

Table S2 16S rRNA-targeted oligonucleotide probes used in this study.

Probe	Target group	Probe sequence (5' to 3')	%FA ^f	Reference
ARC915	Most <i>Archaea</i>	GTG CTC CCC CGC CAA TTC CT	35 (60)	[1]
ANME-1-350	ANME-1	AGT TTT CGC GCC TGA TGC	20 ^g	[2]
ANME-2a-647 ^a	ANME-2a	TCT TCC GGT CCC AAG CCT	10 ^g (50) ^g	[3]
ANME-2c-760 ^b	ANME-2c	CGC CCC CAG CTT TCG TCC	35 ^g (65) ^g	[3]
ANME-3-1249 ^c	ANME-3	TCG GAG TAG GGA CCC ATT	20 ^h	[4]
ANME-3-1249H3	Helper probe for ANME-3-1249	GTC CCA ATC ATT GTA GCC GGC		[5]
ANME-3-1249H5	Helper probe for ANME-3-1249	TTA TGA GAT TAC CAT CTC CTT		[5]
MBGD-318 ^a	MBG-D	GAT ATC GTG TCT CAG ATA	5 ^g (15) ^g	[6]
MBGB-380 ^d	DSAG	GTA ACC CCG TCA CAC TTT	10 ^g (30) ^g	[3]
MCOCID442 ^e	<i>Methanococcoides</i>	ACA CAT GCC GTT TAC ACA TG	20	[6]
EUB338	Most <i>Bacteria</i>	GCT GCC TCC CGT AGG AGT	20 (20)	[7]
My669	<i>Methylbacter</i> and <i>Methylomonas</i>	GCT ACA CCT GAA ATT CCA CTC	20	[8]
UncGam731	Gammaproteobacterial phylotype MK903D_B5	AAT GTT AAC CCA GAC AGT CGC	20 ^g	This study
NON338	Negative control for CARD-FISH	ACT CCT ACG GGA GGC AGC	(15–65)	[9]

^aPermeabilization pretreatment with 0–2 µg ml⁻¹ proteinase K (room temperature, 10 min) was used for CARD-FISH.^bPermeabilization pretreatment with 0.1–1.0 M HCl (room temperature, 1 min) was used for CARD-FISH.^cUsed together with the unlabeled helper probes ANME-3-1249H3 and ANME-3-1249H5.^dPermeabilization pretreatment with 100–150 µg ml⁻¹ proteinase K (room temperature, 10 min) was used for CARD-FISH.^eTo avoid *Methanococcoides* cell losses, the sodium dodecyl sulfate concentration in hybridization and washing buffers was lowered from 0.01 to 0.0001% when using the probe MCOCID442.^fNumbers in parentheses are the formamide (FA) concentration of hybridization and washing buffers in CARD-FISH.^gThese FA concentrations were determined by Clone-FISH [10].^hSince a nearly full-length of ANME-3 16S rRNA gene sequence for Clone-FISH was not retrieved from the 903-day sample, the optimal FA concentration reported by Lösekann *et al.* [5] was used.

References

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