

**Supplementary table 1.** Cleavage rate and developmental stages of NMR embryos in different IVEC media

Medium	No. of zygotes in culture	cleavage rate 48hpi	Embryo stage at the end of IVEC (168hpi)			
			not cleaved	2 blastomers	4-15 blastomers	Degenerated
<i>KSOM</i>	165	58 (42.03%)	12 (7.27%)	21 (12.73%)	26 (15.76%)	108 (65.45%)
<i>mSOF</i>	44	17 (50.00%)	6 (13.64%)	15 (34.09%)	4 (9.09%)	19 (41.18%)
<i>mR1ECM</i>	22	3 (15.79%)	2 (9.09%)	1 (4.55%)	2 (9.09%)	17 (77.27%)
<i>HECM1</i>	30	10 (41.67%)	0 (0.00%)	2 (6.67%)	1 (3.33%)	27 (90.00%)
<i>M16</i>	11	4 (36.36%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	11 (100.00%)

Cleavage rate = yield of cleaved embryos on total number of vital zygotes in culture after 48 h post insemination

**Supplementary video 1.** 3D visualization of NMR blastocyst on day 9 of IVEC acquired via confocal microscopy. Nuclei are stained with Hoechst 33258.