

S1 Table. List of primers and PCR conditions used in this study.

Target	Primer sequence (5'-3')	Amplicon size (nM)	Mg (mM)	Annealing (°C)	Detection (°C)	Amount of template DNA for qPCR	Standard/reference organism for qPCR	Coverage (%)*	Original reference
Bacteria (qPCR)	F: 5'-TCCTACCGGAGGGAGCATGGAT-3' R: 5'-GGACTACCAAGGGTATCTATCCGTGTT-3'	466	3	50	82	0.5	<i>B. longum</i>	83.1*	[1]
Bacteria (16S rRNA gene V3-V4 amplicon sequencing)	F: 5'-CCTACGGGNGGWGCAG-3' R: 5'-GACTACHVGGTAATCAATCC-3'	444	-	-	-	-	-	95.**	[2]
<i>Bacteroides-Prevotella-Porphyromonas</i>	F: 5'-GGTGCGCCGTTAAGGCCAT-3' R: 5'-CGGATGTAAGGGCGGTG-3'	140	3	68	80	0.5	<i>B. fragilis</i>	95.8	[3]
<i>Bifidobacterium</i> spp.	F: 5'-TCGGCTCYGGTGAAG-3' R: 5'-CCACATCCAGCRTTCCAC-3'	243	3	58	85	25	<i>B. longum</i>	93.9	[3]
<i>Clostridium coccoides-Eubacterium rectale</i> group (<i>Lachnospiraceae</i>)	F: 5'-CGGTAACTCTGACTAAGAAC-3' R: 5'-AGTTATCTCTTGCTCATGAA-3'	429	4	55	85	0.5	<i>R. products</i>	85.9	[3]
<i>Escherichia coli</i> subgroup (<i>E. coli</i> , <i>Hafnia alvei</i> and <i>Shigella</i> spp.)	F: 5'-GTTATACTCTTGCTCATGAA-3' R: 5'-ACCAGGTATCAATCCGTG-3'	340	3	60	85	25	<i>Escherichia coli</i> DSM 6897	90.6	[4]
Butyryl-CoA CoA transferase	F: 5'-GGGAICATTGATCTGAAWSTGGCAYATG-3' R: 5'-CCTGCCCTTGCAATTCIACRAANGC-3'	530	3	53	82	25	-	-	[5]

*The coverage (i.e. the percentage of potentially covered taxa within the target) was estimated using the SILVA TestPrime tool with the ssU-NR database version 132, allowing one mismatch during primer annealing to simulate realistic PCR behavior [2].

**Detailed breakdown of coverage for the targets at lower taxonomic levels is listed in S1 Table B.

Primers set	Target	Coverage (%)
Bacteria (qPCR)	<i>Bacteroides-Prevotella-Porphyromonas</i>	93.7
	<i>Bifidobacterium</i> spp.	93.7
	<i>Clostridium coccoides-Eubacterium rectale</i> group (<i>Lachnospiraceae</i>)	95
	<i>Escherichia coli</i> subgroup (<i>E. coli</i> , <i>Hafnia alvei</i> and <i>Shigella</i> spp.)	94
	<i>Bacteroides-Prevotella-Porphyromonas</i>	95.7
	<i>Bifidobacterium</i> spp.	94.1
	<i>Clostridium coccoides-Eubacterium rectale</i> group (<i>Lachnospiraceae</i>)	95.9
	<i>Escherichia coli</i> subgroup (<i>E. coli</i> , <i>Hafnia alvei</i> and <i>Shigella</i> spp.)	95.1

References

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