

Adaptors

Name	Sequence
His10_xhoI_NotI-Reverse	CTGGTACGTAGTGGTAGTGGTAGTAGTAGTAGTACGCCGG
His10_xhoI_NotI-Forward	TCGAGACCATGCATCCATCACCATCATCATCATCATCATGC

Primers for CHIP

Gene or TE name	Forward primer	Reverse primer	Reference
Actin	5' CCTCGATGCTGACCTCATCC 3'	5' GACATGCCCCATTCAATGCTC 3'	Benabddallah NS 2019
EthERV2	5' ACAAAATCAGTATGGGCATC 3'	5' GGGTACTGTTAAGACCCACA 3'	Bulut-Karslioglu 2015; Reichmann 2012
Eth 5' LTR-MusD int	5' CCCTCTCTCATACTGGTGCGA 3'	5' TAGCATCTCTGCGATTCTCAGG 3'	Thompson et al 2015
Gapdh	5' ATCTGTAGGCCAGGTGATG 3'	5' AGGCTCAAGGGCTTTAAGG 3'	Kato 2018
IAP2E-chr10	5' GTGCTGCCTTACAACCTG 3'	3' AAGACGACGCAAAACCAAT 3'	Reichman 2011
LINE-1 promoter	5' ACTGCGGTACATAGGGAAG 3'	5' TGTGATCACTCACCAGAGG 3'	Bulut-Karslioglu 2015
MERVL 5' LTR-int	5' CTTCCATTCACAGCTGCACTG 3'	5' CTAGAACAACCTCTGGTACCAAC 3'	Thompson 2015
MLV 5' LTR-int	5' TGGGACGGGTCTCCAAATCT 3'	5' ATAAAGCTCTGCTGTTGCATC 3'	Thompson et al 2015

Primers for Q-RT-PCR

Gene or TE name	Forward primer	Reverse primer	Reference
Actin	5' TAGGCACAGGTGTGATGG 3'	5' CATGGCTGGGGTGTGAAGG 3'	De Iaco 2017
Dux	5' AAAGGAAGCATGTGCCAGC 3'	5' GCAGTAAGCTGCTCTGGGAA 3'	De Iaco 2017
EthERV2	5' ACAAAATCAGTATGGGCATC 3'	5' GGGTACTGTTAAGACCCACA 3'	Bulut-Karslioglu 2015 Reichmann et al., 2012
Igf5	5' GCGAAGTAGCGCGACGTTT 3'	5' CTGGAACCTGATGTTCCG 3'	This study
Gapdh	5' TCATGACAACCTTTGGCATTG 3'	5' CAGTCTCTGGGTGGCAGTGA 3'	De Iaco 2017
IAP2E	5' ACGGGAACACTTATACCACC 3'	5' TTGAGAAGGATCAACTGCGTG 3'	De Iaco 2017
Klf4	5' GAAGGGAGAAGCACTGCGT 3'	5' GCCACTCTCCAGCTCTGTG 3'	This study
Lefty1	5' CAGCTGATCAACCGCAGT 3'	5' GGCTGCATGGCTGTGTT 3'	Kim 2014
LINE-1 promoter	5' ACTGCGGTACATAGGGAAG 3'	5' TGTGATCACTCACCAGAGG 3'	Bulut-Karslioglu 2015
Mae1	5' CGATTCATTGCCAGCTGC 3'	5' AACAGATTGCTGGTATGCC 3'	De Iaco 2019
MERVL 5' LTR-int	5' ATCTCTGCGCACCTGGTATG 3'	5' AGAAGAAGGCATTGCCAGA 3'	De Iaco 2017
MLV RLTR MM-int	5' AGAGGTATGGTGAATAAGTA 3'	5' TAGTAGGAGCCTCAAGCTCTCAA 3'	Thompson et al 2015
Nanog	5' AAAGGATGAAGTGAAGCGG 3'	5' CTCAGATGCGTTCACCG 3'	This study
Prex2	5' AGCATGTGAGTCTGACGGTG 3'	5' AGGGCTCCAGAATCTTGGC 3'	De Iaco 2019
Oct4	5' TCTTCCACAGCCCGGCTC 3'	5' TCGCGGCGACATGGGGATCC 3'	Cossec 2018
Zscan4	5' AAATGCCATTGTCTGTTCCCTATG 3'	5' TGTGGTAATCTCAGGTGACGAT 3'	De Iaco 2017

CRISPR/Cas9

Target	Target sequence	ssDNA donor sequence
<i>Pml</i> knock-out in mESC	5' GCTGTGTTCATAGTCTTCGG 3'	-
<i>Pml</i> E167R knock-in in mouse	5' -CAAGCATGAGGCCCGGCC-3'	5' CAAGTCTTCAAGCACACAGTGGTACTCAAGCATAGGCCCGCCCTGGCTGATCTCCGCACAATTGAGTGA3'

Primers for His6-HA-SUMO1; *Pml*^{+/+}, *Pml*^{-/-}, *Pml*^{E167R/+} mouse genotyping

Target	Primers for PCR	Expected size	Primer for sequencing
<i>Pml</i> ^{-/-}	5' AAGCCATACAGGAGGAATTCA 3'	<i>Pml</i> ^{+/+} : 443 bp <i>Pml</i> ^{-/-} : 660bp	5' AGCCAAAGTGCCCAAC3'
	5' GTGGTTGGTATTGGAGCAA 3'		
<i>Pml</i> E167R	5' ATCAGATGATCTGGACGAAG3'	<i>Pml</i> ^{+/+} : 443 bp	5' AGCCAAAGTGCCCAAC3'
	5' AAGCCATACAGGAGGAATTCA 3'		
His6-HA-Sumo1	5' GTGGTTGGTATTGGAGCAA 3'	endogenous <i>Sumo1</i> : 163bp tagged <i>Sumo1</i> : 210bp	5' AGCCAAAGTGCCCAAC3'
	5' GGAAAGTGACGACAGCTAGA 3'		
	5' CCGGTACTGGTCAAGCAT3'		
	5' GAGCGTAATCTGGAACATCTGA3'		

Antibodies

Target	Source	Reference
Actin	Sigma	# A2066
DPPA2	Millipore	# MAB4356
HA	BioLegend	# 901501
H3K9me3	Abcam	# ab8898
MBP	Sigma	# M1321
MORC3	Biotechne	# NBP1-83036
E4BP4/NFIL3	Cell signaling	# 14312
PML	Millipore	# MAB3738
SUMO1	Millipore	# AB3875
SUMO2/3	Abcam	# ab81371
Trim28/Kap1	Cell signaling	# 4124
Ubiquitin	Enzo	# BML-PW8810
Rabbit IgG, polyclonal-isotype control	Diagenode	# C15410206
Goat anti-Rabbit IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 568	ThermoFischer	# A-11011
Goat anti-Rabbit IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor 488	ThermoFischer	# A-11034
Alexa Fluor 488-AffiniPure Goat Anti-Mouse IgG (H+L)	Jackson immunoresearch	# 115-545-003
Alexa Fluor 594-AffiniPure Goat Anti-Mouse IgG (H+L)	Jackson immunoresearch	# 115-585-003
Alexa Fluor 647-AffiniPure Goat Anti-Rabbit IgG (H+L)	Jackson immunoresearch	# 111-605-003
Alexa Fluor 647-AffiniPure Goat Anti-Rabbit IgG (H+L)	Jackson immunoresearch	# 115-605-003