Appendix

Selective termination of lncRNA transcription promotes epigenetic silencing and cell differentiation

Leila Touat-Todeschini[1], Yuichi Shichino[2,10], Mathieu Dangin[1,10], Nicolas Thierry-Mieg[3,4], Benoit Gilquin[5], Edwige Hiriart[1], Ravi Sachidanandam[6], Emeline Lambert[1], Janine Brettschneider[7], Michael Reuter[7], Jan Kadlec[7], Ramesh Pillai[7,8], Akira Yamashita[2,9], Masayuki Yamamoto[2,9], André Verdel[1]

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Appendix Table 1. List of RNAs enriched in Mmi1 RNA-IPs.

RNAs enriched at least 2 fold in both RNA-IPs (IP1 and IP2). Newly identified RNAs are in bold. The variations of RNA levels in *mmi1*Δ cells relative to wild-type cells are as follow: (+), at least 2 fold accumulation, (=), less than 2 fold accumulation or reduction.

Name	Fold Enrichment			variation in *mmi1*Δ	Up-regulated in meiosis	Number of motifs	Density (Motifs/ Kb)	Known target
	IP1	IP2	Average					
ssm4	5,7	12,8	**9,2**	+ (1, 2)	Yes	13	6,46	Yes
mug45	5,2	13,2	**9,2**	+ (1, 2)	Yes	>15	7,03	Yes
nam1/ SPNCRNA.1459	8	9,6	**8,8**	+ (2)	NA	9	6,04	No
mcp7	4,9	12,1	**8,5**	= (1, 2)	Yes	10	6,42	No
rec8	4,3	11,9	**8,1**	+ (1, 2)	Yes	>15	7,62	Yes
mug8	4,7	9,1	**6,9**	+ (1, 2)	Yes	14	5,61	Yes
rec25	3,3	9,5	**6,4**	+ (2)	Yes	6	3,45	No
mei4	4,6	8	**6,3**	+ (1, 2)	Yes	11	5,09	Yes
mug9	5,2	5,8	**5,5**	+ (1, 2)	Yes	8	11,71	Yes
rec11	2,2	8,2	**5,2**	+ (1, 2)	Yes	>15	4,15	No
mcp5	3,5	6,2	**4,9**	+ (1, 2)	Yes	>15	5,77	Yes
mug4	3,1	6,2	**4,7**	+ (1, 2)	Yes	11	3,47	Yes
mug1	2	7,2	**4,6**	+ (1, 2)	Yes	10	6,05	Yes
rep1	4,1	4,6	**4,3**	+ (1, 2)	Yes	12	5,6	Yes
mug10	4,6	3,6	**4,1**	+ (1, 2)	Yes	7	5,2	Yes
spo5	2,3	5,6	**4,01**	+ (1, 2)	Yes	14	6,7	Yes
nam2/ SPNCRNA.1366	2,4	5,4	**3,9**	NA	NA	11	4,74	No
crs1	3,2	4,2	**3,7**	+ (1, 2)	Yes	8	7,38	Yes
nam3/ SPNCRNA.1696	2,3	4,4	**3,3**	+ (2)	NA	4	2,28	No
SPBC1652.01	2,2	3,8	**3,03**	+ (1, 2)	Yes	4	1,65	No
arp1	2,4	3,4	**2,9**	+ (1, 2)	Yes	14	7,46	No
meu43	2,4	2,9	**2,6**	+ (1, 2)	Yes	8	5,68	Yes
SPAC5D6.01	2,2	3,1	**2,6**	+ (2) *	No	2	2,45	No
meu26	2,9	2,3	**2,6**	+ (1, 2)	Yes	7	5,64	No
tht2	2,8	2,3	**2,6**	+ (1, 2)	Yes	11	3,9	No
mug11	2,3	2,6	**2,4**	+ (1)	Yes	6	4,88	Yes
SPSNRNA.04	2,5	2	**2,3**	+ (1)	NA	2	2,5	No

* Only the 3'UTR of the gene is upregulated

(1) Hiriart et al. 2012

(2) Kilchert et al. 2015

Appendix Table 2. List of high confidence targets of Mmi1 predicted by the computational approach.
The listed RNAs have all Minimal Window Size (MWS) from 2 to 8 motifs that are smaller than the corresponding Cut-off Window Size (CWS). See the Methods section for more information.

Name	Number of motifs	RNA variation in *mmi1*Δ	Up-regulated in meiosis	Known target
meiRNA/nam4	8	+	Yes	Yes
spo5	14	+	Yes	Yes
rec8	>15	+	Yes	Yes
mcp3	>15	+	Yes	No
arp1	14	+	Yes	Yes
mei4	11	+	Yes	Yes
rec27	9	+	Yes	No
rep1	12	+	Yes	Yes
mug8	14	+	Yes	Yes
mug9	8	+	Yes	Yes
mcp5	>15	+	Yes	Yes
tht2	11	+	Yes	Yes
mug4	11	+	Yes	Yes
mcp7	10	=	Yes	Yes
nam3	11	+	NA	Yes
chs1	12	+	Yes	No
mug45	>15	+	Yes	Yes
nam1	9	+	NA	Yes
vps13b	>15	=	No	No
nam5	9	=	NA	No
nam6	9	=	NA	No
pst3	>15	NA	NA	No

Appendix Table 3. Data collection and refinement statistics for the structure of Mmi1 YTH domain.

	Mmi1 native	**Mmi1 SeMet**	
		absorption peak	**inflection point**
Data collection			
Space group	$P2_1$	$P2_1$	$P2_1$
Cell dimensions			
a, *b*, *c* (Å)	57.0, 58.3, 94.1	56.9 58.4 94.1	56.8 58.4 94.1
α β γ (°)	90, 106.6, 90	90, 106.4, 90	90, 106.4, 90
Resolution (Å)	100-1.45 (1.51-1.45)[a]	100-1.7 (1.8-1.7)	100-1.8 (1.9-1.8)
R_{merge}	8.8 (58.1)	12.3 (51.2)	11.1 (47.1)
I / σI	10.7 (2.6)	7.5 (2.1)	9.3 (2.5)
Completeness (%)	98.1 (96.9)	98.6 (98.3)	98.4 (97.8)
Redundancy	4.7 (4.7)	3.4 (3.3)	3.5 (3.5)
Refinement			
Resolution (Å)	45-1.45		
No. reflections	97841		
R_{work} / R_{free}	17.6/20.6		
B-factor	13		
R.m.s. deviations			
Bond lengths (Å)	0.006		
Bond angles (°)	1.12		

[a] Values in parentheses are for highest resolution shell.

Appendix Table 4. List of *S. pombe* strains used in this study

Name	Genotype	Figures	Source
SPV8	*h+ leu1-32 ori1 ade6 M216 ura4-D18 imr1R::ura4+*	1, 3, 4, 5, EV5	Lab Stock
SPV41	*h-*	2, EV3, EV4	Lab Stock
SPV42	*h+*	2, EV3, EV4	Lab Stock
SPV49	*h90 ura4-D18*	2, 3, EV3, EV4	Lab Stock
SPV546	*h+ leu1-32 ori1 ade 6-216 kanMx6-p3nmt1-TAP::mmi1*	5	Lab Stock
SPV885	*h+ leu1-32 ori1 ade6 M216 ura4-D18 imr1R::ura4+ dcr1Δ:: hph*	4, EV5	Lab Stock
SPV915	*h+ leu1-32 ade6-M210 ura4-DS/E Otr::ura4 rrp6Δ ::kanMx6*	3, 4, EV5	D. Moazed
SPV954	*h+ leu1-32 ori1 ade6-M216 kanMx6-p3nmt1-TAP::mmi1 clr4Δ:: hph*	5	Lab Stock
SPV1307	*h- hphR::mei4*	EV4	Lab Stock
SPV1600	*h90 leu1-32 ade6-M216 ura4 :: fbp1-lacZ*	EV4	F. Bachand
JS94	*h90 ade6-M210 leu1 ura4-D18 mmi1::kanR mei4::ura4+*	EV3	M. Yamamoto
	h90 ade6-M210 leu1 ura4-D18 mmi1::kanR mei4::ura4+ pREP41	EV3	M. Yamamoto
	h90 ade6-M210 leu1 ura4-D18 mmi1::kanR mei4::ura4+ pREP41-3HA-byr2	EV3	M. Yamamoto
JV869	*h- mmi1-ts3<<kanr mei4::ura4+ ade6 leu1*	4, EV5	M. Yamamoto
SPV1733	*h+ leu1-32 ori1 ade6 M216 ura4-D18 imr1R::ura4+ clr4Δ::nat*	4, EV5	Lab Stock
SPV1785	*h+ leu1-32 ori1 ade6 M216 ura4-D18 imr1R::ura4+ mei4DSR-GFP-hph*	EV3	Lab Stock
SPV1817	*h+ leu1-32 ori1 ade6 M216 ura4-D18 imr1R::ura4+ mei4DSR-GFP-hph mmi1Δ::nat*	EV3	Lab Stock
SPV1928	*h90 leu1-32 ade6-M216 ura4::fbp1-lacZ rrp6Δ::hph*	EV4	Lab Stock
SPV2353	*h+ leu1-32 ade6-M210 ura4-DS/E Otr::ura4 dcr1Δ:: nat rrp6Δ::hph*	4, EV5	Lab Stock
SPV2532	*h- mei4Δ:: hph mmi1Δ::nat*	3, EV3, EV4	This study
SPV2704	*h- mmi1-ts3<<kanr mei4::ura4+ ade6 leu1 clr4Δ::hph*	4, EV5	This study
SPV2786	*h- mmi1-ts3<<kanr mei4::ura4+ ade6 leu1 dcr1Δ::hph*	4, EV5	This study
SPV2890	*h+ leu1-32 ori1 ade6 M216 ura4-D18 imr1R::ura4+ NatR-p3nmt1::mmi1*	Fig EV5	This study
SPV2908	*h+ leu1-32 ura4D18 ou D/SE ade6-M210 cdc25-22 ts*	5	P. Bernard
SPV3010	*h+ leu1-32 ura4D18 ou D/SE ade6-M210 cdc25-22 ts mei4Δ:: hph*	5	This study
SPV3084	*h+ leu1-32 ura4D18 ou D/SE ade6-M210 cdc25-22 ts mei4Δ:: hph mmi1Δ::nat*	5	This study
SPV3556	*h- ade6-210 leu1-32 ura4-DS/E tRNAPhe-otr1 (dh) Bgl2::ura4 oriI mei4Δ:: hph mmi1Δ::nat*	EV5	This study
SPV3697	*h- rrp6::13myc-kanMx6*	4, EV4, EV5	Lab Stock
SPV3705	*h- mei4Δ:: hph mmi1Δ::nat rrp6::13myckanMx6*	4	This study
SPV3761	*h+ ura4-D18 imr::ura4+ cid14Δ::nat rrp6::13myc-hph*	EV5	This study
SPV4001	*h90 leu1-32 ura4-D18 nam1-1*	2, 3, EV3, EV4	This study
SPV4065	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81*	1, EV2, EV5	This study
SPV4068	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1 WT*	1, EV2, EV5	This study
SPV4071	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1N359D*	1	This study
SPV4074	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1H365D*	1	This study
SPV4077	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1W372A*	1	This study
SPV4080	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1K375D*	1	This study
SPV4083	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1Q398A*	1	This study
SPV4086	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1W421A*	1	This study
SPV4089	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1H426D*	1	This study
SPV4092	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1R459D*	1	This study
SPV4101	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1W372D*	1	This study
SPV4305	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-YTHΔ*	1, EV2, EV5	This study
SPV4394	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1R351E*	1, EV2, EV5	This study
SPV4396	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat + pJRXL81-mmi1R381E*	1, EV2, EV5	This study
SPV4458	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat nmt81-mmi1FL::ars1*	2, EV3	This study
SPV4467	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat nmt81-mmi1R351E::ars1*	2, EV3	This study
SPV4470	*h+ leu1-32 ori1 ade6-M216 ura4-D18 imr1R::ura4+ mei4Δ(nt828-1554)::GFP-hph mmi1Δ::nat nmt81-mmi1R381E::ars1*	2, EV3	This study
SPV4480	*h90 ura4-D18 3xFlag-byr2*	2	This study
SPV4598	*h90 ura4-D18 nam1-1 3xFlag-byr2*	2	This study
SPV4601	*h90 ura4-D18 nam1-Ttef*	3	This study
SPV4604	*h90 ura4-D18 nam1-1-Ttef*	3	This study
SPV4635	*h- ura4-D18 mei4Δ::hph mmi1Δ::nat nam1-Ttef*	EV4	This study
SPV4782	*h90 leu1-32 ade6-M216 ura4 :: fbp1-lacZ + pREP1*	EV4	This study
SPV4783	*h90 leu1-32 ade6-M216 ura4 :: fbp1-lacZ + pREP1-nam1L*	EV4	This study
SPV4786	*h90 leu1-32 ade6-M216 ura4 :: fbp1-lacZ + pREP1-nam1-1L*	EV4	This study
SPV4771	*h90 leu1-32 ura4-D18 nam1-1 + pJRXU41*	2	This study
SPV4774	*h90 leu1-32 ura4-D18 nam1-1 + pJRXU41-3HA-byr2*	2	This study
SPV5071	*h- ade6-210 leu1-32 ura4-DS/E tRNAPhe-otr1 (dh) Bgl2::ura4 oriI mei4Δ:: hph mmi1Δ::nat clr4Δ::kan*	EV5	This study
SPV5095	*h- ade6-210 leu1-32 ura4-DS/E tRNAPhe-otr1 (dh) Bgl2::ura4 oriI clr4Δ::kan*	EV5	This study
SPV5098	*h- ade6-210 leu1-32 ura4-DS/E tRNAPhe-otr1 (dh) Bgl2::ura4 oriI mei4Δ:: hph*	EV5	This study

Appendix Table 5. List of primers used in this study

Name	Forward Primer	Revers Primer
qPCR primers		
ssm4	TGCAAGAGGAAACTCAAAGG	TTCCTCCTCCACTTGTTTTGA
tub1	GTACTGGCCCATACCGTGAT	CGAATGGAAGACGAGAAAGC
spo5	TTATGGCGTGCTCGTGAATA	TTCGACTCCAATGGCACATA
rec8	GTTGAAGTTGGACGGGATGT	TTCTACCCTACTCGGCATCG
nam1	TCGGCAATTCAACCATAACA	TGGCTTCATTCCTTCCTTTG
nam2	TCCTGTTTCTTTGGCTTGCT	GCAATGCGAACGGTAATTTT
nam3	GCCGATTGGATTGTAGTCTTT	GGCTCAAGGGACAGTGATTC
nam5	GACGATAAGCAGGAGTTGCGC	GGACACAGCATGGGTATGGAC
nam6	GACGATAAGCAGGAGTTGCGC	CGGACATAGTATGGATATGGAC
nam5,6,7	TGGCTATGATTGGAAGGTTG	ACATTTCCCAAGGACTGCTG
mei4	AAAAGCGACCTTCAAGCAAA	TTGCATCGTTTGAGACTTCG
dg	GGATACCGAGACGCAGGATA	TGGCTTGTTGTACGTTGTTCA
ChIPs figure 3F, EV3E, EV4K and L		
nam1 region1	ACCGAGGCTCAAGTTAAGGA	CATCAACCAAACGACCCTCA
nam1 region2	ACGTTGGGTTGGAGGTTTTG	AGGGAGCGCTTATCAACCAT
nam1 region3	TGGCTTCATTCCTTCCTTTG	TCGGCAATTCAACCATAACA
nam1 region4	GTTGAATTGCCGACCGTATC	CAATCACGACGGATCGTACA
nam1 region5	CAGTACTTTACGTTCGTACC	CATATACGAGTTCCACAAGGAGT
byr2 region6	TTTGGCAGCTTCATTTTGGT	TCCATAAATGCAGGAAAGTGG
ChIPs figure 3B, EV4B, C and D		
nam1 region1	ACGTTGGGTTGGAGGTTTTG	AGGGAGCGCTTATCAACCAT
nam1 region2	GTTGAATTGCCGACCGTATC	CAATCACGACGGATCGTACA
byr2 region3	TTTGGCAGCTTCATTTTGGT	TCCATAAATGCAGGAAAGTGG
byr2 region4	TCATCTTCACCGGAACGCG	AGCGGACACTTCGTTTCTG
byr2 region5	TTCCGAATTGGTTTGTCCTC	ATGGATTTTTGAAGCGATGG
byr2 region6	CGGATTGCTTACAATGTATGG	CGATATCCCAAAGTCCGAAAT
byr2 region7	GCCCTTCTTTTCAAGGCTCT	GAAAATGGCCTGCATTTGAT
ChIP Figure EV5 G		
dh region 1	TCTCGGTTTTTCCCTTGACA	CTCAATCCGTGGACGTATCA
dh region 2	ATGCCCATGTTCATTCCACT	CAGCAGTCCTTGGGAAATGT
dh region 3	TCACAGTCGTTCTCCAGTAATCA	TGAACTTTGTCGAAAAAGTCAATC
dh region 4	CCACCAGACCATTACAAGCA	CTCGCCTATTTACCGATCCA
dh region 5	CGATCGATTTCTCTTGGTTTTC	TCGCGAACATCAGCATTACT
RT primers		
nam1 RT1	GTTAAATGATTTAGGTGTCGTCC	
nam1 RT2	CTGGTTTAAGGTACGAACG	
nam5,6,7	TTCGTTTGCGCAACTCCTGCT	
nam7-L RT1	GCCTTTAAATGACCGCACTAA	
nam7-L RT2	TGCTTGGGCTTAGTCCTTGT	
nam7-L RT3	ATGCCCATGTTCATTCCACT	
nam5	GCATTGGAAGATCACAATTGT	
nam6	GGATATGGACACAAGCAAC	
nam7	GCCTTTAAATGACCGCACTAA	
Solexa primers		
5’ adaptor BC3	CGGGAGCAAGCAGAAGACGGCATACGA	
5’ adaptor BC4	CGGTGCCAAGCAGAAGACGGCATACGA	
SOLOLIGO5 RT	ACAAGCAGAAGACGGCATACGANNNNNN	