

# Effect of Synbiotic on the Gut Microbiota of Caesarean Delivered Infants: A Randomized, Double-blind, Multicenter Study

## CONCLUSION

Supplementation with scGOS/lcFOS and *Bifidobacterium breve* M-16V restores the delayed *Bifidobacterium* colonization in C-section-delivered infants, and modulates the production of acetate and the acidification of the gut.

These observed physiological conditions, described as indicator of gut health, resemble the ones observed in vaginally born infants.

## STUDY BACKGROUND

Caesarean birth has been associated with increased risk of immune and metabolic diseases later in life, likely due to the altered gut microbiota.

## STUDY OBJECTIVES

To investigate the effect of scGOS/lcFOS and *Bifidobacterium breve* M-16V on the gut microbiota of caesarean-born infants.

## STUDY DESIGN

A randomized, double-blind, controlled intervention study

153 term infants delivered by C-section were randomly assigned to one of three formula groups:

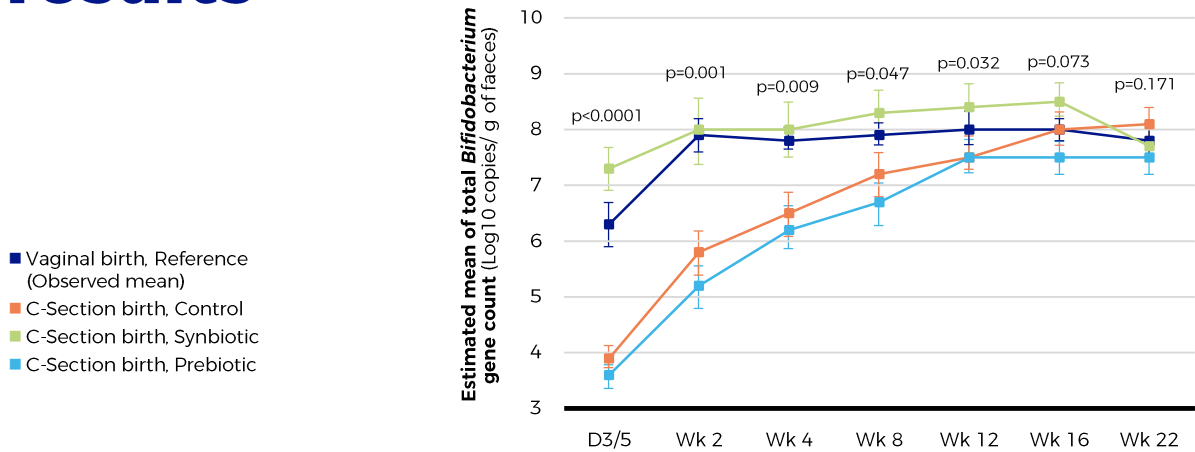
- 0 g scGOS/lcFOS [Control Group] (n=50)
- 0.8 g/ 100ml scGOS/lcFOS [Prebiotic Group] (n=51)
- 0.8 g/ 100ml scGOS/lcFOS and  $7.5 \times 10^8$  cfu/100 mL *B. breve* M-16V [Synbiotic Group](n=52)

from birth until week 16.

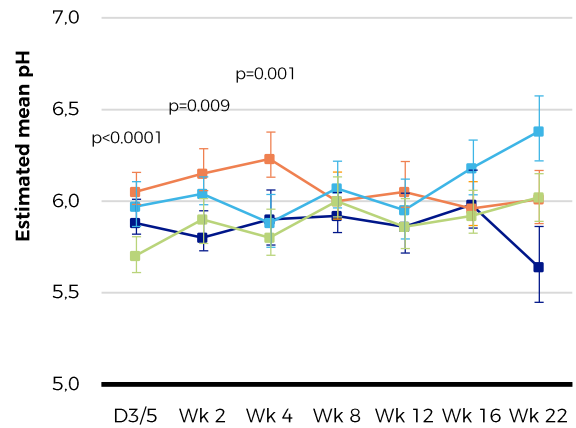
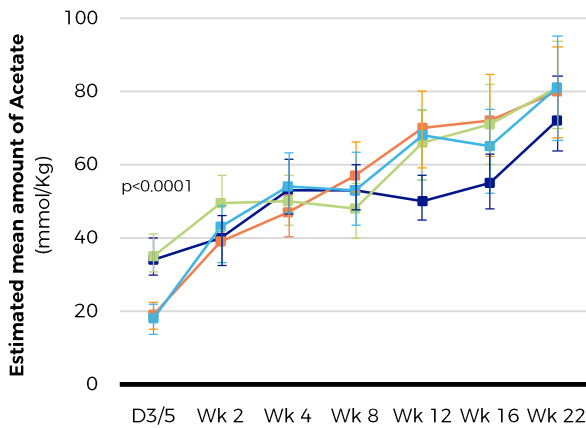
Non randomized, vaginally born infants [Reference Group] (n=30)

*All infants included were mixed-fed; indeed most subjects received the study product corresponding to their allocated group in addition to breast-feeding.*

# Key results



**C-section delivery is associated with delayed colonisation by bifidobacteria. Supplementation with synbiotics restored the delayed bifidobacteria in C-section born infants from the first days of life.**



synbiotics = scGOS/lcFOS and *B. breve* M-16V  
 P value: comparison between synbiotic and control group

**Synbiotic supplementation also resulted in a higher acetate and lower faecal pH. These observed physiological conditions, described as indicator of gut health, resemble the ones observed in vaginally born infants.**

## Reference

Chua MC, Ben-Amor K, Lay C, Neo A.G.E., Chiang WC, Rao R, Chew C, Chaithongwongwatthana S, Khemapech K, Knol J, and Chongsrisawat V. Effect of Synbiotic on the Gut Microbiota of Cesarean Delivered Infants: A Randomized, Double-Blind, Multicenter Study. *Journal of Pediatric Gastroenterology and Nutrition* 2017;65: 102-106.