**Table S1** Morphometric analysis of the 1PN and 2PN ICSI zygotes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1PN group | | | 2PN group | | *P*-value*a* | *P*-value*b* | *P*-value*c* |
| Total | Arrested | Blastocyst | Total | Blastocyst |
| N | 149 | 106 | 43 | 195 | 131 |  |  |  |
| PN diameter (µm) | 26.74 ± 2.91*a* | 26.42 ± 2.64*b* | 27.51 ± 3.42*b.c* | 24.09 ± 1.54*a* | 24.04 ± 1.56*c* | 0.000 | 0.036 | 0.000 |
| PN area (µm2) | 571.84 ± 106.38*a* | 556.74 ± 93.02*b* | 609.07 ± 127.48*b.c* | 478.43 ± 54.34*a* | 476.56 ± 54.17*c* | 0.000 | 0.015 | 0.000 |

*a*1PN vs. 2PN total groups. *b*Arrested 1PN vs. 1PN blastocyst groups. *c*1PN blastocyst vs. 2PN blastocyst groups. All values are presented as the mean ± standard deviation (SD).

**Table S2** Results of the kinetic analysis of 1PN and 2PN ICSI zygotes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1PN group | | | 2PN group | | *P-*value*a* | *P-*value*b* | *P-*value*c* |
| Total | Arrested | Blastocysts | Total | Blastocysts |
| t2PB (hpi) | 3.95 (1.46–12.70) | 3.86 (1.46–10.60) | 4.25 (1.76–12.70) | 3.70 (1.93–8.60) | 3.75 (1.93–8.60) | 0.091 | 0.517 | 0.091 |
| tPNa (hpi) | 8.79*a* (3.45–26.06) | 8.87 (3.45–26.06) | 8.65*c* (4.92–20.21) | 7.80*a* (3.90–14.00) | 7.70*c* (5.40–12.90) | 0.000 | 0.338 | 0.011 |
| tPNf (hpi) | 22.90*a* (16.65–65.74) | 23.27*b* (16.65–65.74) | 22.00*b.c* (17.29–29.47) | 24.10*a* (18.10–61.30) | 23.40*c* (18.10–31.20) | 0.008 | 0.016 | 0.003 |
| t2 (hpi) | 27.36 (19.20–66.29) | 27.61*b* (19.20–66.29) | 26.50*b* (19.80–45.97) | 26.92 (20.15–66.40) | 26.10 (20.15–44.80) | 0.123 | 0.008 | 0.928 |
| t3 (hpi) | 37.61 (21.70–84.60) | 38.47 (22.91–84.60) | 36.83 (21.70–47.47) | 37.10 (24.82–66.40) | 37.09 (25.50–45.67) | 0.168 | 0.052 | 0.591 |
| t4 (hpi) | 41.42*a* (26.49–112.90) | 43.57*b* (27.05–112.90) | 39.67*b* (26.49–60.48) | 39.51*a* (25.50–66.40) | 38.42 (25.50–53.23) | 0.004 | 0.019 | 0.282 |
| t5 (hpi) | 48.42 (27.05–75.46) | 49.76*b* (27.05–75.46) | 46.86*b* (35.16–70.94) | 49.61 (29.86–71.57) | 49.59 (31.28–68.80) | 0.992 | 0.040 | 0.114 |
| t6 (hpi) | 53.04 (32.00–108.55) | 54.24 (32.00–108.55) | 51.37 (36.70–74.08) | 52.04 (36.37–101.66) | 51.75 (36.37–72.92) | 0.492 | 0.126 | 0.798 |
| t7 (hpi) | 57.38 (36.70–108.55) | 60.29*b* (43.75–108.55) | 55.18*b* (36.70–81.43) | 55.63 (39.56–93.34) | 54.10 (39.56–89.72) | 0.091 | 0.021 | 0.677 |
| t8 (hpi) | 61.92 (42.70–95.80) | 63.35 (43.75–95.80) | 61.25 (42.70–84.43) | 57.95 (43.53–137.59) | 57.05 (43.53–110.68) | 0.193 | 0.057 | 0.566 |
| t9 (hpi) | 68.78 (45.99–105.26) | 73.00 (45.99–105.23) | 68.48 (47.98–105.26) | 67.40 (54.60–84.30) | 67.50 (58.50–75.90) | 0.385 | 0.276 | 0.957 |
| tSC (hpi) | 96.50*a* (63.60–129.10) | 100.78*b* (81.00–129.10) | 94.43*b.c* (63.60–111.11) | 84.80*a* (50.70–114.20) | 84.40*c* (50.70–114.20) | 0.000 | 0.006 | 0.000 |
| tM (hpi) | 118.40*a* (88.83–150.40) | 125.05*b* (103.60–150.4) | 114.30*b.c* (88.83–138.29) | 100.35*a* (81.70–139.40) | 99.60*c* (81.70–139.40) | 0.000 | 0.003 | 0.000 |
| tSB (hpi) | 116.57*a* (89.58–140.47) |  | 116.57*c* (89.58–140.47) | 101.40*a* (82.40–141.90) | 101.40*c* (82.40–141.90) | 0.000 |  | 0.000 |
| tB (hpi) | 128.10*a* (96.59–145.03) |  | 128.10*c* (96.59–145.03) | 110.80*a* (85.40–155.60) | 110.80*c* (85.40–155.60) | 0.000 |  | 0.000 |
| tEB (hpi) | 122.40*a* (98.34–139.00) |  | 122.40*c* (98.34–139.00) | 111.40*a* (86.40–157.40) | 111.40*c* (86.40–157.40) | 0.000 |  | 0.000 |
| tHB (hpi) | 135.60*a* (119.23–140.6) |  | 135.60*c* (119.23–140.6) | 116.75*a* (101.20–155.9) | 116.75*c* (101.20–155.9) | 0.002 |  | 0.002 |
| vPN (h) | 13.76*a* (5.25–50.74) | 14.34 (5.25–50.74) | 13.10*c* (7.00–20.40) | 16.20*a* (10.00–52.10) | 15.80*c* (10.00–24.00) | 0.000 | 0.081 | 0.000 |
| mtvPN (hpi) | 16.18 (10.33–40.37) | 16.38*b* (10.33–40.37) | 15.92*b* (11.29–24.84) | 16.00 (12.00–35.25) | 15.75 (12.00–20.50) | 0.831 | 0.021 | 0.311 |
| Syngamy (h) | 3.53*a* (0.34–34.05) | 3.75 (0.34–34.05) | 3.07*c* (2.23–16.50) | 2.72*a* (0.54–34.00) | 2.62*c* (0.54–13.60) | 0.000 | 0.148 | 0.000 |
| ECC1 (h) | 22.86 (15.48–57.57) | 23.67*b* (16.35–57.57) | 21.28*b* (15.48–33.27) | 23.04 (14.49–63.70) | 22.25 (14.49–41.80) | 0.502 | 0.001 | 0.217 |
| ECC2 (h) | 13.80*a* (0.00–85.34) | 13.97 (0.00–85.34) | 13.00 (4.00–29.06) | 12.50*a* (0.00–28.84) | 12.25 (0.00–27.35) | 0.003 | 0.346 | 0.094 |
| cc2 (h) | 11.26 (0.00–58.17) | 11.04 (0.00–58.17) | 11.34 (0.00–16.32) | 11.25 (0.00–15.51) | 11.26 (0.00–15.01) | 0.930 | 0.938 | 0.926 |
| ECC3 (h) | 22.04 (6.00–53.27) | 25.35*b* (11.34–53.27) | 19.42*b* (6.00–38.16) | 18.06 (11.01–104.22) | 17.14 (11.01–68.61) | 0.363 | 0.038 | 0.871 |
| cc3 (h) | 12.26 (0.00–30.78) | 12.76 (0.00–30.02) | 12.24 (0.71–30.78) | 12.88 (0.00–34.68) | 12.88 (0.00–29.35) | 0.201 | 0.351 | 0.085 |
| s2 (h) | 3.25*a* (0.00–69.80) | 4.01 (0.00–69.80) | 2.50*c* (0.00–28.03) | 1.00*a* (0.00–22.01) | 0.80*c* (0.00–16.01) | 0.000 | 0.149 | 0.003 |
| s3 (h) | 14.71*a* (1.00–42.29) | 16.83*b* (1.67–42.29) | 13.51*b* (1.00–30.75) | 8.60*a* (0.25–103.47) | 6.65 (0.25–51.20) | 0.003 | 0.020 | 0.076 |
| dcom (h) | 21.30*a* (3.50–51.80) | 21.19 (3.50–49.70) | 21.30*c* (7.70–51.80) | 15.60*a* (4.00–39.50) | 15.20*c* (4.00–39.50) | 0.000 | 0.628 | 0.001 |
| dB (h) | 10.56 (3.25–23.70) |  | 10.56 (3.25–23.70) | 10.20 (1.30–28.30) | 10.20 (1.30–28.30) | 0.615 |  | 0.615 |
| tBcol (h) |  |  | 132.70*c* (117.10–170.3) |  | 118.55*c* (108.50–160.6) |  |  | 0.008 |
| tBre-exp (h) |  |  | 135.45*c* (121.90–172.7) |  | 121.20*c* (111.80–164.1) |  |  | 0.013 |
| Ncol (mean±SD) |  |  | 2.00 ± 1.05*c* |  | 1.17 ± 0.51*c* |  |  | 0.001 |
| dcol (h) |  |  | 2.50 (1.30–5.30) |  | 2.50 (1.20–3.80) |  |  | 0.974 |

*a*1PN vs. 2PN total groups. *b*Arrested 1PN vs. 1PN blastocyst groups. *c*1PN blastocyst vs. 2PN blastocyst groups. All values are presented as the median and range (in parentheses).