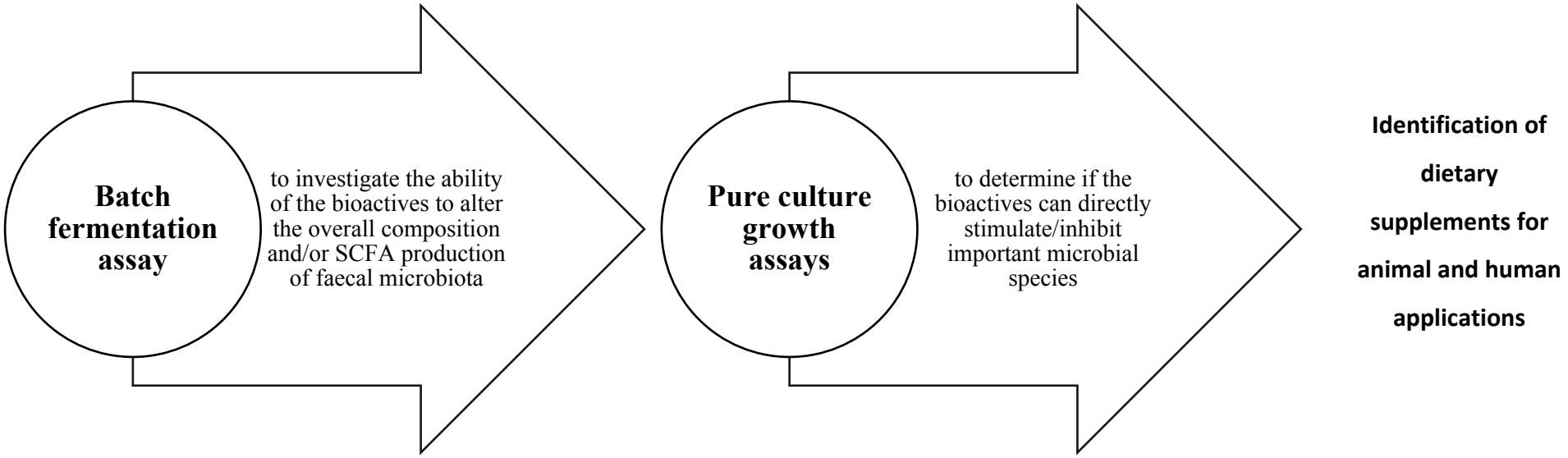

Figure S1. An outline of the experimental processes of this study.

Table S1. List of 16S rRNA regions incorporated into plasmids for the preparation of specific *Escherichia coli* clones used for the quantification of *Lactobacillus spp.*, total bacteria, *Enterobacteriaceae*, *Bifidobacterium spp.* and *Prevotella spp.*

Bacterial group	GenBank I.D. (for purposes of alignment)	Region aligned	Description	Primer Pairs	Tm (°C)	Amplicon length (bp)
Lactobacillus spp.	CP017124.1	367650-367990	Cloned Fragment and QPCR amplicon	F: AGCAGTAGGGAATCTTCCA R: CACCGCTACACATGGAG	54.5 55.2	341
Total Bacteria	CP033387.1	1195141-1195413	Cloned Fragment and QPCR amplicon	F: GTGCCAGCMGCCGCGGTAA R: GACTACCAGGGTATCTAAT	64.2 52.4	291
Enterobacteriaceae	CP041955.1	483389-483554	Clone Fragment and QPCR amplicon	F: ATGTTACAACCAAAGCGTACA R: TTACCYTGACGCTTAACTGC	54 56.3	185
Bifidobacterium spp.	CP016019.1	2328042-2328627	Cloned Fragment	F: GCAATATTCCCCACTGCTGC R: GGTGTGGTGGTGGTTTGAGA	59.3 59.3	586
		2328368-2328244	QPCR amplicon located within the cloned fragment	F: GCGTGCTTAACACATGCAAGTC R: CACCCGTTTCCAGGAGCTATT	60.3 59.8	125
Prevotella spp.	CP024730.1	246704-246191	Cloned Fragment and QPCR amplicon	F: CACRGTAAACGATGGATGCC R: GGTCGGGTTGCAGACC	58.3 56.9	514

bp, base pairs; Tm, melting temperature.

Table S2. Health-associated characteristics of the bacterial strains used in the pure culture growth assays.

Bacterial Strain	Beneficial properties		Disease	References
	Pig	Human		
Lactobacillus plantarum	Antimicrobial activity against enteropathogens Increase of other lactobacilli and butyrate-producing clostridia Reduction of *Enterobacteriaceae* and ETEC-induced diarrhea Inhibition of β-glycoronidase activity (carcinogenesis)	Adhesive properties Antibacterial activity against enteropathogens IL-10 upregulation Anti-tumour activity Hypocholesteromic activity Improved nutrient digestibility	N/A	63, 65, 68, 74, 87-89
Lactobacillus reuteri	Adhesive properties Antimicrobial activity against enteropathogens Increase of other lactobacilli Reduction of *Enterobacteriaceae* Inhibition of β-glycoronidase activity (carcinogenesis) Increased adaptation to starch fermentation	Adhesive properties Antimicrobial activity against enteropathogens Inhibition of EPEC adhesion Antiviral activity against Coxsackieviruses type A and Enterovirus 71	N/A	63, 66, 71, 73, 74, 87, 90-93

Bifidobacterium thermophilum	Strong anti-*Brachyspira* activity	Adhesive properties Inhibition of *Listeria monocytogenes* invasion in host cells *S.* Typhimurium inhibition and interference with virulence factors expression Enhanced epithelial integrity during *S.* Typhimurium infection Antiviral activity against Rotavirus and reduced disease severity and duration	N/A	[64, 66, 67, 70, 75, 94]
Enterotoxigenic *Escherichia coli* O149A+:K91:F4	N/A	N/A	Pig: significant mortality, postweaning diarrhoea Human: no reported disease in humans	[83, 95]
Salmonella Typhimurium PT12	N/A	N/A	Pig: enterocolitis, septicaemia Humans: gastroenteritis	[82, 96]

N/A, Not Applicable.