Probe name	Target group	Probe sequence (5' ⊙ 3')	Formamide [%]	Reference
SAR11-486	SAR11 clade (*Alphaproteobacteria*)	GGACCTTCTTATTCGGGT	25	(Schattenhofer *et al.*, 2009)
SAR11-441	SAR11 clade (*Alphaproteobacteria*)	TACAGTCATTTTCTTCCCCGAC	25	(Rappé *et al.*, 2002)
ROS537	*Roseobacter* clade (*Alphaproteobacteria*)	CAACGCTAACCCCCTCC	35	(Eilers *et al.*, 2001)
GAM42a	*Gammaproteobacteria*	GCCTTCCCACATCGTTT	35	(Manz *et al.*, 1992)
	competitor to GAM42a	GCCTTCCCACTTCGTTT		(Manz *et al.*, 1992)
ALT1413	*Alteromonas* and *Colwellia* genera (*Gammaproteobacteria*)	TTTGCATCCCACTCCCAT	40	(Eilers *et al.*, 2000)
SAR92-627	SAR92 clade (*Gammaproteobacteria*)	CAGACAGTTCTAACTGCAGTTCC	20	(Stingl *et al.*, 2007)
REI731	*Reinekea* genus (*Gammaproteobacteria*)	TATCAGCCCAGCAAGTCG	20	(Teeling *et al.*, 2012)
BAL731	*Balneatrix* genus (*Gammaproteobacteria*)	TATCAAGCCAGGGCGTCG	25	(Teeling *et al.*, 2012)
CF319a	*Bacteroidetes*	TGGTCCGTGTCTCAGTAC	35	(Manz *et al.*, 1996)
POL740	*Polaribacter* genus (*Bacteroidetes*)	CCCTCAGCGTCAGTACATACGT	35	(Malmstrom *et al.*, 2007)
FORM181A	*Formosa* genus (*Bacteroidetes*)	GATGCCACTCTAAGAGAC	25	(Teeling *et al.*, 2012)
	competitor FORM181A	GATGCCACTCTTAGAGAC		(Teeling *et al.*, 2012)
FORM181B	*Formosa* sp. Hel1_33_131 (*Bacteroidetes*)	GATGCCACTCTTAGAGAC	35	this study
	competitor FORM181B	GATGCCACTCTAAGAGAC		this study
ULV995	*Ulvibacter* related clade I (*Bacteroidetes*)	TCCACGCCTGTCAGACTACA	35	(Teeling *et al.*, 2012)
	competitor 1 to ULV995	TCCACTCCTGTCAGACTACA		(Teeling *et al.*, 2012)
	competitor 2 to ULV995	TCCACCCCTGTCAGACTACA		(Teeling *et al.*, 2012)
NS9-664	NS9 marine group (*Bacteroidetes*)	ACATGACCTATTCCGCCAACTT	35	(Gómez-Pereira *et al.*, 2012)
VIS6-814	genus-level VIS6 clade in the *Cryomorphaceae* (*Bacteroidetes*)	CAGCGAGTGATGATCGTT	15	(Gómez-Pereira *et al.*, 2010)
	competitor to VIS6-814	CAGCGAGTGATCATCGTT		(Gómez-Pereira *et al.*, 2010)
	helper 1 to VIS6-814	TACGGCGTGGACTACCAGGGT		this study
	helper 2 to VIS6-814	CCGCYGACAGTATATCGCCAA		this study
NS3a-840	NS3a marine group (*Bacteroidetes*)	CTTAGCCGCTCAGAACTCAAGG	35	this study
	competitor 1 to NS3a-840	CTTGGCCGCCCAGAACTCAAG		this study
	competitor 2 to NS3a-840	CTTGGCCGCCCAGCACTCAAGG		this study
	helper 1 to NS3a-840	TYCCGAACAGCTAGTATCCATCGTT		this study
	helper 2 to NS3a-840	CCAGGTGGGATACTTATCACTTTCG		this study
NS5/VIS1-575	VIS1 genus-level clade of the NS5 marine group (*Bacteroidetes*)	CTTAACAAACAGCCTGCGGACC	35	(Gómez-Pereira *et al.*, 2010)
	competitor to NS5/VIS1-575	CTTAAAAAACAGCCTGCGGACC		(Gómez-Pereira *et al.*, 2010)
CYT-734	*Marinoscillum* (*Bacteroidetes; Cytophagia*)	CAGTTTCTGCCTAGTAAG	25	(Gómez-Pereira *et al.*, 2012)

Supplementary file 4. Specific oligonucleotide probes used for quantification of free-living (0.2 - 3 µm) bacterioplankton populations by fluorescence *in situ* hybridization (FISH).