

**Additional File 27. PCR primers used in this study**

Primers	Target gene	Sequence	Reference	Positive Control	Amplicon length (bp)	Annealing temp (°C)	Cycles
27F MOD	16S rRNA gene	AGRGTTTGATCMTGGCTCAG			492	60	30
519R MODBIO		GTNTTACNGCGGCKGCTG					
xoxF1F	<i>xoxF1</i>	TAYGCCGAYGGCAAGSTGST	(Taubert <i>et al.</i> , 2015)	<i>Methylocella silvestris</i> BL2	600	65- 55 Touchdown	30
xoxF1R		CCGTCRTARTCCCAYTGRTCGAA					
xoxF2F	<i>xoxF2</i>	GGCYTAYCAGATGACBCCNTGG		Confirmed <i>xoxF2</i> containing clone	620	62- 52 Touchdown	30
xoxF2R		GCCTTRAACCAKCCRTCCA					
xoxF3F	<i>xoxF3</i>	GGHGAGWCCATSACVATGGC		<i>Methylocella silvestris</i> BL2	1000	62- 52 Touchdown	30
xoxF3R		TCCATSGTKCCGTAGAA					
xoxF4F	<i>xoxF4</i>	TTYCCHAAYAACGINTAYGC		<i>Methylobacillus flagellatus</i> KT	660	58- 48 Touchdown	30
xoxF4R		GGRTTRCCHGTHCCGTAGTA					
xoxF5F	<i>xoxF5</i>	GAYGAVTGGGAYTWYGACGG		<i>Methylocella silvestris</i> BL2	370-390	62- 52 Touchdown	30
xoxF5R		GGYTCVTARTCCATRCA					
1003F	<i>mxoF</i>	GCGGCACCAACTGGGGCTGGT	(Neufeld, <i>et al.</i> ,2007)	<i>Methylobacterium extorquens</i> AM1	552	65- 55 Touchdown	30
1555R		CATGAABGGCTCCARTCCAT					
M13F	Insert-flanking regions of pGEM®-T Easy Vector	GTAAAACGACGGCCAG	Invitrogen		Insert size + 200bp	56	35
M13R		CAGGAAACAGCTATGAC					
mdh2F	<i>mdh2</i>	TGGCAGACCGCSTCGTTTCCA	This work	<i>Methyloversatilis discipulorum</i> LF1	516	52	35
mdh2R		CAGTTGGTGCCGCCSAGGAA					

