

Improved *in vitro* gas fermentation method to assess prebiotic potential of indigestible carbohydrates

Tran T.H.T.^{1,3}, Bindelle J.¹, Portetelle D.², Thewis A.¹, Boudry C.¹

¹ Animal Science Unit and ² Microbial Biology Unit, Gembloux Agro-Bio Tech, University of Liege, Belgium

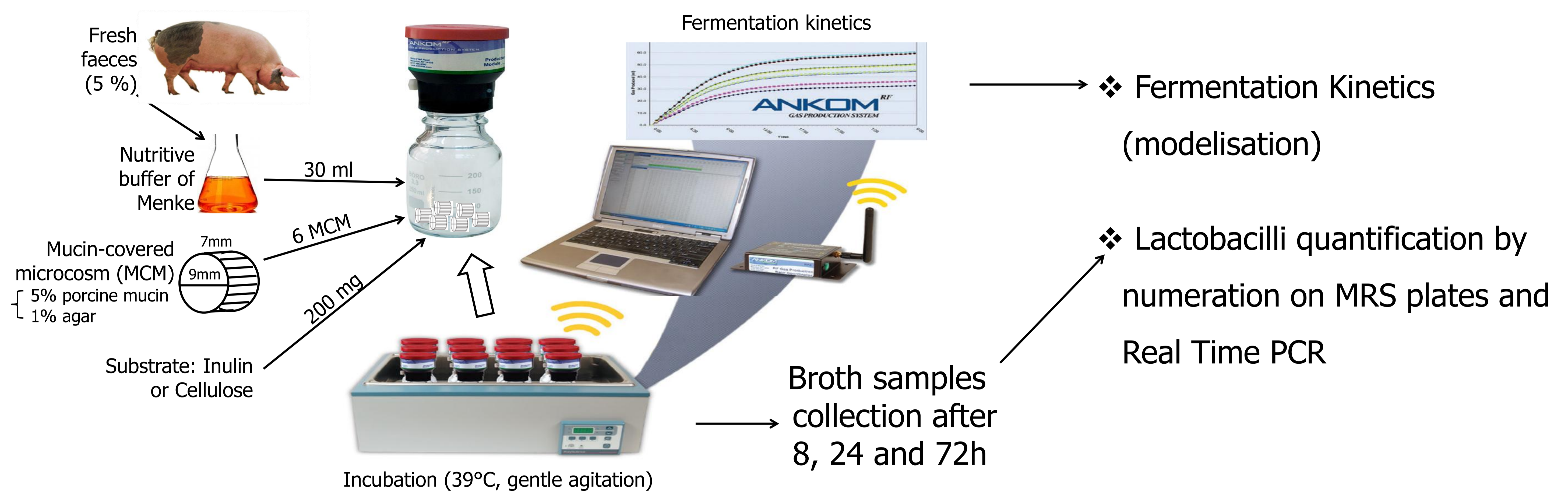
³ Wallonie-Bruxelles International, Brussels, Belgium

Introduction

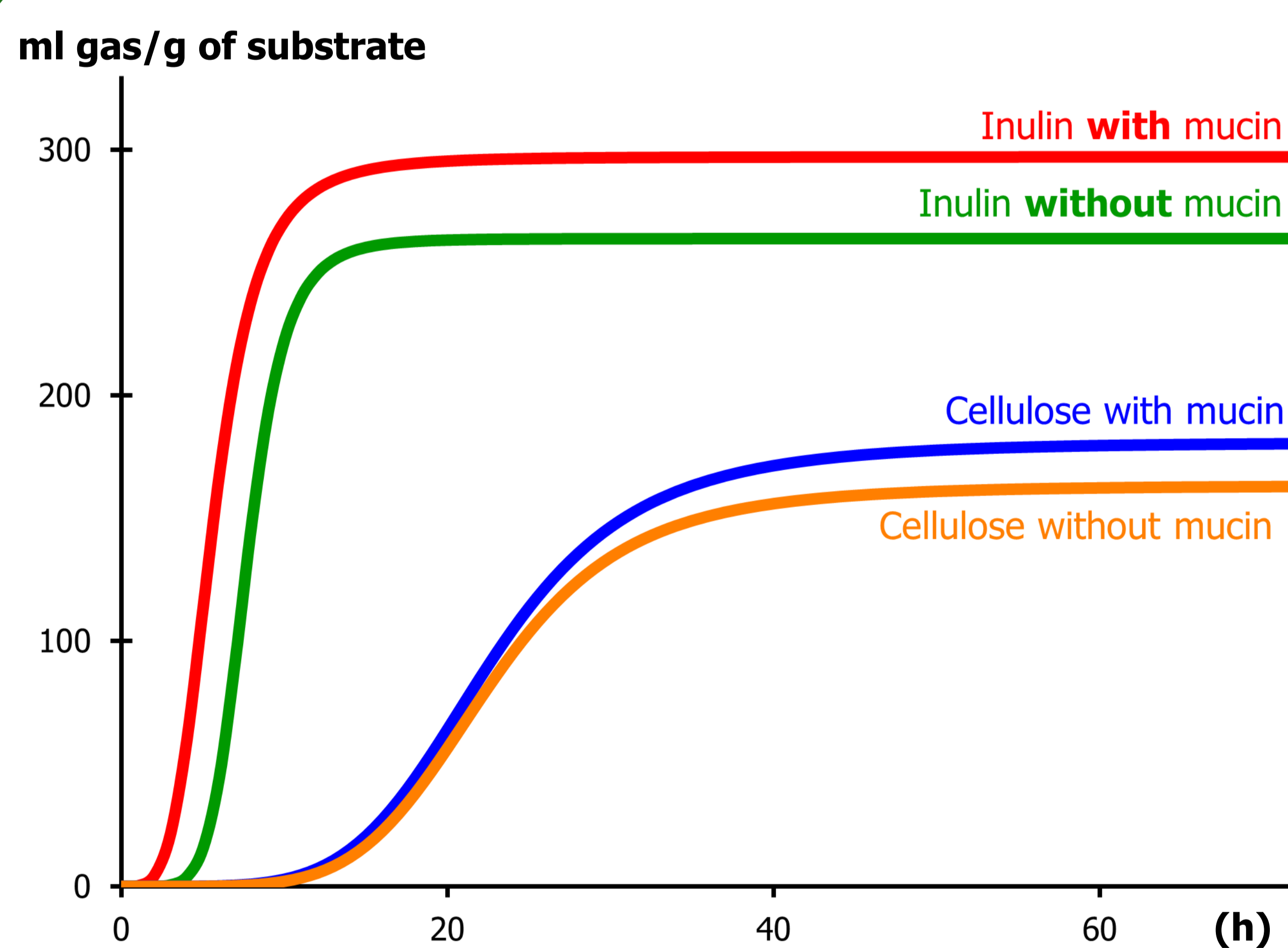
Prebiotic potential has been ascribed to indigestible carbohydrates increasing the beneficial intestinal microflora (i.e. *Lactobacillus*) by fermentation. However, the development of lactobacilli is low in the *in vitro* gas fermentation model.

Objective: Develop the lactobacilli during the fermentation by adding mucus in the model.

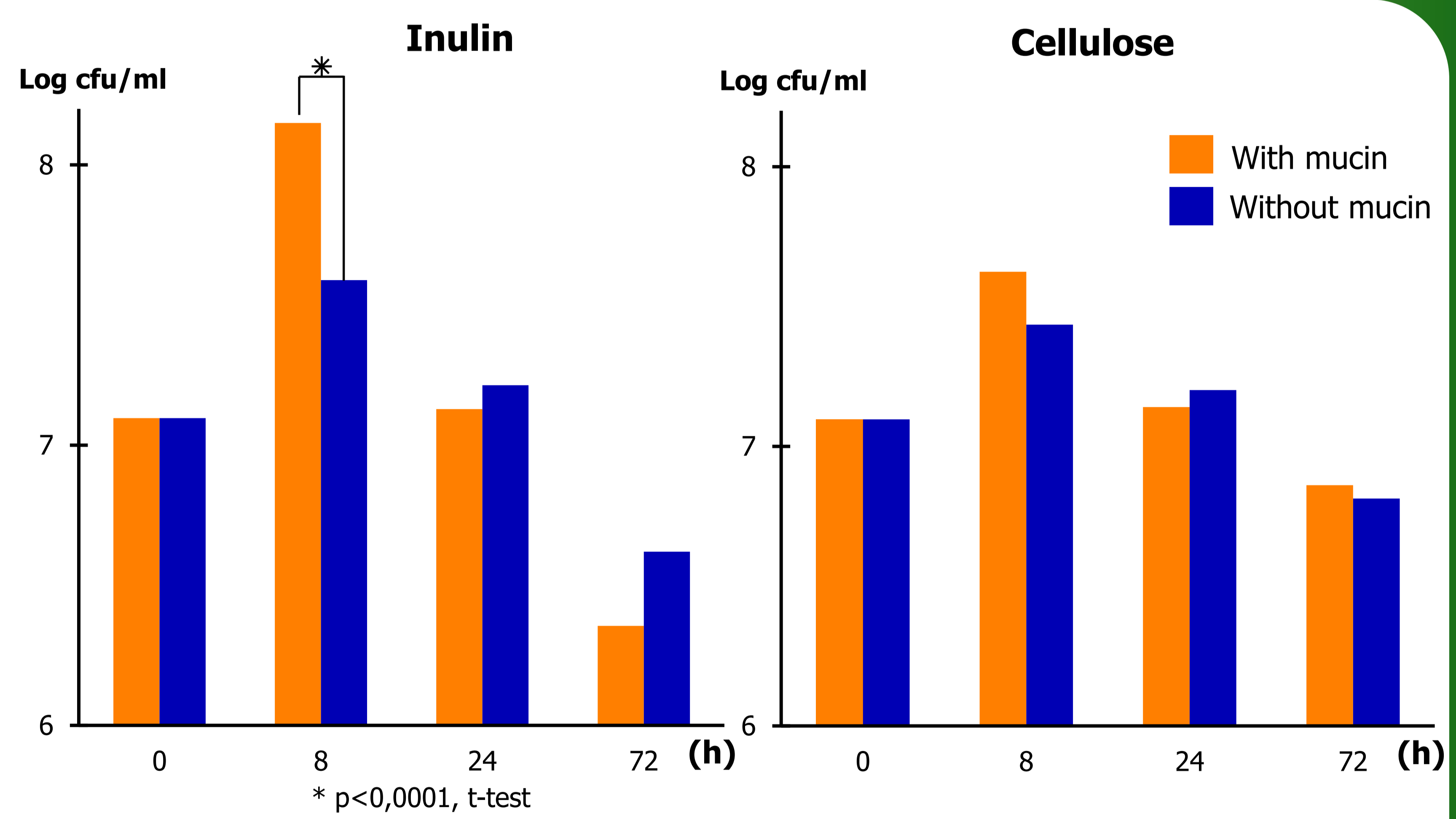
Materials and Methods



Results



- ❖ Effect of mucin on fermentation kinetics
- ↗ Volume of gas production
 - ↗ Fermentation rate



- ❖ Inulin: ↗ Lactobacilli population (substrate-dependent)

Conclusion

The addition of mucin-covered microcosms in the *in vitro* gas fermentation method will allow a better assessment of the prebiotic potential of indigestible carbohydrates.