	17%	66%

\* Results are expressed as percentage of mean fluorescence intensity relative to DMSO control

### Table S3. List of antibodies and sources

Target antigen	<u>Clone</u>	<u>Source</u>
B220	RA3-6B2	Biolegend
CD117	2B8	Biolegend
CD11a	M17/4	Biolegend
CD11b	M170	Biolegend
CD11c	N418	Biolegend
CD127	A7R34	Biolegend
CD135	A2F10	Biolegend
CD34	HM34	Biolegend
CD45.1	A20	Biolegend
CD45.2	104	Biolegend
CD64	X54-5/7.1	Biolegend
CX3CR1	SA011F11	Biolegend
la/le	M5/114.15.2	Biolegend
Lineage Cocktail	multiple	Biolegend
Ly6C	HK1.4	Biolegend
Ly6G	1A8	Biolegend
Isotype controls	Various	Biolegend
F4/80	BM8	Ebioscience
IL12	C17.8	Ebioscience
TNF alpha	MP6-XT22	Ebioscience
CD16/32	2.4G2	BD
phospho-4EBP1 (T37/46)	236B4	CST
phospho-S6K1 (T389)	108D2	CST
phospho-S6 (S240/244)	D68F8	CST
phospho-Akt (S473)	D9E	CST
MCSF	5A1	Bio X Cell
GM-CSF	MP1-22E9	Bio X Cell

\* Source of antibodies include Biolegend (San Diego, CA), BD Biosciences (San Jose, CA), Ebioscience (San Diego, CA), Cell Signaling Technology (CST; Danvers, MA) and Bio X Cell (West Lebanon, NH).