

# DISCOVERY AND VALIDATION OF PREBIOTIC PROPERTIES OF ULTRA-FILTERED COW COLOSTRUM AND CHICKEN EGG YOLK\*

Technical White Paper

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## OBJECTIVE

The purpose of this study was to determine the oligosaccharide components in ultra-filtered cow colostrum and validate their use, along with chicken egg yolk, as a prebiotic ingredient.\*

## BACKGROUND

Prebiotics were discovered in the mid-1990s as nondigestible compounds that pass through the upper part of the gastrointestinal tract and colonize in the large bowel. While there, prebiotics stimulate the growth of beneficial bacteria.

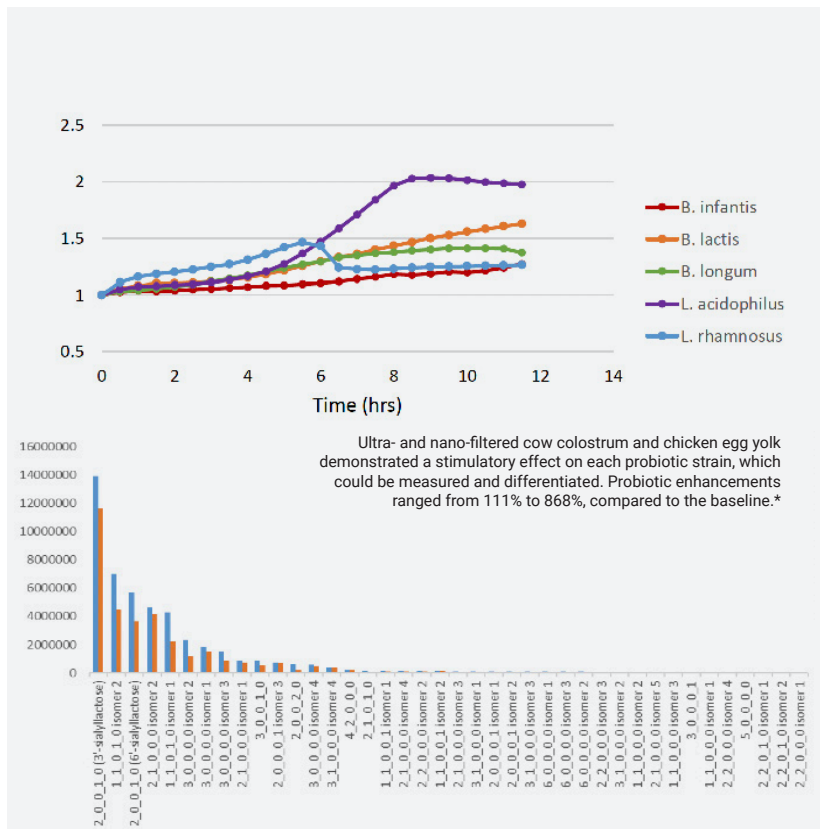
There are several types of prebiotics, including oligosaccharides, which are complex sugars that can be derived from cow colostrum and dairy products like milk.

The filtration processes used to concentrate 4Life Transfer Factor® molecules also have the ability to concentrate oligosaccharides, which makes them a potential rich source of prebiotics. Therefore, a study was initiated about prebiotics in ultra- and nano-filtered cow colostrum and chicken egg yolk.\*

## STUDY

Ultra-filtered cow colostrum oligosaccharides were isolated, purified, and analyzed.

Lactobacillus and Bifidobacterium strains were grown separately in MRS broth. Both organisms were incubated at 37 °C. Each culture then had cow colostrum and chicken egg yolk added. Growth readings were then taken regularly for up to 12 hours.



## RESULTS AND DISCUSSION

Nearly 40 oligosaccharides were identified in the ultra-filtered cow colostrum by matching raw mass spectrometric data to an in-house library containing components that were previously identified in cow milk.\*

## CONCLUSION

Nearly 40 different oligosaccharides were found in ultra-filtered cow colostrum. The cow colostrum and chicken egg yolk components in 4Life Transfer Factor demonstrated their versatility as prebiotic ingredients.\*