

## SUPPLEMENTARY DATA

Table S1: *Drosophila* lines used in this study

Genotype	Source	Stock number
<i>y[1] v[1]; P{y[+t7.7] v[+t1.8]=TRiP.JF02267}attP2</i>	Bloomington	26725
<i>y[1] v[1]; P{y[+t7.7] v[+t1.8]=TRiP.HM05078}attP2</i>	Bloomington	28590
<i>y<sup>1</sup> v<sup>1</sup>; P{TRiP.JF02931}attP2/TM3, Sb<sup>1</sup></i>	Bloomington	28300
<i>w<sup>1118</sup>; P{GD9296}v25218</i>	VDRC	v25218
<i>w[1118]; P{GD14303}v45815/TM3</i>	VDRC	v45815
<i>P{KK113206}VIE-260B</i>	VDRC	v105054
<i>P{KK105687}VIE-260B</i>	VDRC	v108900
<i>P{PZ}pum<sup>01688</sup> ry<sup>506</sup>/TM3, ry<sup>RK</sup> Sb<sup>1</sup> Ser<sup>1</sup></i>	Bloomington	11544
<i>brat[1] rdo[1] hk[1] pr[1]/CyO</i>	Bloomington	3988
<i>w<sup>1118</sup></i>	Lab stock	N/A
<i>dLsd1<sup>N</sup>/TM6B</i>	Lab stock	N/A
<i>Engrailed-GAL4 GFP</i>	Lab stock	N/A
<i>Actin5C-GAL4/CyO</i>	Lab stock	N/A

## PRIMERS

### Human ChIP primers

Name	Sequence
Nanos1 -0.7KB FOR CHIP	CTGAAGTCCCTGAGCACCTG
Nanos1 -0.7KB REV CHIP	CCCTGGGCGAAATCCATACA
Nanos1 TSS FOR CHIP	GCGTGTCCCTTCCGTCC
Nanos1 TSS REV CHIP	CCCAGGGGAAAGCCTCCAT
Nanos1 1KB CHIP FOR	TTTTGAAAAGCAGCCGACCG
Nanos1 1KB CHIP REV	GTGGAATACACACCCAGCCT
Nanos1 +2kb neg1 Exon1 for	TACCCTCCCACCCTCACTTT
Nanos1 +2kb neg1 Exon1 rev	ATTGCCTTGCTTGGCAGGTA
Nanos2 -3kb neg1 for	CCTTTCTTGGCCCCATCCAT
Nanos2 -3kb neg1 rev	ACTCGTTCATGAAGCAGGCA
Nanos2 TSS for	CTCAGGATGGGACACACCAC

Nanos2 TSS rev	AGGCTGGAGACCCAAGAGAT
Nanos2 +0.8kb for	CACTTCTCAGCCAGCCTTGT
Nanos2 +0.8kb rev	GAACCTCCAGGATTCCACGG
Nanos3 -2kb neg1 for	TGTCCAAGTCCTGAGCACAC
Nanos3 -2kb neg1 rev	TTCAGTGTCTCCCCGAGAT
Nanos3 TSS for	TCCAGAGAGGGGAAGGAAGG
Nanos3 TSS rev	CAGAGCCCTAACCAGGTGTG
Nanos3 +3kb for	ACTCCTGTGCTTTGTCTCGG
Nanos3 +3kb rev	GGAGGGGGAGGGAGAGAAAT
Pumilio1 -35kb for	AGAGGTCAGGGTGTGCAAAG
Pumilio1 -35kb rev	GGAGTAACAGAGCAGAGGGC
Pumilio1 -20kb for	TGCCTTCGTGTCCCTGTTTT
Pumilio1 -20kb rev	CCGGCCTAGGAGGAGCTAT
Pumilio1 -22kb neg1 for	TTTCTCCCCACCTTAGCAGAC
Pumilio1 -22kb neg1 rev	AAGTCATCTTAGGGCACACCA
Pumilio1 -4kb for	AGCCATGTGACCTTGAGAGC
Pumilio1 -4kb rev	ATGTGAGTCACTGCACCTGG
Pumilio1 TSS for	TCTTCTCTCTCTGGCGCTCT
Pumilio1 TSS rev	GAGCCTATCCCAGGATGCAC
Pumilio1 +5kb neg1 for	GCCCTCTCCTCAGTTGTCAC
Pumilio1 +5kb neg1 rev	TGGTTTGGTCTCATCCTGTTT
Pumilio2 -33kb for	GCAGATTAAAGCCCCACCCT
Pumilio2 -33kb rev	GCATGGCAGATTGCAAAGCA
Pumilio2 -32kb for	CTCCAGTCTCACTCCCTCCA
Pumilio2 -32kb rev	TGAGCGCCAGGAATTGGATT
Pumilio2 -21kb for	TCACACCTGGCCCAAATCTC
Pumilio2 -21kb rev	ATTTGCCTTCCGGAGTAGGT
Pumilio2 TSS for	TTCCAGGAAGGGAGATGGTT
Pumilio2 TSS rev	CTCGGGGAATGGGAGAGGTA
Pumilio2 +2kb neg1 Intron1 for	TGGCTGGTTTCCATTCCAGT
Pumilio2 +2kb neg1 Intron1 rev	AGGGGAGGAAGGAGACTTGT
GAPDH GB F	TTAAAAAGTGCAGGGTCTGGC
GAPDH GB R	TGCTGTAGCCAAATTCGTTGTC

### Mouse ChIP primers

Name	Sequence
mNos1 CDS chip for	GGAGCTTCAGGTGTGTGTGT
mNos1 CDS chip rev	CCTTGAGGATGTGTGTGGTG

mNos1 UTR CHIP FOR	CCAATCCTTTAATCCTGACACTC
mNos1 UTR CHIP REV	GCTATACCCATGGCCCTAAA
mNos2 TSS CHIP FOR	GTCCCATCCTGAGGCACTAT
mNos2 TSS CHIP REV	TGACTGCTGTTGAGTGGACA
mNos2 UTR CHIP FOR	GTTGATGGATCCCTGACTCC
mNos2 UTR CHIP REV	CTTCTCACCATGGGACACAC
mNos3 TSS CHIP FOR	ATGTAAGGCTGGATCCCAA
mNos3 TSS CHIP REV	GTTCAGGAGCTGCAGAGGAT
mNos3 upstream CHIP FOR	GGGATGATGTTTGCTCAGTG
mNos3 upstream CHIP REV	CACCTGCCCATGTATCTGTC
mPum2 intron 1 CHIP for	CAGGGAACCTTCTGGGATT
mPum2 intron 1 CHIP rev	GCCAGAGAGTACAGGCTGCT
mPum2 TSS CHIP FOR	AAGTACTCCAGAGCTCCCA
mPum2 TSS CHIP REV	CCCATTGATGACTGATGAGG
mPum1 TSS CHIP FOR	CGGAATCCATCTTCATCCTAC
mPum1 TSS CHIP REV	CGTCTCTAAGCCCTTCTCG
mPum1 intron CHIP FOR	AAGCAGGAGGATTGCCTAGA
mPum1 intron CHIP REV	GTGTGTGTGTGATGCAGAGG

#### Drosophila ChIP primers

Name	Sequence
Pum TSS F	GCAAAGCCATAAGTGGGAAGC
Pum TSS R	GCCAAACTCCTTGCATCCT
Brat TSS F	CCGTGGTAACGTCATCGAT
Brat TSS R	CCACAGAACAAAGCGAATTAA
Bun Chip1F	CGATGGCAAGCCAACAACAA
Bun Chip1R	TGCAATTTTCTCAACGCGCA
2riNT Chip1F	TCTATCCGCTGCGGGAAATC
2riNT Chip1R	TTTCGGAGTTGAGTCGACCG
2riNT Chip2F	GCGTACATTGAGTTCGCGTG
2riNT Chip2R	CGTGCAGACGGACGTCTTAT
Nos Prom Dist1F	GTTAGTTGGCGCGTAGCTTTA
Nos Prom Dist1R	GTTAAAATCGTGACGCAGAGG
Nos Prom Prox1F	GTGCTTGGTTTTTGGGTGAG
Nos Prom Prox1R	CACTGCCCTCCAAGTTGCT
Nos Gene 1F	GCAGCAGTAGGTGTTGCAAAT
Nos Gene 1R	CCCCACTGGTATCCAATACA

#### Human RT-qPCR primers

Name	Sequence
NANOS1 RT-PCR forward	CTGGAAGACCCATGTCCGGTT
NANOS1 RT-PCR reverse	GCTGCATTCCATAGTGTGGC
NANOS2 RT-PCR forward	GAAGGGGGTTTGAGTACCCG
NANOS2 RT-PCR reverse	GCTCAATACTCAGGGTCCCG
NANOS3 RT-PCR forward	TTTCCAGGAAGACCCACCCT
NANOS3 RT-PCR reverse	GCACTAGGGAAACGGCAGAT
PUM1 RT-PCR forward	GCAGGGACAGCAAACGGA
PUM1 RT-PCR reverse	CGCGCCTGCATTCACTAC
PUM2 RT-PCR forward	GTCAGCAAGGGCAGCAAGC
PUM2 RT-PCR reverse	AGGGCCAACCACTAAGGC
HES1 RT-PCR forward	GGCTGGAGAGGCGGCTAA
HES1 RT-PCR reverse	GAGAGGTGGGTTGGGGAGTT
LSD1 RT-PCR forward	GACCACAACAGACCCAGAAG
LSD1 RT-PCR reverse	CGGTGGACAAGCACAGTATC
LSD2 RT-PCR forward	AATTCTTTGCCAGTTTGCT
LSD2 RT-PCR reverse	TGCACTGGAGATTTGAGTTGA

#### Drosophila RT-qPCR primers

Name	Sequence
RP49F	TACAGGCCCAAGATCGTGAAG
RP49R	GACGCACTCTGTTGTCGATACC
TubulinAlphaF	ACACTTCCAATAAAAACTCAATATGC
TubulinAlphaR	CCGTGCTCCAAGCAGTAGA
dLsd1NtF	ACGGTTTTGTCTGGCCAAGA
dLsd1NtR	GAGCGACTGATGTCCGAAA
PumF	CGAGAATCAGCCGTATCAGG
PumR	GGCTAACCAGACGCATCG
NOSF	GCGCGATCCTTGAAAATCT
NOSR	GCGAACTCCTGCATCACAT
BRATF	CAGGAATTGACTGCAATACAGG
BRATR	AGGCTTTCGTATATATTCTTTTCGAC
abd-AF	CTACACTCGCTTCCAGACCCTC
abd-AR	CTTGATCTGTCGCTCGGTCAG
BamF	ATGTGTGGAACCGGAAGAGT
BamR	TTGTGCTCTAAGCAATCGCC
VasaF	GTCCAACGATGCAATTGAGA
VasaR	CAGCGCTCGTAAAATGTTGTAT

## Cloning primers

Name	Sequence
<b>LSD1 3'UTR Xbal for</b>	GCTCTAGATGAGACAGATGCATTCTA
<b>LSD1 3'UTR Nhel rev</b>	GCGCTAGCAACCCCACACACCAAGGG
<b>LSD2 3'UTR Xbal for</b>	GCTCTAGATAAGAATTCGGTGGACCC
<b>LSD2 3'UTR Nhel rev</b>	GCGCTAGCATATTCTGTGTCTATAGT
<b>LSD2 PRE MUT FOR</b>	GCTTCTAGGTATTTTGTATTCCACATATTTCTCCTAC TGGG
<b>LSD2 PRE MUT REV</b>	CCCAGTAGGAGGAAATATGTGGAATACAAAATACCTA GAAGC