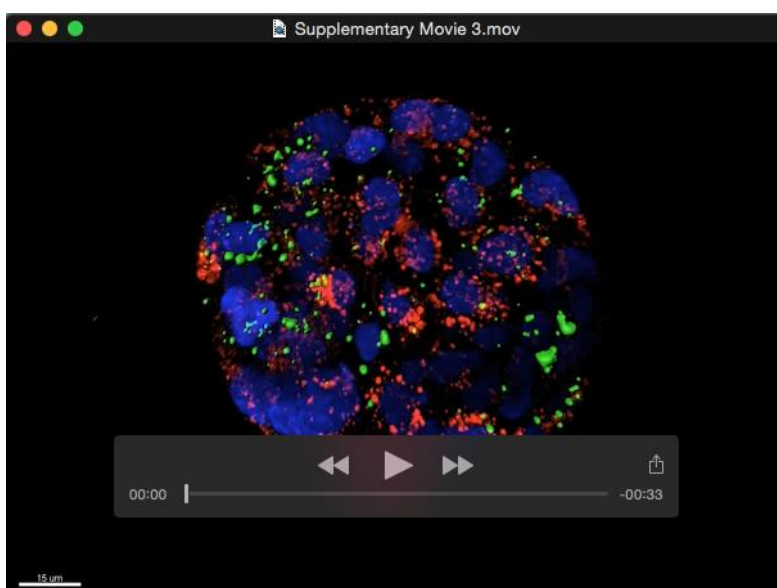


**Supplementary Movie 2.** Live animation showing a hatching mouse blastocyst treated with 400 nM Alexa488-scramble miRNA for 72 h (green).



**Supplementary Movie 3.** Live animation showing a hatched blastocyst cultured with hEEC exosomes labeled with Vybrant DiO for 24 h (green).

**Supplementary Table 1.** Endometrial fluid sample parameters and primers for transcriptomic qPCR validation. (a) Endometrial fluid sample characteristics. (b) Primers used for validation in murine embryos of select transcripts identified through the transcriptomic analysis of human EF.

a

Menstrual cycle stage	Mean day of cycle $\pm$ SD	Mean age $\pm$ SD	%miRNA $\pm$ SD
Early proliferative (EP)	6.75 $\pm$ 1.25	37.25 $\pm$ 3.30	60.5% $\pm$ 12.87%
Late proliferative (LP)	12.5 $\pm$ 1.73	37 $\pm$ 5.77	48.75% $\pm$ 7.41%
Early secretory (ES)	16.25 $\pm$ 1.50	38.75 $\pm$ 3.09	40.5% $\pm$ 2.65%
Window of implantation (WOI)	20.75 $\pm$ 1.70	36 $\pm$ 3.60	64% $\pm$ 19.5%
Late secretory (LS)	31.5 $\pm$ 4.20	40 $\pm$ 3.82	45.25% $\pm$ 12.65

b

Gene		Sequence	Length, bp	Tm, °C	%GC	Self-complementarity
Cdh5	Forward	ATGGCAGGCCCTAACTTTCC	20	60.03	55.00	5.00
	Reverse	GTGCGAAAACACAGGCCAAT	20	59.97	50.00	4.00
Itgb3	Forward	GGGTACCAAGTTGGCCTCTC	20	60.04	60.00	7.00
	Reverse	ATCTCGATTACGGGACACGC	20	59.97	55.00	4.00
Gapdh	Forward	AACTCGGCCCCCAACT	18	61.18	61.11	4.00
	Reverse	CCTAGGCCCTCCTGTTATTATG	23	59.74	52.17	6.00

**Supplementary Table 2.** Data from expression arrays. Comparison between embryos treated with hsa-miR-30d inhibitor and control.

[Click here to Download Table S2](#)

**Supplementary Table 3.** Data from expression arrays. Comparison between embryos treated with hsa-miR-30d inhibitor and scramble.

[Click here to Download Table S3](#)

**Supplementary Table 4.** Data from expression arrays. Comparison between embryos treated with hsa-miR-30d and control.

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**Supplementary Table 5.** Data from expression arrays. Comparison between embryos treated with hsa-miR-30d and hsa-miR-30d inhibitor.

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**Supplementary Table 6.** Data from expression arrays. Comparison between embryos treated with hsa-miR-30d and scramble.

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**Supplementary Table 7.** Data from expression arrays. Comparison between embryos treated with scramble and control.

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**Supplementary Table 8.** Predicted targets of hsa-miR-30d in human and mouse.

[Click here to Download Table S8](#)

**Supplementary Table 9.** Predicted GO terms of the hsa-miR-30d targets in human and mouse.

[Click here to Download Table S9](#)

**Supplementary Table 10.** Predicted GO terms of the hsa-miR-30d targets in human and mouse that are implicated in embryonic processes.

[Click here to Download Table S10](#)