

Table S1

Primers of microbes used for real-time PCR assay.

Target species	Primer sequence (5')	GeneBank accession no.	Annealing temperature ( °C)	Size (bp)	Efficiency (%)
Total bacteria	F: CGGCAACGAGCGCAACCC R: CCATTGTAGCACGTGTGTAGCC	AY548787.1	60	147	103.2
Total anaerobic fungi	F: GAGGAAGTAAAAGTCGTAACAAGGTTTC R: CAAATTCACAAAGGGTAGGATGATT	GQ355327.1	57.5	120	90.2
Total protozoa	F: GCTTTCGWTGGTAGTGTATT R: CTTGCCCTCYAATCGTWCT	HM212038.1	59	234	97.5
Total methanogens	F: TTCGGTGGATCDCARAGRGC R: GBARGTCGWAWCCGTAGAATCC	GQ339873.1	60	160	102.5
<i>Ruminococcus albus</i>	F: CCCTAAAAGCAGTCTTAGTTTCG R: CCTCCTTGCGGTTAGAACA	CP002403.1	60	176	90.1
<i>Ruminococcus flavefaciens</i>	F: ATTGTCCCAGTTCAGATTGC R: GGCGTCCTCATTGCTGTTAG	AB849343.1	60	173	90.8
<i>Butyrivibrio fibrisolvens</i>	F: ACCGCATAAGCGCACGGA R: CGGGTCCATCTTGTAACGATAAAT	HQ404372.1	61	65	99.1
<i>Fibrobacter succinogenes</i>	F: GTTCGGAATTACTGGGCGTAAA R: CGCCTGCCCCCTGAACATC	AB275512.1	61	121	94.8
<i>Pevotella ruminicola</i>	F: GAAAGTCGGATTAATGCTCTATGTTG R: CATCCTATAGCGGTAAACCTTTGG	LT975683.1	58.5	74	94.6
<i>Ruminobacter amylophilus</i>	F: CTGGGGAGCTGCCTGAATG R: GCATCTGAATGCGACTGGTTG	MH708240.1	60	102	93.7