

**Additional file 2** - Target organisms for 40-mer probes and actual tested microarray specificity using optimum hybridisation and washing conditions

Probe name	Full name <sup>a</sup>	Target organism(s) <sup>b</sup>	Sequence (5'-3')	Hybridisation with pure culture <sup>c</sup>	Actual specificity
BINF177	S-St-Bact-0177-a-S-40	<i>Bifidobacterium infantis</i>	CGGATGTTCCAGTTGATCGCAT GGTCTTCTGGGAAACGTT	+	Species
BLON451	S-S-Bact-0451-a-S-40	<i>Bifidobacterium longum</i> and <i>B. infantis</i>	GGAGCAAGCGAGAGTGAGTTT ACCCGTTGAATAAGCACCG	+	Species
BPSE996	S-S-Bact-0996-a-S-40	<i>Bifidobacterium pseudocatenulatum</i>	TTGACATGTTCCCGACAGCCGT AGAGATATGGCTCCTTC	NT	No signal
BFRA400	S-G-Bact-0400-a-S-40	<i>Bacteroides fragilis</i> and <i>B. ovatus</i>	CAAGTAGCGTGAAGGATGAAG GCTCTATGGGTCGTAAACT	+	Species
BFRA561	S-S-Bact-0561-a-S-40	<i>Bacteroides fragilis</i>	CGGATTTATTGGGTTTAAAGGG AGCGTAGGTGGACTGGTA	+	Species
BVUL1144	S-St-Bact-1144-a-S-40	<i>Bacteroides vulgatus</i>	GGTTATGCTGAGGACTCTGACA AGACTGCCATCGTAAGAT	FP	Genus
BVUL588	S-S-Bact-0588-a-S-40	<i>Bacteroides vulgatus</i>	GCGTAGATGGATGTTTAAGTCA GTTGTGAAAGTTTGCGGC	FP	Genus
CLEP647	S-S-Bact-0647-a-S-40	<i>Clostridium leptum</i>	TGAAACTGTCTTGCTTGAGTGA AGTAGAGGTAGGCGGAAT	+	Species
CLEP765	S-S-Bact-0765-a-S-40	<i>Clostridium leptum</i>	CTGAAGCACGAAAGCATGGGT AGCAAACAGGATTAGATAC	+	Species

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EFAE486	S-G-Bact-0486-a-S-40	<i>Enterococcus faecium</i> , <i>E. durans</i> , <i>E. hirae</i> , <i>E. faecalis</i> , <i>E. villorum</i> , <i>E. ratti</i> and <i>E. azikeevi</i>	AACTGTTCATCCCTTGACGGTA TCTAACCAGAAAGCCACG	FP	Order
FIRM712	S-P-Bact-0712-a-S-40	Firmicutes phyla	GTGAAATGCGTAGATATATGG AGGAACACCAGTGGCGAAG	+	Phylum
LCRI140	S-G-Bact-0140-a-S-40	<i>Lactobacillus crispatus</i> , <i>L. acidophilus</i> , <i>L. helveticus</i> and <i>L. jensenii</i>	CATAGTCTGGGATACCACTTGG AAACAGGTGCTAATACCG	NT	No signal generated
LCRI432	S-G-Bact-0432-a-S-40	<i>Lactobacillus crispatus</i> , <i>L. acidophilus</i> , <i>L. helveticus</i> , <i>L. delbrueckii</i> , <i>L. suntoryeus</i> , <i>L. intestinalis</i> , <i>L. hamsteri</i> , <i>L. kitasatonis</i> , <i>L. psittaci</i> , <i>L. lactis</i> , <i>L. amylolyticus</i> , <i>L. gallinarum</i> and <i>L. jensenii</i>	TTCGGATCGTAAAGCTCTGTTG TTGGTGAAGAAGGATAGA	NT	No signal generated
LJOHN208	S-S-Bact-0208-a-S-40	<i>Lactobacillus johnsonii</i>	TTTGAAAGATGGTTCTGCTATC ACTCTTGGATGGACCTGC	FP	Non-specific
LJOHN74	S-S-Bact-0074-a-S-40	<i>Lactobacillus johnsonii</i>	CTAAATGAAACTAGATACAAG CGAGCGGCGGACGGGTGAG	FP	Non-specific
SBOV87	S-St-Bact-0087-a-S-40	<i>Streptococcus bovis</i>	CTTGCTAAAGTTGGAAGAGTGT GCGAACGGGTGAGTAACG	N/T	No signal generated
SBOV992	S-G-Bact-0992-a-S-40	<i>Streptococcus bovis</i> and <i>S. luteciae</i>	CCTTACCAGGTCTTGACATCCC GATGCTATTCCTAGAGAT	N/T	No signal generated

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GAMA785	S-C-Bact-0785-a-S-40	Gammaproteobacteria	GGATTAGATACCCTGGTAGTCC ACGCTGTAAACGATGTCC	+	Class
PROT1134	S-P-Bact-1134-a-S-40	Proteobacteria	ATTAGGTCGGGAACTCAAAGG AGACTGCCAGTGATAAACT	+	Phylum
ECOL84	S-F-Bact-0084-a-S-40	<i>Escherichia coli</i> and <i>Salmonella</i> spp.	TTGCTCTTTGCTGACGAGTGGC GGACGGGTGAGTAATGTC	+	Family
ECOLI119	S-S-Bact-0119-a-S-40	<i>Escherichia coli</i> O157:H7 EDL933	AATGTCTGGGAACTGCCTGAT GGAGAGGGATAACTACTG	N/T	No signal generated
SFLE465	S-St-Bact-0465-a-S-40	<i>Shigella flexneri</i>	AATACCTTTACTCATTGACGTT ACCCGCAGAAGAAGCACC	FP	Family
STYP971	S-G-Bact-0971-a-S-40	<i>Salmonella</i> Typhimurium and <i>S. enteritidis</i>	GCGAAGAACCTTACCTGGTCTT GACATCCACAGAAGAATC	FP	Family
ROB592	S-S-Bact-0592-a-S-38	<i>Ruminococcus obeum</i>	GCGTAGACGGACTGGCAAGTC TGATGTGAAAGGCGGGG	+	Species
POSa1055	S*-Bact-1055-a-S-40	Most bacteria	ATGGYYGTCGTCAGCTCGTGCC GTGAGGTGTYGGCTTAAG	+	Domain bacteria
POSB1055	S*-Bact-1055-a-S-40	Most bacteria	ATGGYYGTCGTCAGCTCGTGTC GTGAGATGTYGGGTTAAG	+	Domain bacteria
POSc1055	S*-Bact-1055-a-S-40	Most bacteria	ATGGYYGTCGTCAGCTCGTGTT GTGAAATGTYGGGTTAAG	+	Domain bacteria

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SCER1291	S-P-Euk-S.cere-1291(S. cerevisiae isolate WI1)-a-S-40	<i>Saccharomyces cerevisiae</i> and <i>S. bayanus</i>	TGGTGGAGTGATTTGTCTGCTT AATTGCGATAACGAACGA	-	No signal from any labelled DNA recorded
TMAR164	S-St-Bact-0164-a-S-40	<i>Thermotoga maritima</i>	GAAACCCTGGTTAATACCCCAT ACGCTCCATCAACGCAAG	-	No signal from any labelled DNA recorded

<sup>a</sup> Nomenclature of the oligonucleotide probe according to Alm *et al.* [57].

<sup>b</sup> Target organism(s) of the probe from the BLASTn prediction [17].

<sup>c</sup> Hybridisation with pure culture results: +, positive hybridisation; -, no hybridisation; NT, not tested; FP, false positive