

|                 | n  | geometric<br>mean<br>(before) | sd   | geometric<br>mean (after) | sd   | %       | sd     |
|-----------------|----|-------------------------------|------|---------------------------|------|---------|--------|
| Maternal<br>RBD | 32 | 2734.54                       | 1.19 | 17114.45                  | 1.14 | +625.86 | 118.53 |

**Supplementary Table S1:** Impact of booster dose on maternal antibodies: comparison between the antibody titer recorded during the follow-up checks before and after the booster.

**Supplementary Table 2: Mothers and babies demographics and clinical characteristics according COVID group.**

| Mothers                                     |                   |                    |        |
|---|-------------------|--------------------|--------|
|   | COVID<br>(N=34)   | No COVID<br>(N=64) | p      |
| <b>Age</b>                                  |                   |                    |        |
| Median [Q1, Q3]                             | 37.6 [35.1, 39.6] | 35.0 [32.6, 38.7]  | 0.029  |
| <b>Race</b>                                 |                   |                    | 0.094* |
| Caucasian                                   | 34 (100%)         | 59 (92.2%)         |        |
| Asian                                       | 0 (0%)            | 1 (1.6%)           |        |
| Hispanic                                    | 0 (0%)            | 2 (3.1%)           |        |
| North African                               | 0 (0%)            | 2 (3.1%)           |        |
| <b>Number of doses</b>                      |                   |                    | 0.101  |
| 1 Dose                                      | 5 (14.7%)         | 19 (29.7%)         |        |
| 2 Doses                                     | 29 (85.3%)        | 45 (70.3%)         |        |
| <b>GA at childbirth</b>                     |                   |                    |        |
| Median [Q1, Q3]                             | 274 [267, 282]    | 275 [269, 279]     | 0.714  |
| <b>2<sup>nd</sup> dose post-partum</b>      |                   |                    |        |
| N (%)                                       | 5 (14.7%)         | 18 (28.1%)         | 0.136  |
| <b>Type of delivery</b>                     |                   |                    | 0.900  |
| ED  | 26 (76.5%)        | 47 (73.4%)         |        |
| CS  | 7 (20.6%)         | 14 (21.9%)         |        |
| OVD   | 1 (2.9%)          | 3 (4.7%)           |        |
| <b>3<sup>rd</sup> dose after childbirth</b> |                   |                    | 0.050  |
| N (%)                                       | 24 (70.6%)        | 32 (50.0%)         |        |
| <b>Comorbidities</b>                        |                   |                    | 0.533  |
| N (%)                                       | 3 (8.8%)          | 10 (15.6%)         |        |
| <b>Maternal disease</b>                     |                   |                    | 0.031  |
| N (%)                                       | 1 (2.9%)          | 12 (18.8%)         |        |
| <b>Adverse Events to vaccination</b>        |                   |                    | 0.082  |
| N (%)                                       | 9 (26.5%)         | 8 (12.5%)          |        |
| Babies                                      |                   |                    |        |
|   | COVID<br>(N=36)   | No COVID<br>(N=67) | p      |
| <b>Sex [N, (%)]</b>                         |                   |                    | 0.480  |
| Female                                      | 13 (36.1%)        | 29 (43.3%)         |        |
| Male  | 23 (63.9%)        | 38 (56.7%)         |        |
| <b>Weight at birth (g)</b>                  |                   |                    |        |
| Median [Q1, Q3]                             | 3270 [2920, 3410] | 3000 [2710, 3360]  | 0.167  |
| <b>Length at birth (cm)</b>                 |                   |                    |        |
| Median [Q1, Q3]                             | 50.0 [48.0, 50.0] | 49.0 [47.0, 50.0]  | 0.117  |
| <b>Head circumference at birth (cm)</b>     |                   |                    |        |

|                               |                   |                   |       |
|-------------------------------|-------------------|-------------------|-------|
| Median [Q1, Q3]               | 34.3 [33.0, 35.0] | 34.0 [33.0, 34.5] | 0.119 |
| <b>APGAR 1'</b>               |                   |                   | 0.675 |
| 10                            | 9 (25.0%)         | 21 (31.3%)        |       |
| 9                             | 22 (61.1%)        | 36 (53.7%)        |       |
| 8                             | 4 (11.1%)         | 7 (10.4%)         |       |
| ≤7                            | 1 (2.8%)          | 3 (4.5%)          |       |
| <b>APGAR 5'</b>               |                   |                   | 0.495 |
| 10                            | 31 (86.1%)        | 54 (80.6%)        |       |
| 9                             | 4 (11.1%)         | 11 (16.4%)        |       |
| 8                             | 1 (2.8%)          | 2 (3.0%)          |       |
| <b>Feeding at T0 [N, (%)]</b> |                   |                   | 0.173 |
| Formula-fed                   | 4 (11.1%)         | 11 (16.4%)        |       |
| Mixed-fed                     | 6 (16.7%)         | 17 (25.4%)        |       |
| Breastfed                     | 25 (69.4%)        | 30 (44.8%)        |       |

GA = gestational age; ED: eutocic delivery; CS: Caesarean section; OVD: operative vaginal delivery.

\*Caucasian vs other.

|                   | Vaccination Trimester |          |           |           |            |                | p      |
|-------------------|-----------------------|----------|-----------|-----------|------------|----------------|--------|
|                   | 1st (n=11)            |          | 2nd (n=7) |           | 3rd (n=80) |                |        |
| Mother (mean, sd) | 942.82                | 1014.27  | 3207.43   | 2788.28   | 8289.94    | 9534.63        | <0.001 |
| (median, Q1-Q3)   | 807                   | 176-1176 | 3015      | 1287-3071 | 4461       | 1955.5-10923.5 |        |
| Child (mean, sd)  | 1273.91               | 1164.23  | 6229.14   | 4215.93   | 9853.58    | 11228.87       | 0.004  |
| (median, Q1-Q3)   | 997                   | 339-1810 | 4486      | 4314-6042 | 6103.5     | 2187-13563.5   |        |

**Supplementary Table 3:** Mean levels of mother and child antibodies at birth according to the trimester of maternal vaccination (last dose).  
*P* value for Kruskal-Wallis test.

|   | Birth   |      | 3 months |               | 6 months |               | 9 months |           |
|---|---------|------|----------|---------------|----------|---------------|----------|-----------|
|   | n=103   |      | n=79     |               | n=61     |               | n=46     |           |
| Anti-S IgG Child titer AU/ml<br>(mean, se)          | 3150.99 | 1.21 | 450.43   | 1.18          | 160.24   | 1.19          | 106.83   | 1.29      |
| Percentage Change from birth<br>AU/ml (mean, CI95%) |         |      | 85.7     | 82.8-<br>88.1 | 94.9     | 93.3-<br>96.1 | 96.6     | 94.3-98.0 |

Estimated means from tobit regression

**Supplementary Table 4:** Mean neonatal antibody titer at birth (T0), 3 months (T1), 6 months (T2) and 9 months (T3) of life.

|                              |                         | Birth<br>n <sub>tot</sub> =103 |       | 3 months<br>n <sub>tot</sub> =79 |           | 6 months<br>n <sub>tot</sub> =61 |           | 9 months<br>n <sub>tot</sub> =46 |           |
|------------------------------|-------------------------|--------------------------------|-------|----------------------------------|-----------|----------------------------------|-----------|----------------------------------|-----------|
|                              |                         | mean                           | se    | mean                             | se        | mean                             | se        | mean                             | se        |
| No Covid                     | n= n <sub>tot</sub> -34 | 2843.0                         | 1.3   | 363.4                            | 1.3       | 103.1                            | 1.3       | 29.1                             | 1.3       |
| Covid                        | n=34                    | 3802.7                         | 1.4   | 612.4                            | 1.2       | 263.5                            | 1.2       | 312.0                            | 1.3       |
| Percentage Change from Birth |                         |                                |       |                                  |           |                                  |           |                                  |           |
|                              |                         | mean                           | CI95% | mean                             | CI95%     | mean                             | CI95%     | mean                             | CI95%     |
| No Covid                     | n= n <sub>tot</sub> -34 |                                |       | 87.2                             | 85.3-88.9 | 96.4                             | 95.4-97.1 | 99.0                             | 98.4-99.4 |
| Covid                        | n=34                    |                                |       | 83.9                             | 76.9-88.8 | 93.1                             | 89.0-95.6 | 91.8                             | 84.2-95.8 |

*Estimated means from tobit regression*

**Supplementary Table 5:** Mean neonatal antibody titer at birth (T0), 3 months (T1), 6 months (T2) and 9 months (T3) of life in the Covid Group and No- Covid Group of children.

|                              | Birth<br>n=47 |        |       | 3 months<br>n=44 |       |           | 6 months<br>n=32 |       |           | 9 months<br>n=21 |      |           |
|------------------------------|---------------|--------|-------|------------------|-------|-----------|------------------|-------|-----------|------------------|------|-----------|
|                              | n             | mean   | se    | n                | mean  | se        | n                | mean  | se        | n                | mean | se        |
| Formula fed                  | 23            | 3275.3 | 1.6   | 22               | 416.2 | 1.5       | 17               | 89.5  | 1.6       | 10               | 24.8 | 1.6       |
| Mixed fed                    | 15            | 2741.0 | 1.7   | 14               | 356.6 | 1.7       | 10               | 94.4  | 1.7       | 8                | 21.9 | 1.7       |
| Breastfed                    | 9             | 3070.4 | 1.4   | 8                | 374.3 | 1.4       | 5                | 115.9 | 1.4       | 3                | 36.1 | 1.6       |
| Percentage Change from Birth |               |        |       |                  |       |           |                  |       |           |                  |      |           |
|                              | n             | mean   | CI95% | n                | mean  | CI95%     | n                | mean  | CI95%     | n                | mean | CI95%     |
| Formula fed                  |               |        |       | 22               | 87.3  | 83.5-90.2 | 17               | 97.3  | 95.8-98.2 | 10               | 99.2 | 99.1-99.4 |
| Mixed fed                    |               |        |       | 14               | 87.0  | 84.3-89.2 | 10               | 96.6  | 96.0-97.0 | 8                | 99.2 | 99.1-99.3 |
| Breastfed                    |               |        |       | 8                | 87.8  | 84.8-90.2 | 5                | 96.2  | 94.5-97.4 | 3                | 98.8 | 97.3-99.5 |

**Supplementary Table 6:** Mean neonatal antibody titer at birth (T0), 3 months (T1), 6 months (T2) and 9 months (T3) of life by feeding type.