Table S1. **Vectors, Northern probes, and qPCR primers used in this study**

Vector	Template/source	Primer For and Rev (5'→3') // restriction enzyme site
pcDNA3-Flag	Imai et al., 2001[a]	
pcDNA3-Flag-Msi1	Imai et al., 2001[a]	
pcDNA3-Flag-Msi2	Imai et al., 2001[a]	
pcDNA3-Flag-Msi1 NLSmutB [b]	pcDNA3-Flag-Msi1	GATGGTCACTgcGACGgcGgcGATCTTCGTG / CACGAAGATCgcCgcCGTCgcAGTGACCATC //
pcDNA3-Flag-Msi1 NLSmutAB [b]	pcDNA3-Flag-Msi1NLSmutB	GACCCCCTGACCgcAgcATCCgcGGGTCTCGGC / GCCCGAgACCCgcGGATgcTgcGGTCAGGGGGTC //
p3xFlag-GST	Kawahara et al., 2008[c]	
pcDNA3-Flag-Lin28		tctagaATGGGCTCGGTGTCCAACCAGCAGTTTGCAGG / gaattcTCAATTCTGGGCTTCTGGGAGCAGGGCAGG // *XbaI-EcoRI*
pcDNA3-Flag-mPasha		tctagaATGGAGACATATGAGAGTCCCTCTCCTCTCC / gaattcTCATACATCGACTGTGCACAAGGGCTCAC // *XbaI-EcoRI*
pcDNA3-mDrosha-Flag[d]		ATGCCCCCACGGCCAGACTTTGTCCCTTACCCTCCC / GGATCCCAAAGTGAACGATAATCGGGAAAGTGATCAC // GGATCCGCCCCGCACAGTTGAGTTATGCAGGAGAC / CTTCTTGATGTCTTCAGCCTCCTCCGGCTC //
pEBG-Msi1	Kawahara et al., 2008[c]	
pGEX6-P	GE Healthcare	
pGEX6P-hnRNP K	Provided by Dr. Yano[e]	
pGEX-6P-Flag-Msi1	pcDNA3-Flag-Msi1	
pGEX-6P-myc-Msi2	Provided by Dr. Shibata[f]	
pGEX6P-Lin28	pcDNA3-Flag-Lin28	
pGEX6P-mKpna1 (α-5)	Fig. 5A	ATGTCCACACCAGGAAAAGAGAACTTTCGCCTG / TCAAAGCTGGAAACCTTCCATAGGAGCTTCAC//
pGEX6P-mKpna4 (α-3)	Fig. 5A	ATGGCGGACAACGAGAAATTGGACAACCAACGG/ CTAAAACTGGAACCCCTCTGTTGGTACATTGG //
pGEX6P-mKpna2 (α-1)	Fig. 5A	ATGTCCACGAACGAGAATGCTAACTTACCAGC / TTAGAAGTTAAAGGTCCCAGGAGCTCCATCCT //
	Kaneko	
3xFLAG hZCCHC11 (hTUT4)	Provided by Prof. Yoshimura[f]	
pT7-pri-miR98		CCAAAGCCTACATAATATTTTAAAAGCACTGAAGAG / GCAAGTCATTTAACATTATTTGCCTCACTCTATC //
pT7-pri-let-7b		CACTTCCCCCTCCCCCACCCCGCCCTGTGCCCTATG / CATCCTTTATTTATACCCAGGTCCCACGTCATAGC//
U6 snRNA	Fig. 2C	CACGAATTTGCGTGTCATCCTT
mmu-miR-98 (39209-00)	miRCURY LNA™ Detection probe	AACAATACAACTTACTACCTCA
mmu-let-7b (39001-00)	miRCURY LNA™ Detection probe	AACCACACAACCTACTACCTCA

[a] Imai, T., A. Tokunaga, T. Yoshida, M. Hashimoto, K. Mikoshiba, G. Weinmaster, M. Nakafuku, and H. Okano. 2001. *Mol Cell Biol.* 21:3888-3900.

[b] Site-Directed Mutagenesis was performed as the previous study (Sunabori et al., *J. Cell Sci.* 121: 1204-12):it was based on "QuikChange Site-Directed Mutagenesis Kit" (Stratagene) and used *KOD+* (TOYOBO) and *DpnI* (NEB).

[c] Kawahara, H., T. Imai, M. Tuzimoto, K. Matsumoto, and H. Okano. 2008 *J. Cell Biology* 22:139-153.

[d] Cloning of mDrosha was amplified two-fragments and legated.

[e] Yano, M., H.J. Okano, and H. Okano. 2005. *J Biol Chem.* 280:12690-12699.

[f] Dr. Shibata kindky gift

Table S2. **Buffers used in this study**

Buffer	Composition	Use
TEV cleavage (TC)[a]	10 mM Tris-HCl (pH 8.0), 150 mM NaCl, 0.1% NP-40, 0.5 mM EDTA ,and 1 mM DTT	Fig. 1B, 1C, 2A, 2B, 2D, 4B, 5A 5B, and S1B
Buffer A[b]	10mM HEPES at pH 7.9, 10mM KCl, 1mM DTT and 0.1mM EDTA, and Complete Protease Inhibitor Cocktail-EDTA	Fig. 1A, 4E, and S1A
Buffer D[b]	20mM Tris-HCl at pH 8.0, 100mM KCl, 0.2mM EDTA and Protease Inhibitor cocktail EDTA-complete	Fig. 1A, 4E, and S1A
Hybridization solution[a]	0.2 M Phosphate Buffer pH7.2, 7% SDS, and 1mM EDTA	Fig. 2A, 2D
Lysis buffer[c]	20 mM Tris-HCl (pH 8.0), 100 mM KCl, and 0.2 mM EDTA	Fig. 3A to 3C
RNA elution buffer[c]	0.3 M sodium acetate, pH 5.5 and 2% SDS	Fig. 3A to 3C

[a]Kawahara, H., T. Imai, M. Tuzimoto, K, Matsumoto, and H. Okano. 2008 *J. Cell Biology* 22, 139-153.
[b]Heo, I., Joo, C., Cho, J., Ha, M., Han, J., and Kim, V.N. 2008. *Mol. Cell* 32, 276-284.
[c]Lee, Y., and Kim, V.N.. 2007. *Methods Enzymol* 427, 89-106.

Table S3. **Antibodies used in this study**

Antibody	Animal species	Identity/source
Msi1 (14H1)	Rat monoclonal antibody 14H1	Kaneko et al., 2000[a]
Lin28	Goat polyclonal antibody	R&D Systems, Inc.
Hu-R	Mouse monoclonal antibody 3A2	Santa Cruz Biotechnology, Inc.
Msi2	Rabbit polyclonal antibody	Sakakibara et al., 2001[b]
Nanog	Rabbit polyclonal antibody	ReproCELL Inc.
β-tubulin	Mouse monoclonal antibody SDL3D10	Sigma-Aldrich
α-tubulin	Mouse monoclonal antibody DM-1A	Sigma-Aldrich
β-Actin	Mouse monoclonal antibody AC-15	Sigma-Aldrich
Flag	Mouse monoclonal antibody M2	Sigma-Aldrich
GST	Rabbit polyclonal antibody (G7781)	Sigma-Aldrich

[a]Kaneko, Y., S. Sakakibara, T. Imai, A. Suzuki, Y. Nakamura, K. Sawamoto, Y. Ogawa, Y. Toyama, T. Miyata, and H. Okano. 2000. *Dev Neurosci.* 22:139-153.
[b]Sakakibara, S., Nakamura, Y., Satoh, H., and Okano, H. 2001 *J Neurosci* 21, 8091-8107.