LncRNA *lncLy6C* induced by microbiota metabolite butyrate promotes differentiation of Ly6C^{high} to Ly6C^{int/neg} macrophages through *lncLy6C* /C/EBPβ/Nr4A1 axis



Fig. S1. Flow cytometry of CD117⁺CD115⁺CD115⁺Ly6C⁺ BM monocytes after exposed to ascetic acid (Ace, 200 μ M), propionic acid (Pro, 200 μ M), butyrate (But, 200 μ M) and Trichostatin (TSA, 40 nM) for 2 days. % of Ly6C^{high} and Ly6C^{low} cells was compared (lower). Two side Student's *t-test*.



Fig. S2. Charateristics of CD117⁻ CD11b⁺ CD115⁺ Ly6C⁺ BM monocytes after

exposed to butyrate. a, Flow cytometry of CD117⁻ CD11b⁺ CD115⁺ Ly6C⁺ BM monocytes after exposed to different concentration (0, 10, 100 and 1000 μ M) of butyrate. **b,** QRT-PCR of TNF α , IL-6, IL-1 β and iNOS in

 $CD117^{-}CD11b^{+}CD115^{+}Ly6C^{+}BM$ monocytes after exposed to butyrate (200 μ M). Ctr., vehicle. **c**, QRT-PCR of arginase-1, Fizzi1 and Ym1 in

CD117⁻ CD11b⁺ CD115⁺ Ly6C⁺ BM monocytes after exposed to butyrate (200 μ M). Ctr., vehicle. Two side Student's *t*-test in b and c.



Fig. S3. Flow cytometry of bone marrow cells in wild type mice with (WT+But) or without (WT) butyrate. Mice received sodium butyrate (150 mM) in the drinking water for one week (n=5). One representative of 5 mice.





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Fig. S5. Characteristics of LncLy6C. a, Location of mouse 1700016p04Rik (lncLy6C) and human AC0024631 (Hu lncLy6C). b, RT-PCR assay of mouse lncLy6C with polyA+ RNA. The polyA+ RNA fraction of mouse *lncLy6C* was examined using primer with poly-A (PA+) or primers without polyA (PA-).

c and d, Immunoblotting of V5-tagged mouse *lncLy6C* transfected BMDMs. Full-length *lncLy6C* was cloned into pcDNA3.1 with N-terminal start codon ATG and C-terminal V5 tag in all three coding patterns (c), and then these plasmids subsequently were transfected into HEK293T cells separately, and after 48 hours, immunoblotting was used to detect the flag-tagged protein (d). C/EBPβ-LAP with V5 tag, a positive control (d). e, RT-PCR assay of hulncLy6C with polyA+ RNA. The polyA+ RNA fraction of hulnely6c was examined using primer with poly-A(PA+) or primers without polyA (PA-). f and g, Immunoblotting of V5-tagged human HulncLy6C transfected BMDMs. Full-length Hu-lncly6c was cloned into pcDNA3.1 with N-terminal start codon ATG and C-terminal V5 tag in all three coding patterns (f), and then these plasmids subsequently were transfected into HEK293T cells

> -55 -43 -34 -26 -17

separately, and after 48 hours, immunoblotting was performed using anti-flag antibody (g). C/EBP β LAP with V5 tag, a positive control. No lncRNA encoding bands (around 20 kd) were found.

а						
	Mouse Incly6c Human Incly6c	GCCCAGGAAAGTA AGAAATCTGAGAG a ag	AGATTCTGATTCT AAACTCTGATTCT a a tetgattet	AAATCATCGTCTCCA	TATATTCC	50 49
		TTCATCCTCT. GG TTTATCTTTTTAA tt atc t t	CATGCCCAGGAAA GACAGAAATCTGAG a a a	ACAAACTIACTGT		99 99
		TGCTTTGCAATGA TACCTTGCCATGA t c ttgc atga	AGATTCATTACT AGATTCATTACCT agattcattac	TCTTGCCCAGGAAA TCTTAGAAATCTGA	TAAGAAA AGAAATG	149 149
		TGTTTCTCTTTCT CTCTTTTTCTTCCT tt tett et	GGCCCICICICICICICICICICICICICICICICICIC	ACTCAGGAAG CCCAGGAAC CCCAGGAAC CCCAGGAAC	ATATICGC ATGCTTAG at t	199 199
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		CGCTGTGTGTAGTTC CACTGTGTAATTC c ctgtgta ttc	GGCCCAGGAAAGT TAGAAATCTGAGAG a ag	AGAGAGAATACAAAT AAACAGAATACAACT a a agaatacaa t	GGA <mark>GACTG AGACACTG</mark> ga actg	299 299
		CTCTGATGTTCAG CTCTCATGGGAAG ctct atg ag	AAAGIGGGGGGTGTG GAGAITGAACIAI a t g ct t	TGTGCCCAGGAAAGT TGTAGAAATCTGAGA tgt a ag	AAGACTTA GAAACTTG a actt	349 349
		CGTCTTACTCAAA CGTCTTCGAAAAA cgtctt g aaa	CTCCTCAGCAACAC AUCCAAAGCCACT t c agc ac	ACTAACATGAAGAA	GCCAGGA ACAGAGAA c ag a	398 399
		AAGTAAGAGGTAC ATCIGAGAGAAAAG	AAGGAATGCA	AGACGATCACCTCCT GGATGATCAATTITCC	TTGATGCA TTGTCTTA	444 449
		TTAAATTA <mark>GG</mark> AAG TTAAAAAATAAAA ttaaa a aa	CCCAGGAAAGTAA GAAATCTGAGAGA a ag a	A ATATA A GICIGCTTTCTTTT a t t	стстстсс	477 499
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	Ctr. Probe	Huma	an Incly6c probe	DAPI	Me	rge

Fig. S6. Homology of human *lncLy6C* with mouse *lncLy6C*.

a, Homology analyses between mouse *lncLy6C* and human *lncLy6C*. Higher homology (54.19%) between mouse *lncLy6C* and human *hulncLy6C* was shown. **b**, FISH of *hulncly6c* in CD14⁺ human peripheral blood cells. Green, human lncly6c; Blue, DAPI; Scale bar, 2.5 μ M.



Fig. S7. Expression of *lncLy6C* in human CD14+ monocytes after exposed to butyrate. a QRT-PCR of *lncLy6C* in human CD14+ monocytes after exposed to different concentration of butyrate. R. E, relative expression. b QRT-PCR of *lncLy6C* in human CD14+ monocytes after exposed to butyrate (200 μ M) at different time points. R. E, relative expression. Two side Student's *t-test*.



Fig. S8. Flow cytometry of $CD11b^+CD115^+Ly6C^{high}$, $CD11b^+CD115^+Ly6C^{int}$,

CD11b⁺CD115⁺Ly6C^{neg} cells in mouse BMC after silencing Olfr29-PS1 (kd Olfr29-PS1). Mouse BMCs were transfected by Olfr29-PS1 siRNA and then cultured for 4 days. KdNC, siRNA control. Two side Student's *t-test*.



Fig. S9. LncLy6c affects the expression of cytokines, iNOS, Arginase-1, FiZZ1 and Ym1. a QRT-PCR of TNF α , IL-6, IL-1 β and iNOS in CD117– CD11b+ CD115+ Ly6C+ BM monocytes after silencing lncly6c or transfecting lncly6c lentiviruses. **b** QRT-PCR of arginase-1, Fizz1 and Ym1 in CD117– CD11b+ CD115+ Ly6C+ BM monocytes after after silencing lncly6c or transfecting lncly6c lentiviruses. kdNC, siRNA control; kdLNC, lncRNA siRNA; OcNC, empty lentivus; OeLNC, LncRNA lentivirus. Two side Student's *t-test*.



Fig. S10. Flow cytometry of MHCII⁺Ly6C⁺ inflammatory macrophages.

 $CD45^{+}CD11b^{+}CD64^{+}CD103^{-}MHCII^{+}Ly6C^{+}$ cells in the colonic tissues of WT or Lncly6c KO mice (n = 6). % cells and total Ly6c ⁺ MHCII⁺ cell number per colon were analyzed (right). Two side Student's *t-test*.



Fig. S11. Butyrate promotes differentiation of Ly6c^{high} inflammatory
macrophages into Ly6c^{negative} macrophages in DSS-treated WT but not *Lncly6c*KO mice. a The length of colon in LncLy6c KO and WT mice with or without
butyrate after DSS (2.5%) treatment (n=6). b H&E staining and histology score of
colon tissues in LncLy6c KO and WT mice with or without butyrate after DSS (2.5%)
treatment. For histological score, 3 slides/mouse, n=6. Scale bar, 40 µM. c Flow
cytometry of CD45⁺CD11b⁺CD64⁺CD103⁻MHC⁺Ly6C⁺ in colon tissues in Lynly6c
KO and WT mice with or without butyrate after DSS (2.5%) treatment (n=3).

d Flow cytometry of CD11b⁺CD115⁺Ly6C^{high}, CD11b⁺CD115⁺Ly6C^{int},

CD11b⁺CD115⁺Ly6C^{neg} cells in lncLy6c KO and WT mice with or without butyrate after DSS (2.5%) treatment (n=3). Two side student's *t*-test; NS, no significance.

Description	ΣCoverage	Score	Coverage	Score	Coverage	MW	calc.
		C/EBP β Ab	C/EBP β Ab	Isotypic Ab	Isotypic Ab	[kDa]	pl
C/EBP β	17.93	8.85	17.93	0	0	15.6	9.95
ASH2L	2.43	2.43	2.43	0	0	60.1	6.95
WDR5	17.07	10.32	17.07	0	0	36.6	8.27
RNF2	2.68	2.68	2.68	0	0	37.6	6.84
CXXC1	15.61	22.72	11.06	7	8	76.1	8.27

Supplementary	Table S1.	Immunopr	ecipitation i	n BMDMs i	using anti-(]/ΕΒΡβ
antibody.						

REAGENT or RESOURCE	SOURCE	IDENTIFIER
Antibodies		
β-Actin Antibody	Santa Cruz	Cat:sc-47778 RRID:AB_626632
Anti-C/EBβ Antibody	Abcam	Cat:ab15050 RRID:AB_301598
V5 Tag Monoclonal Antibody	Thermo Fisher	Cat:MA5-15253 RRID:AB_10977225
	Scientific	
Anti-Histone H3 (tri methyl K4) antibody	Abcam	Cat:ab8580 RRID:AB_306649
WDR5 Rabbit mAb	Cell Signaling	Cat:13105 RRID:AB_2620133
	Technology	
Anti-Nr4a1 Antibody	Abcam	Cat:ab13851 RRID:AB_300679
Anti-N6-methyladenosine (m6A)	Abcam	Cat:ab208577 RRID:AB_2753144
antibody		
Anti-METTL3 antibody	Abcam	Cat:ab195352 RRID:AB_2721254
Anti-STAT3 (phospho Y705) antibody	Abcam	Cat:ab76315 RRID:AB_1658549
Anti-ASH2L antibody	Abcam	Cat:ab50699 RRID:AB_867739
Anti-RbBP5 antibody	Abcam	Cat:ab52084 RRID:AB_882299
Anti-DPY30 antibody	Abcam	Cat:ab126352 RRID:AB_11128034
Anti-MLL1 (D2M7U) Rabbit antibody	Cell Signaling	Cat:14689 RRID:AB_2688009
	Technology	
Rabbit Anti-CD11c antibody	Bioss Inc	Cat: bs-2508R RRID:AB_10855986
Rabbit Anti-CD4 antibody	Bioss Inc	Cat: bs-0766R RRID:AB_ 10857931
Rabbit Anti-CD8 antibody	Bioss Inc	Cat: bs-0648R RRID:AB_ 10857537
Rabbit Anti-CD19 antibody	Bioss Inc	Cat: bs-0079R RRID:AB_ 10857264
Rat Anti-Ly6C Monoclonal antibody	Novus	Cat:NB100-65414 RRID:AB_964346
F4/80 (6A545) antibody	Santa Cruz	Cat:sc-71085 RRID:AB_1122717
APC anti-mouse CD45.2 Antibody	Biolegend	Cat: 109814 RRID:AB_389211
APC anti-mouse CD11c Antibody	Biolegend	Cat: 117310 RRID:AB_ 313779
APC anti-mouse CD117 (c-Kit) Antibody	Biolegend	Cat: 105812 RRID:AB_ 313221
APC/Cy7 anti-mouse/human CD11b	Biolegend	Cat: 101226 RRID:AB_ 830642
Antibody		
PerCP anti-mouse/human CD11b	Biolegend	Cat: 135506 RRID:AB_1937253
Antibody		
FITC anti-mouse CD11c Antibody	Biolegend	Cat: 117306 RRID:AB_ 313775
FITC anti-mouse Ly-6C Antibody	Biolegend	Cat: 128006 RRID:AB_ 1186135
FITC anti-mouse CD3 Antibody	Biolegend	Cat: 100204 RRID:AB_312661
FITC anti-mouse CD19 Antibody	Biolegend	Cat: 152404 RRID:AB_2629813
FITC anti-mouse Gr-1 Antibody	Biolegend	Cat: 108406 RRID:AB_313371
PE anti-mouse CD115 (CSF-1R) Antibody	Biolegend	Cat: 135506 RRID:AB_1937253
PE/Cy5 anti-mouse CD135 Antibody	Biolegend	Cat: 135312 RRID:AB_ 2263031
PE/Cy7 anti-mouse Ly-6C Antibody	Biolegend	Cat: 128017 RRID:AB_1732093
Bacterial and Virus Strains		1

Supplementary Table S2. Reagents and oligoes used in this study.

BL21 Chemically Competent cell	TransGen	Cat:CD901-01
	Biotech	
DH5α Chemically Competent cell	Tiangen	Cat:CD101-03
	Biotech	
Chemicals, Peptides, and		
Recombinant Proteins		
Recombinant Murine GM-CSF	PeproTech	Cat:315-03
Recombinant Murine M-CSF	PeproTech	Cat:315-02
HiPerFect Transfection Reagent	QIAGEN	Cat:301705
Trichostatin A	MCE	Cat: HY-15144
Pertussis Toxin	MCE	Cat: HY-112779
Polybrene	Millipore	Cat:sc-134220
Lipofectamine [™] 3000 Transfection	Thermo Fisher	Cat:11668027
Reagent	Scientific	
Trizol	Life	Cat:15596018
	technologies	
Oligonucleotides for clone genes		
Murine LncLy6C FW	BGI	5'-GGTCGGAGTGGATGGCCC -3'
Murine LncLy6C REV	BGI	5'-TATATTTCCTAATTTAATGCATCAAAGG -3'
Human Lncly6C FW	BGI	5'-GGAGTTGGCTGCCCAGAAATC-3'
Human Lncly6C REV	BGI	5'-TAAAAGGAGAGAGAAAAGAAAGCAG-3'
Murine LncLy6C-L1 FW	BGI	5'-GGATGGCCCAGGAAAGTAAGAC-3'
Murine LncLy6C-L2 FW	BGI	5'-GTAAAAATCAAACGCTGTGTAG-3'
Murine LncLy6C-L3 FW	BGI	5'-GTGTGTCTTACGTCTTAGTC-3'
Murine LncLy6C-L4 FW	BGI	5'-ACAAGGAATGCAAGAGGATC-3'
Murine LncLy6C-MUT1 FW	BGI	5'-CGAAGTCAACAGTACCCTGGGCTGTAAAAATCA
		AACGCTGTG-3'
Murine LncLy6C-MUT1 REV	BGI	5'-CACAGCGTTTGATTTTTACAGCCCAGGGTACTGT
		TGACTTCG-3'
Murine LncLy6C-MUT2 FW	BGI	5'-CGAAGTCAACAGTACCCTGGTCTGTAAAAATCAA
		ACGCTGTG-3'
Murine LncLy6C-MUT2 REV	BGI	5'-CACAGCGTTTGATTTTTACAGACCAGGGTACTGT
		TGACTTCG-3'
Murine LncLy6C-MUT3 FW	BGI	5'-CGAAGTCAACAGTACCCTGGCTGTAAAAATCAA
		ACGCTGTG-3'
Murine LncLy6C-MUT3 REV	BGI	5'-CACAGCGTTTGATTTTTACAGCCAGGGTACTGTT
		GACTTCG-3'
Murine LncLy6C-MUT4 FW	BGI	5'-AGTTCGGAGAATACAAATGGGGACTGCTCTGAT
		GTTCAGAAAG-3'
Murine LncLy6C-MUT4 REV	BGI	5'-CTTTCTGAACATCAGAGCAGTCCCCATTTGTATTC
		TCCGAACT-3'
Murine LAP* FW	BGI	5'-GCCACCATGCACCGCCTGCTGGCCTGGGACG-3'
Murine LAP* REV	BGI	5'-GCAGTGGCCCGCCGAGGCCA-3'

Murine LAP FW	BGI	5'-GCCACCATGGAAGTGGCCAACTTCTACTACGAG
		C-3'
Murine LAP REV	BGI	5'-GCAGTGGCCCGCCGAGGCCA-3'
Murine LIP FW	BGI	5'-GCCACCATGGCGGCCGGTTTCCCGTTCG-3'
Murine LIP REV	BGI	5'-GCAGTGGCCCGCCGAGGCCA-3'
Murine 🛆 LAP* FW	BGI	5'-GCCACCATGCACCGCCTGCTGGCCTGGGACG-3'
Murine Δ LAP* REV	BGI	5'-GGCGGGCGCGTCGTCCGCGCGCTTG-3'
Murine Δ LAP FW	BGI	5'-GCCACCATGGAAGTGGCCAACTTCTACTACGAG
		C-3′
Murine Δ LAP REV	BGI	5'-GGCGGGCGCGTCGTCCGCGCGCTTG-3'
Murine WDR5 FW	BGI	5'-GCCACCATGGCCACAGAGGAGAAGAAGC-3'
Murine WDR5 REV	BGI	5'-GCAGTCACTCTTCCACAGTTTGATT-3'
Murine ASH2L FW	BGI	5'-GCCACCATGGCGGCGGCTGGAGCGGGT -3'
Murine ASH2L REV	BGI	5'-GGGTTCCCAGGGTGGACTACGTCTT-3'
Murine DPY30 FW	BGI	5'-GCCACCATGGAGTCGGAGCAGATGCTGGAGG-3'
Murine DPY30 REV	BGI	5'-ATTTCGATCTTCAAACTGCGCCTTG-3'
Murine RBBP5 FW	BGI	5'-GCCACCATGAACCTCGAGTTGCTGGAGTCCT-3'
Murine RBBP5 REV	BGI	5'-CAGCAGTTCTGAGATGGCTCCTCCT-3'
Oligonucleotides for qRT-PCR		
Murine GAPDH FW	BGI	5'-TCAACGGCACAGTCAAGG-3'
Murine GAPDH REV	BGI	5'-TACTCAGCACCGGCCTCA-3'
Murine Arg1 FW	BGI	5'- CTGACCTATGTGTCATTTGGG -3'
Murine Arg1 REV	BGI	5'- TCAGGAGAAAGGACACAGGTT -3'
Murine INOS FW	BGI	5'-CTTGGAGCGAGTTGTGGATTGT-3'
Murine INOS REV	BGI	5'-AGGTGAGGGCTTGGCTGAGTGA-3'
Murine TNFa FW	BGI	5'-CCAGACCCTCACACTCAGATCA-3'
Murine TNFa Rev	BGI	5'-GTAGACAAGGTACAACCCATCG-3'
Murine IL-1b FW	BGI	5'-GCAGGCAGTATCACTCATTGTG-3'
Murine IL-1b Rev	BGI	5'-AGGCTTTTTTGTTGTTCATCTC-3'
Murine IL-6 FW	BGI	5'-ACAACCACGGCCTTCCCTACTT-3'
Murine IL-6 Rev	BGI	5'-TTTCTCATTTCCACGATTTCCC-3'
Murine FiZZ1 FW	BGI	5'-AGACTACAACTTGTTCCCTTCT-3'
Murine FiZZ1 Rev	BGI	5'-GTTCCTTGACCTTATTCTCCAC-3'
Murine YM-1 Fw	BGI	5'-CGTAATCAAGTCTGGGTACAAG-3'
Murine YM-1 Rev	BGI	5'-AGGGTCACTCAGGATAAAGGTA-3'
Murine Nr4A1 Fw	BGI	5'-TGAGTTCGGCAAGCCTACCAT-3'
Murine Nr4A1 Rev	BGI	5'-GGAGGAGGCAGAGGAACAAGC-3'
Murine LncLy6C FW	BGI	5'-CCCAGGAAAGTAAGACCA-3'
Murine LncLy6C REV	BGI	5'-TTTAACAACAGGCCCAGA-3'
Human Lncly6C FW	BGI	5'- AGACATGTAAAGTCCTGCTCACC-3'
Human Lncly6C REV	BGI	5'- CTTCATAAGCATCTTCAGTTCCT-3'
Murine Gm8883 FW	BGI	5'-GTCTTGTGTGTGCTAGCTCTCT-3'
Murine Gm8883 REV	BGI	5'-CTGTCCTGGAACTCACTCTGTA-3'
Murine 5730403I07Rik FW	BGI	5'- AAGGGAACTTCACGGTGGT -3'

Murine 5730403l07Rik REV	BGI	5'- TGATGTTTCAGCGAGGGA-3'
Murine Efcab8 FW	BGI	5'-TGTGCCTACTGCTCTTCTTCCC-3'
Murine Efcab8 REV	BGI	5'-TGCCTCCTTCTCAAACACCTTC-3'
Murine Meg3 FW	BGI	5'-TTGAAATAAAGGAGTGACAGAA -3'
Murine Meg3 REV	BGI	5'-CCCAGAATAAGATGAGCAGAAG-3'
Murine Olfr29-ps1 FW	BGI	5'-GACATCTGCTACACCACCTCCT-3'
Murine Olfr29-ps1 REV	BGI	5'-CGATCAAACGCCATCATACTCA-3'
Murine 4930528A17Rik FW	BGI	5'-AGTTCTGGAAGCAGGGTGTTTG-3'
Murine 4930528A17Rik REV	BGI	5'-CTTTTACCTCCTTTCGGGAGGC-3'
Murine BC021767 FW	BGI	5'-AGCAGGGAGGGAACATTATGGG -3'
Murine BC021767 REV	BGI	5'-TGAGAGTAAAGCAGCAAGGCAG -3'
Murine 1500009C09Rik FW	BGI	5'-TTCTGTTCCCATCTCTGTTGC-3'
Murine 1500009C09Rik REV	BGI	5'-GGTGAGCGGGGCTGATCTATA-3'
Murine Gm5468 FW	BGI	5'-TTGCTTGTTCTGCTTCGTCCT-3'
Murine Gm5468 REV	BGI	5'-CCTTTGGCATTCGTCTCCCTA-3'
Murine Gm5105 FW	BGI	5'-CAGAGAGCGTGGTAGAGGATT-3'
Murine Gm5105 REV	BGI	5'-GGAAGAGACAAAGGGGGACAT-3'
Murine Speer5-ps1 FW	BGI	5'-ACAAGCAAGAAGCAGTTTGAG-3'
Murine Speer5-ps1 REV	BGI	5'-GCTGGGCAGGTTACGATAGAA-3'
Oligonucleotides used in 5'- and		
3'-RACE		
Murine LncLy6C 5'RACE	BGI	5'-CAATTTCTTTAGGTCTGTTGCT -3'
Murine LncLy6C 3'RACE	BGI	5'-ATCTTAATGTTTCTCTTTCTGG -3'
UPM long primer for 5'RACE	BGI	5'-TAATACGACTCACTATAGGGCAAGCAGTGGTAT
		CAACGCAGAGT-3'
UPM short primer for 5'RACE	BGI	5'-CTAATACGACTCACTATAGGGC-3'
Oligonucleotides used in CHIP-RCR		
Nr4A1-H3K4me3 FW for CHIP-PCR	BGI	5'-CCTCCTCGGCCGCCTCCC-3'
Nr4A1-H3K4me3 REV for CHIP-PCR	BGI	5'-AGCACACTCCCCCAACTTTC-3'
Lncly6C-H3K9ac FW for CHIP-PCR	BGI	5'-GCCCAGGAAAGTAAGACCATAGC-3'
Lncly6C-H3K9ac REV for CHIP-PCR	BGI	5'-ACAACAGGCCCAGAAAGAGAAAC-3'
C/EBPβ FW for CHIP-PCR	BGI	5'- TCCACAAACAGAAAGCCTACCT -3'
C/EBPβ REV for CHIP-PCR	BGI	5'- ACCTTCCCAGTGTCAACCCAAT -3'
Oligonucleotides used in Northern blot		
T7- Murine LncLy6C -FW	BGI	5'- CTGATTCTTCAAACATCGTCTC-3'
T7- Murine LncLy6C-REV	BGI	5'-
		TAATACGACTCACTATAGGGCATTCCTTGTACCCAA
		ТТТСТТ -3'
T7-U6 RNA-FW	BGI	5'-GTGCTCGCTTCGGCAGCACATATAC-3'
T7-U6 RNA-REV	BGI	5'-TAATACGACTCACTATAGGGAAAAATATGGAAC
		GCTTCACGAATT-3'
Probes used in the RNA-FISH		
Murine LncLy6C-FAM	BGI	5'-FAM-AAGCATCTTCAGTTCCTGAGGTAGA -3'
Human LncLy6C-FAM	BGI	5'- FAM-ATTTTTTCCAAGACGCAAGACACAT-3'

NC-FAM	BGI	5'-FAMCGGGAGCCTAGGAAGTGCATCTTTC-3'
siRNAs used in this study		
Murine LncLy6C	Ribobio	5'-CCTCAGCAACAGACCTAAA-3'
Mettl3 siRNA-1	Ribobio	5'-GCTACCGTATGGGACATTA -3'
Mettl3 siRNA-2	Ribobio	5'-CCGCAAGATTGAGTTATTT -3'
Other		
pcDNA™3.1/V5-His TOPO® TA	Invitrogen	Cat: K4800-40
Expression Kit		
Pierce™ Magnetic RNA-Protein	Thermo	Cat:20164
Pull-Down Kit	Fisher	
	Scientific	
Dual-Luciferase [®] Reporter Assay	Promega	Cat: E1960
System		
DIG Northern Starter Kit	Roche	Cat:12039672910
Pierce™ Protein G Agarose	Thermo	Cat: 20397
	Fisher	
	Scientific	
FirstChoice RLM-RACE Kit	Ambion	Cat: AM1700
EZ-ChIP™Chromatin	Millipore	Cat:17-371
Immunoprecipitation Kit		