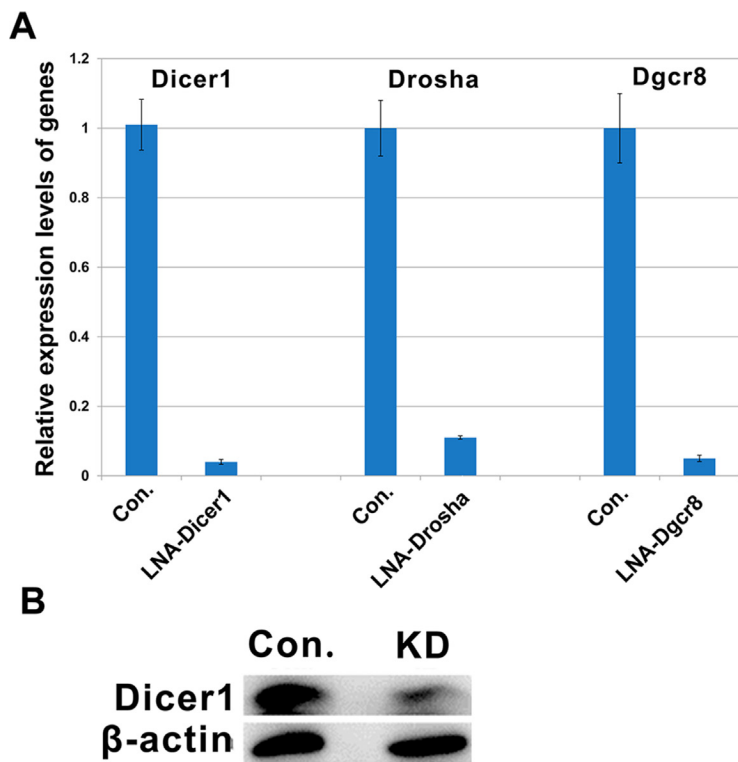
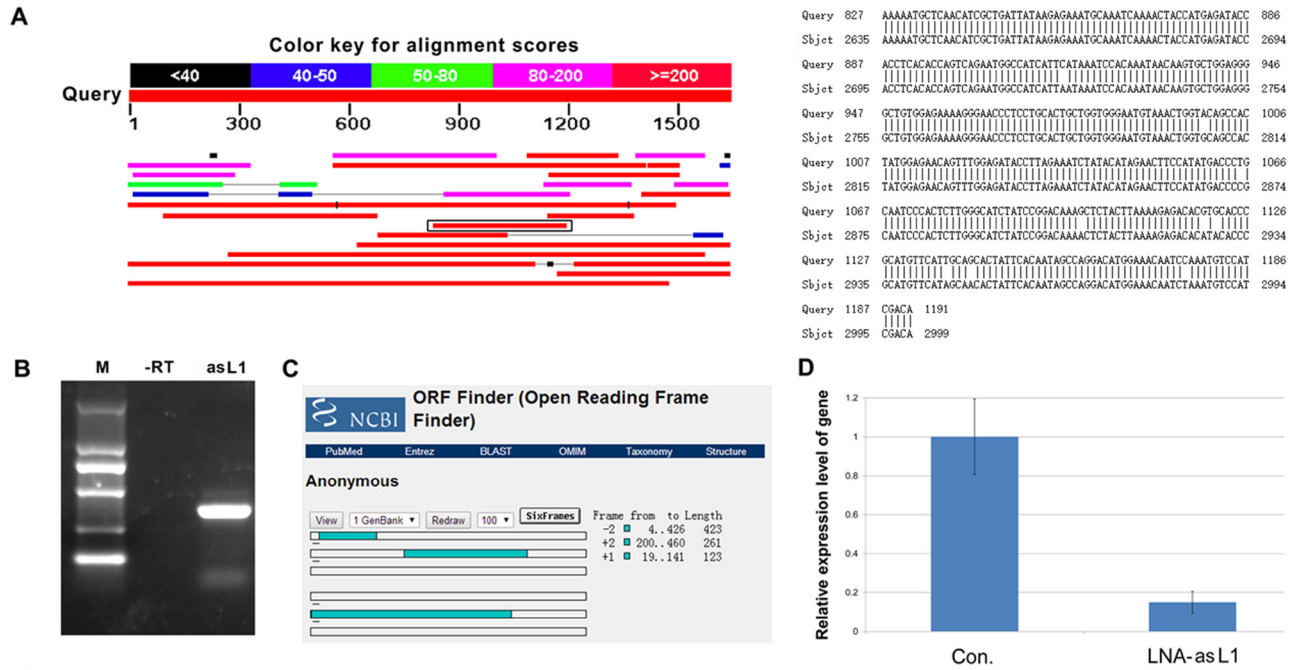


Identification and characterization of L1-specific endo-siRNAs essential for early embryonic development in pig

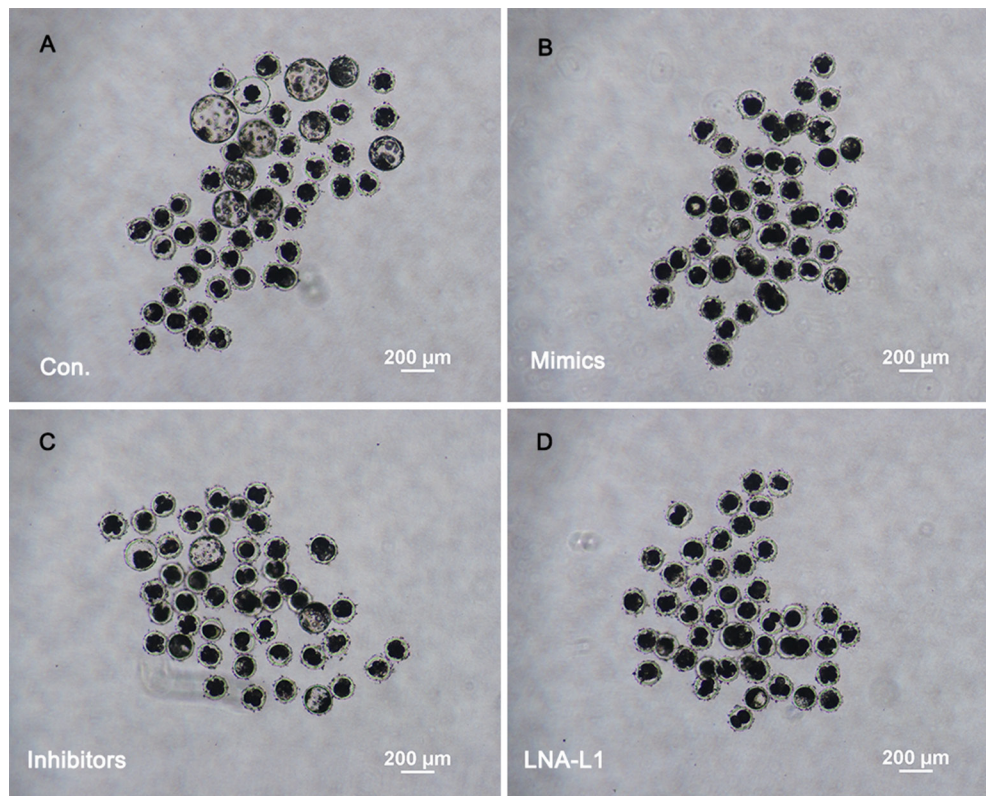
Supplementary Materials



Supplementary Figure 1: Effective knockdown of Dicer1, Drosha, Dgcr8 by LNA-siRNAs. (A) Effective knockdown of Dicer1, Drosha, Dgcr8 mRNA checked by Q-PCR. Error bars represent s.d. ($n = 3$); (B) Effective knockdown of Dicer1 protein checked by Western blot.



Supplementary Figure 2: Characterization of asL1. (A) Align ORF2 and 3' UTR sequences of L1 with upstream sequences of L1 using BLAST. The homologous sequence marked with black frame on chromosome 2 was further studied; (B) RT-PCR detects the expression of asL1. -RT, no reverse transcriptase; (C) Analysis of asL1 ORFs by ORF Finder; (D) Effective knockdown of asL1 by LNA-asL1. Error bars represent s.d. ($n = 3$).



Supplementary Figure 3: Effect of L1-specific endo-siRNAs on *in vitro* development of porcine IVF embryos. (A) The embryos derived from uninjected oocytes (control); (B) The embryos derived from oocytes injected with L1-siRNAs mimics; (C) The embryos derived from oocytes injected with L1-siRNAs inhibitors; (D) The embryos derived from oocytes injected with LNA-L1.

Supplementary Table 1: Lists of piRNAs detected in porcine sperms, oocytes, and zygotes. See Supplementary_Table_1

Supplementary Table 2: Lists of miRNAs detected in porcine sperms, oocytes, and zygotes. See Supplementary_Table_2

Supplementary Table 3: Lists of endo-siRNAs detected in porcine sperms, oocytes, and zygotes. See Supplementary_Table_3

Supplementary Table 4: The primer list

Gene	Primer sequence (5'-3')	Length (bp)	Accession number
18s rRNA	F: TCCAATGGATCCTCGCGGAA R: GGCTACCACATCCAAGGAAG	149	NR002170
Dicer1	F: ACAAGATCCAGAGCTGGCTTA R: CACAATGCTCGTGGCAATCA	172	NM_001197194.1
Drosha	F: GCCATCCCATGCTAGAACCT R: CACTTCCGTGCCCTCCTTAC	270	XM_013984710.1
Dgcr8	F: TCTATGAACTGACCAGCAAGGC R: CCCAACTCGCTTATTCTTACACC	194	NM_001206919.1
L1 ORF1	F: GTGGGATTGCGGGGTCATATG R: GTGCTGGAGGGGCTGTGGAG	140	EF599954.1
L1 ORF2	F: CAGCAAAGTGGCAGGATATAAGATTAAC R: AATCCACAAATAACAAGTGCTGGAGG	106	EF599954.1
asL1	F: GGACATTTAGATTGTTTCCATGTCC R: TGCTCAACATCGCTGATTATAAGAG	140	-