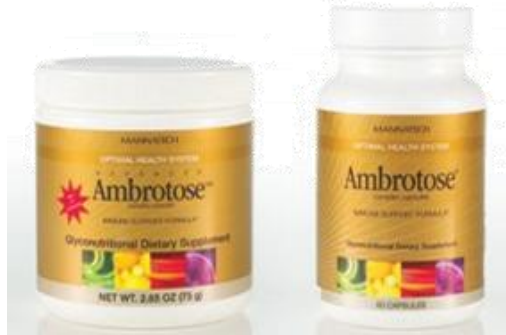


# PLANT-DERIVED DIETARY SUPPLEMENTS TO MANAGE THE HUMAN GASTROINTESTINAL MICROBIAL COMMUNITY

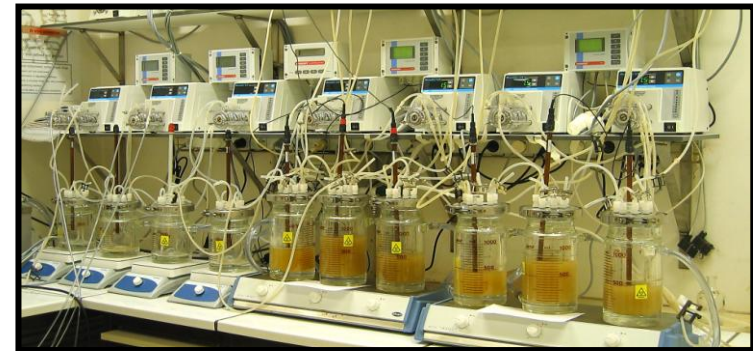
Marzorati M., Verhelst A., Luta G., Sinnott R., Verstraete W., Van de Wiele T., Possemiers S.



**Ambrotose® complex powder** (containing larch arabinogalactan, rice starch, *Aloe vera* gel extract, ghatti gum, glucosamine HCl, and tragacanth gum) and **Advanced Ambrotose® powder** (same composition but *Aloe vera* gel extract was substituted with *Aloe vera* gel powder and wakame algae extract was added).

## AIM

To investigate the effect on the **structure, composition and metabolism** of the resident microbial community in the different areas of the colon



## Mat&Met

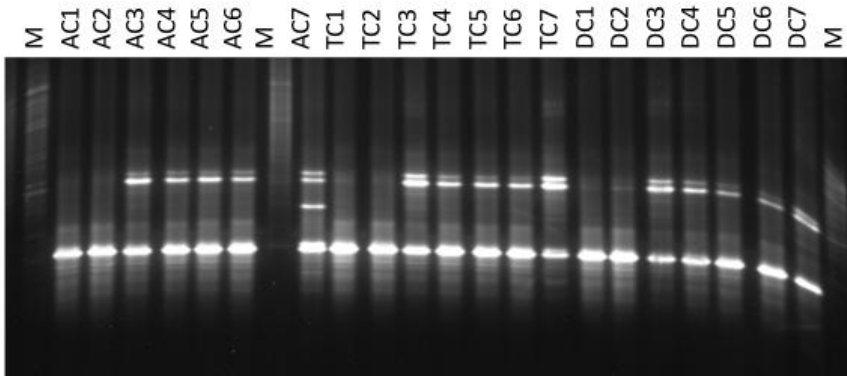
1. Microbial community: plate count, DGGE and qPCR on total bacteria, lactobacilli, bifidobacteria and bacteroides-prevotella group
2. Metabolism: SCFA and ammonium analyses and Size exclusion chromatography (SEC)

SEC	MW	%		MW	%
S1V1 Control	>200000	0.5	S2V1 Control	150000	8.7
	80000	11.9		<2000	65.8
	10000	8		<2000	25.5
	10000	79.7			
S1V1 Treatment	180000	44.8	S2V 1 Treatment	160000	1.6
	20000	36.2		10000	14.6
	<2000	6.2		<2000	54.1
	<2000	12.9		<2000	29.8
S1V2 Control	>200000	41.5	S2V2 Control	<2000	68.7
	<2000	38.7		<2000	31.3
	<2000	19.8			
S1V2 Treatment	<2000	65.4	S2V2 Treatment	160000	12.9
	<2000	34.6		20000	7.9
				<2000	55.8
				<2000	23.4
S1V3 Control	<2000	59.8	S2V3 Control	<2000	73.4
	<2000	40.2		<2000	26.6
S1V3 Treatment	<2000	64.8	S2V3 Treatment	<2000	70.1
	<2000	35.2		<2000	29.9

Lower concentration of mannose and glucose and a relative increase in fucose and galacturonic acid



Effect throughout the colon  
Good fermentation



Selective bifidogenic effect (*B. bifidum*)

- A strong bifidogenic effect **in all of the colon compartments**
- A significant increase in members belonging to bacteroidetes, a phylum recently involved in body weight control.

