1. Supplemental Digital Content

**Supplemental table 1.** Nutritional composition of the GMF and CMF

|                      | GMF   | CMF   |
|----------------------|-------|-------|
| **Energy (kcal)**    | 67.0  | 67.6  |
| **Protein (g)**      | 1.7   | 1.35  |
| **Carbohydrates (g)**| 7.2   | 7.6   |
| **GOS (mg)**          | 410   | ND (GOS+PDX) |
| **Fat (g)**           | 3.4   | 3.6   |
| **Linoleic acid (mg)**| 550   | 530   |
| **A-linolenic acid (mg)** | 41    | ND    |
| **Docosahexaenoic acid (mg)** | 10    | ND    |
| **Arachidonic acid (mg)** | 21    | ND    |
| **β-palmitate (g)**  | 0.54  | NA    |

NA: not added, ND: not declared
2. Supplemental digital content

**Supplemental table 2.** Mean and mean difference for weight, length, and head circumference throughout the 16-wk intervention period in the intention-to-treat study sample

| Visit | n   | LS mean | SE  | n   | LS mean | SE  | n   | LS mean | SE  | GMF vs. CMF | GMF vs. BF | CMF vs. BF |
|-------|-----|---------|-----|-----|---------|-----|-----|---------|-----|-------------|------------|------------|
| Weight (g) |     |         |     |     |         |     |     |         |     | MD 95% CI | MD 95% CI | MD 95% CI |
| 2     | 90  | 3904.6  | 25.4| 91  | 3835.3  | 27.4| 84  | 3860.0  | 38.1| 69.3 13.5, 125.0 | 76.2 -3.8, 156.2 | 28.4 -65.0, 121.8 |
| 3     | 83  | 4523.9  | 46.2| 84  | 4477.3  | 49.6| 83  | 4352.2  | 65.5| 46.6 -57.6, 150.8 | 198.4 59.0, 337.8 | 136.1 -18.1, 290.3 |
| 4     | 82  | 5486.6  | 65.1| 83  | 5368.8  | 70.0| 82  | 5142.0  | 92.9| 117.4 -29.6, 265.1 | 283.8 87.1, 480.5 | 212.6 10.7, 414.5 |
| 5     | 77  | 6322.3  | 79.6| 82  | 6114.5  | 80.5| 79  | 5851.1  | 113.4| 207.8 34.1, 381.5 | 497.1 247.0, 747.3 | 268.2 14.7, 521.6 |
| 6     | 74  | 7009.0  | 96.1| 79  | 6781.2  | 99.5| 76  | 6449.3  | 139.9| 227.8 16.6, 439.0 | 589.1 282.1, 896.1 | 334.8 35.2, 634.4 |
| Length (cm) |     |         |     |     |         |     |     |         |     | MD 95% CI | MD 95% CI | MD 95% CI |
| 2     | 90  | 52.8    | 0.1 | 90  | 52.8    | 0.2 | 83  | 52.7    | 0.3 | 0.1 -0.3, 0.4 | 0.2 -0.3, 0.7 | 0.1 -0.4, 0.6 |
| 3     | 83  | 54.8    | 0.2 | 84  | 54.9    | 0.2 | 83  | 54.9    | 0.3 | -0.1 -0.5, 0.4 | 0.1 -0.6, 0.8 | 0.1 -0.6, 0.8 |
| 4     | 82  | 58.1    | 0.2 | 83  | 58.0    | 0.2 | 82  | 57.7    | 0.3 | 0.2 -0.3, 0.7 | 0.4 -0.2, 1.1 | 0.5 -0.2, 1.2 |
| 5     | 77  | 61.3    | 0.3 | 82  | 61.0    | 0.3 | 79  | 60.7    | 0.3 | 0.3 -0.2, 0.9 | 0.5 -0.2, 1.3 | 0.0 -0.8, 0.7 |
| 6     | 74  | 63.8    | 0.2 | 79  | 63.7    | 0.3 | 76  | 63.2    | 0.4 | 0.1 -0.5, 0.6 | 0.8 -0.1, 1.6 | 0.2 -0.6, 1.0 |
| Head circumference (cm) |     |         |     |     |         |     |     |         |     | MD 95% CI | MD 95% CI | MD 95% CI |
| 2     | 90  | 36.3    | 0.1 | 90  | 36.3    | 0.1 | 84  | 36.4    | 0.1 | 0.0 -0.2, 0.2 | 0.0 -0.2, 0.3 | 0.0 -0.3, 0.3 |
| 3     | 83  | 37.5    | 0.1 | 84  | 37.5    | 0.1 | 83  | 37.5    | 0.2 | 0.0 -0.3, 0.3 | 0.3 0.0, 0.6 | 0.2 -0.2, 0.5 |
| 4     | 82  | 39.1    | 0.1 | 83  | 39.1    | 0.1 | 82  | 39.0    | 0.2 | 0.0 -0.3, 0.3 | 0.4 0.0, 0.7 | 0.2 -0.2, 0.5 |
| 5     | 77  | 40.6    | 0.2 | 81  | 40.5    | 0.2 | 79  | 40.2    | 0.2 | 0.1 -0.3, 0.4 | 0.5 0.0, 0.9 | 0.0 -0.5, 0.4 |
| 6     | 74  | 41.7    | 0.2 | 78  | 41.6    | 0.2 | 76  | 41.5    | 0.2 | 0.1 -0.3, 0.4 | 0.4 -0.1, 0.9 | 0.2 -0.3, 0.6 |

GMF, goat milk based infant formula; CMF, cow milk based infant formula; BF, breast-fed; LS, least squares; MD, mean difference; SE, standard error
*Adjusted for site, sex, and baseline value
†adjusted for site, sex, baseline value, maternal educational level, smoking during pregnancy, age at enrollment, and birth weight
### Supplemental table 3. Mean and SD of age- and sex-adjusted WHO z-scores for anthropometric measurements for all visits in the intention-to-treat sample (n=296).

| Visit | Group   | Weight (SD) | Length (SD) | Head circumference (SD) | Weight-for-length (SD) |
|-------|---------|-------------|-------------|-------------------------|------------------------|
|       | n       | Mean        | SD          | Mean                    | SD                     | Mean                    | SD          |
| 1 (t=0) | GMF     | 108         | -0.30 0.84  | -0.08 1.04*             | 0.03 0.98**            | -0.64 1.01              |
|        | CMF     | 102         | -0.14 0.86  | 0.16 1.07               | 0.35 0.87              | -0.69 0.97              |
|        | BF      | 86          | -0.12 0.82  | 0.37 1.10               | 0.48 1.02              | -1.00 1.15              |
| 2 (t=14)| GMF     | 108         | -0.21 0.74  | -0.19 0.97              | -0.01 0.88             | -0.27 1.09              |
|        | CMF     | 102         | -0.11 0.76  | -0.66 4.86              | -0.60 5.84             | -0.46 0.95              |
|        | BF      | 86          | -0.09 0.89  | -0.21 3.66              | 0.40 0.94              | -0.57 1.26              |
| 3 (t=28)| GMF     | 108         | -0.06 0.74* | -0.14 0.94              | 0.15 0.85              | 0.11 1.01               |
|        | CMF     | 102         | 0.00 0.80   | 0.13 0.97               | 0.30 0.76              | -0.17 1.03              |
|        | BF      | 86          | -0.13 0.94  | 0.33 1.06               | 0.40 1.04              | -0.61 1.31              |
| 4 (t=56)| GMF     | 108         | 0.02 0.80*  | 0.02 1.03               | 0.18 0.94              | 0.10 1.02*              |
|        | CMF     | 102         | -0.03 0.84  | 0.19 0.95               | 0.35 0.85              | -0.17 1.04              |
|        | BF      | 86          | -0.21 0.97  | 0.19 1.02               | 0.37 0.90              | -0.44 1.11              |
| 5 (t=84)| GMF     | 108         | 0.14 0.81*  | 0.21 0.98               | 0.28 0.90              | 0.05 0.99*              |
|        | CMF     | 102         | 0.03 0.85*  | 0.25 0.96               | -0.11 4.75             | -0.14 0.83              |
|        | BF      | 86          | -0.21 0.97  | 0.26 0.97               | 0.45 0.96              | -0.49 0.97              |
| 6 (t=112)| GMF    | 108        | 0.28 0.84*  | 0.35 0.85               | 0.39 0.99              | 0.12 0.97*              |
|        | CMF     | 102        | 0.12 0.88*  | 0.49 0.95               | 0.05 4.52              | -0.22 0.96              |
|        | BF      | 86         | -0.19 1.02  | 0.36 1.07               | 0.47 0.97              | -0.52 0.99              |

GMF, goat milk based infant formula, CMF, cow milk based infant formula, BF, breast-fed

*different from BF (p<0.05) obtained from linear mixed model for repeated measures adjusting for site, sex, birth weight, age at inclusion, maternal smoking habits during pregnancy and maternal educational level

†different from CMF (p<0.05) obtained from linear mixed model for repeated measures adjusting for site and sex.
4. Supplemental digital content

Supplemental table 4. Relative risk and 95% CI of tolerability symptoms over the 16-wk intervention period in 228 infants that completed the intervention.

| Symptom            | GMF (n=74) | CMF (n=79) | BF (n=75) | GMF vs. CMF | GMF vs. BF |
|--------------------|------------|------------|-----------|-------------|------------|
|                    | n  | %    | n  | %    | n  | %    | RR  | 95% CI | RR  | 95% CI |
| Bloody stools      | 0  | 0    | 0  | 0    | 0  | 0    | 1.00| -     | 1.00| -     |
| Reflux             | 73 | 98.7 | 78 | 98.7 | 75 | 100  | 1.00| 0.96-1.04 | 0.99 | 0.96-1.01 |
| Colic              | 70 | 94.6 | 76 | 96.2 | 74 | 98.7 | 0.98| 0.92-1.05 | 0.96 | 0.90-1.02 |
| Fussiness          | 71 | 96.0 | 77 | 97.5 | 75 | 100  | 0.98| 0.90-1.04 | 0.96 | 0.92-1.01 |
| Flatulence         | 71 | 96.0 | 77 | 97.5 | 74 | 98.7 | 0.98| 0.93-1.04 | 0.97 | 0.92-1.03 |

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