

**Table 4: Proteins that are specific for methanogens (Methanoarchaeota)**

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Proteins specific to Methanoarchaeota						
MMP0001	[NP_987121]	COG4014	MMP1346	[NP_988466]	MtrX	COG4002
MMP0021 <sup>5</sup>	[NP_987141]	COG4079	MMP1555	[NP_988675]	MCR_B	CDD25889
MMP0143	[NP_987263]	COG4069	MMP1556	[NP_988676]	MCR_D	CDD3015
MMP0154	[NP_987274]	COG4070	MMP1557	[NP_988677]	MCR_C	CDD15906
MMP0311 <sup>5</sup>	[NP_987431]	COG4048	MMP1558	[NP_988678]	MCR_G	CDD29638
MMP0312	[NP_987432]	COG4050	MMP1559	[NP_988679]	MCR_A	CDD8362
MMP0337	[NP_987457]	COG4029	MMP1560	[NP_988680]	MtrE	CDD9765
MMP0421	[NP_987541]	COG4052	MMP1561	[NP_988681]	MtrD	CDD9766
MMP0563 <sup>5</sup>	[NP_987683]	COG4090	MMP1562	[NP_988682]	MtrC	CDD17461
MMP0642	[NP_987762]	COG4020	MMP1563	[NP_988683]	MtrB	CDD23666
MMP0656	[NP_987776]	COG4051	MMP1564 <sup>4</sup>	[NP_988684]	MtrA	COG4063
MMP0665	[NP_987785]	COG4066	MMP1566	[NP_988686]	MtrG	CDD9769
MMP0698 <sup>5</sup>	[NP_987818]	COG4033	MMP1593	[NP_988713]		COG1571
MMP0701 <sup>5</sup>	[NP_987821]	COG4081	MMP1644	[NP_988764]		COG4022
MMP1223	[NP_988343]	COG4065	MMP1704	[NP_988824]		COG4008
MMP1309 <sup>5</sup>	[NP_988429]	COG4073				
Proteins specific to all methanogen and <i>A. fulgidus</i>						
MMP0372	[NP_987492]	MTD CDD2518	MMP0962	[NP_988082]		COG4855
MMP0400 <sup>1</sup>	[NP_987520]	COG1707	MMP0976 <sup>5</sup>	[NP_988096]		COG1810
MMP0499 <sup>5</sup>	[NP_987619]	ArsR CDD28947	MMP0984 <sup>5</sup>	[NP_988104]	CO_dh	CDD3060
MMP0607 <sup>2</sup>	[NP_987727]	NrpR COG1693	MMP1499 <sup>5</sup>	[NP_988619]	HTH	COG4800
MMP0961 <sup>5</sup>	[NP_988081]	CDD15263	MMP1567 <sup>3</sup>	[NP_988687]	MtrH	CDD25859
Proteins specific to some methanogen and <i>A. fulgidus</i>						
Mbur_0042	[YP_564815]		Mbur_0546	[YP_565273]		
Mbur_0348	[YP_565093]		Mbur_0652	[YP_565373]		
Mbur_0350	[YP_565095]		Mbur_0992	[YP_565682]		
Mbur_0545	[YP_565272]		Mbur_1754	[YP_566394]		CDD48145
Mbur_0387	[YP_565131]	CDD28974	Mbur_1911	[YP_566543]		

The protein ID number starting with Mbur represents query protein from the genome of *M. burtonii*. “=” means paralogous genes.

**Note**<sup>1</sup>. A homolog to MMP0400 is found in *Solibacter usitatus* Ellin6076 and *Rubrobacter xylanophilus* DSM 9941;

**Note**<sup>2</sup>. A homolog to MMP0607 is found in *Dehalococcoides* sp. CBDB1 and *D. ethenogenes* 195;

**Note**<sup>3</sup>. A homolog to MMP1567 is found in 2 *Desulfitobacterium hafniense* strains (*Firmicutes*), and the CmuB protein from 3 species belonging to *Rhizobiales* of  $\alpha$ -proteobacteria also show great similarity with MtrH;

**Note**<sup>4</sup>. A homolog to MMP1564 is also found in *Dechloromonas aromatica* RCB;

**Note**<sup>5</sup>. These 10 proteins are absent in the genome of *Methanosphaera stadtmanae* DSM 3091.