

## Supplementary tables

Table S1. List of genes inactivated in *M. pulmonis*<sup>a</sup>

Gene	Product	Gene symbol	Gene length (bp)	Mg ortholog	Essential in Mg	Essential in Bs
MYPY_0030	Conserved hypothetical protein		222	NA	NA	no
MYPY_0040	Conserved hypothetical protein		684	MG356	yes	no
MYPY_0140	TatD-related Dnase		759	MG009	no	no
MYPY_0160	Hypothetical protein		360	NA	NA	NA
MYPY_0170	PTS system, glucose-specific IIABC component	ptsG	2376	MG069	yes	no
MYPY_0180	IS1138 transposase		1209	NA	NA	NA
MYPY_0190	Lipoprotein		2301	NA	NA	NA
MYPY_0200	Hypothetical protein		360	NA	NA	NA
MYPY_0210	Dihydrolipoamide dehydrogenase	pdhD	1368	MG271	no	no
MYPY_0220	MGPA-like ( <i>Mycoplasma genitalium</i> ) protein		975	MG190	yes	no
MYPY_0320	Lipoate-protein ligase A	lplA	1038	MG270	yes	no
MYPY_0330	Esterase/lipase 2		873	MG327	yes	no
MYPY_0350	Esterase/lipase 1		807	MG310	yes	no
MYPY_0360	Esterase/lipase 1		822	MG310	yes	no
MYPY_0370	Esterase/lipase 1		822	MG310	yes	no
MYPY_0380	Esterase/lipase 1		804	MG310	yes	no
MYPY_0390	ABC transporter ATP-binding protein		1626	MG014	yes	no
MYPY_0400	ABC transporter permease protein (MDR homolog)		720	NA	NA	NA
MYPY_0410	ABC transporter ATP-binding protein		840	MG015	yes	no
MYPY_0420	Hypothetical protein		1227	NA	NA	NA
MYPY_0430	CpG DNA methyltransferase (cytosine-specific)		NA	NA	NA	
MYPY_0550	5'-nucleosidase precursor		1698	NA	NA	no
MYPY_0560	Lipoprotein		423	NA	NA	NA
MYPY_0570	Lipoprotein		1185	NA	NA	NA
MYPY_0580	Hypothetical protein		1209	NA	NA	NA
MYPY_0590	Hypothetical protein		900	NA	NA	NA
MYPY_0600	Hypothetical protein		921	NA	NA	NA
MYPY_0610	Hypothetical protein		426	NA	NA	NA
MYPY_0630	Hypothetical protein		552	NA	NA	NA
MYPY_0640	ABC transporter ATP-binding protein		498	MG467	yes	no
MYPY_0650	ABC transporter permease protein		1425	NA	NA	NA
MYPY_0660	ABC transporter ATP-binding protein		2280	MG467	yes	no
MYPY_0670	Lipoprotein		801	NA	NA	NA
MYPY_0680	Hypothetical protein		930	NA	NA	NA
MYPY_0690	ATP-dependent RNA helicase	deaD	1443	MG425	yes	no
MYPY_0700	Hypothetical protein		207	NA	NA	NA
MYPY_0710	Hypothetical protein		186	NA	NA	NA
MYPY_0720	Hypothetical protein		168	NA	NA	NA
MYPY_0740	Hypothetical protein		243	NA	NA	NA
MYPY_0780	Restriction-modification enzyme subunit R3 (fragment)	hsdR	1140	NA	NA	NA
MYPY_0800	Hypothetical protein		276	NA	NA	NA
MYPY_0820	Restriction-modification enzyme subunit M3 (fragment)	hsdM	999	NA	NA	NA
MYPY_0830	Restriction-modification enzyme subunit	hsdS	1080	NA	NA	NA

S3A						
	Restriction-modification enzyme subunit S3B	hsdS	1047	NA	NA	NA
MYPUP_0840	Hypothetical protein		492	NA	NA	NA
MYPUP_0850	Recombination protein RecU	recU	474	MG352	no	no
MYPUP_0860	Lipoprotein		1815	NA	NA	NA
MYPUP_0920	Hypothetical protein		1134	NA	NA	NA
MYPUP_0940	O6-methylguanine-DNA methyltransferase	ogt	1137	NA	NA	no
MYPUP_0950	Excinuclease ABC subunit B	uvrB	1974	MG073	yes	no
MYPUP_0960	Pantetheine-phosphate adenylyltransferase	coaD	450	NA	NA	no
MYPUP_0970	Multiple sugar ABC transporter protein, lipoprotein	msmE	1455	NA	NA	NA
MYPUP_0980	Multiple sugar ABC transporter ATP-binding protein	msmK	1761	MG187	yes	no
MYPUP_0990	Multiple sugar ABC transporter permease protein	msmF	852	MG188	yes	no
MYPUP_1010	ABC transporter ATP-binding protein		654	MG290	no	no
MYPUP_1070	P69-like ( <i>Mycoplasma hyorhinitis</i> ) ABC transporter		1707	MG291	no	no
MYPUP_1080	ABC transporter permease protein		1101	NA	NA	NA
MYPUP_1090	Hypothetical protein		708	NA	NA	NA
MYPUP_1110	Conserved hypothetical protein		915	NA	NA	NA
MYPUP_1120	Ribosomal large subunit pseudouridine synthase C	rluC	849	MG209	yes	no
MYPUP_1170	Hypothetical protein		738	NA	NA	NA
MYPUP_1210	Helicase		3084	MG140	no	no
MYPUP_1220	Hypothetical protein		1644	NA	NA	NA
MYPUP_1250	Hypothetical protein		654	NA	NA	NA
MYPUP_1260	Methyltransferase protein GidB	gidB	684	MG380	no	no
MYPUP_1280	PTS system, fructose-specific IIBC component	fruA	2097	MG062	no	no
MYPUP_1290	Hypothetical protein		1152	NA	NA	NA
MYPUP_1320	Hypothetical protein		387	NA	NA	NA
MYPUP_1350	Nuclease, lipoprotein		573	NA	NA	NA
MYPUP_1390	Thymidine kinase	tdk	573	MG034	yes	no
MYPUP_1450	Hypothetical protein		984	NA	NA	NA
MYPUP_1480	IS1138 transposase, truncated		237	NA	NA	NA
MYPUP_1510	Excinuclease ABC subunit C	uvrC	1692	MG206	yes	no
MYPUP_1560	Recombinational DNA repair protein O	recO	687	NA	NA	no
MYPUP_1590	Hypothetical protein		360	NA	NA	NA
MYPUP_1600	Ribonuclease III (RNase III)	rnc	726	MG367	no	yes
MYPUP_1630	Hypothetical protein		159	NA	NA	NA
MYPUP_1640	tRNA (guanine-N(7)-)-methyltransferase	trmB	612	MG347	yes	no
MYPUP_1660	23S rRNA methylase, hemolysin-like	ftsJ	717	NA	NA	no
MYPUP_1710	Cysteine desulfurase	csd	1182	MG336	yes	yes
MYPUP_1720	Hypothetical protein		216	NA	NA	NA
MYPUP_1750	CpG DNA methylase		795	NA	NA	NA
MYPUP_1860	Conserved hypothetical protein		2892	NA	NA	NA
MYPUP_1870	Hypothetical protein		390	NA	NA	NA
MYPUP_1890	Hypothetical protein		471	NA	NA	NA
MYPUP_1910	Hypothetical protein		504	NA	NA	NA
MYPUP_1920	Lipoprotein		972	NA	NA	NA
MYPUP_1930	Lipoprotein		843	NA	NA	NA

MYPU_1950	Lipoprotein		963	NA	NA	NA
MYPU_1960	ABC-type multidrug transport system, ATPase component		708	NA	NA	no
MYPU_1970	Hypothetical protein		1821	NA	NA	NA
MYPU_1980	Ascorbate-specific PTS system enzyme IIC	sgaT	1956	NA	NA	NA
MYPU_2020	Conserved membrane protein, possible ribonuclease BN family		1059	NA	NA	NA
MYPU_2060	Lipoprotein		2322	NA	NA	NA
MYPU_2070	Lipoprotein		1704	NA	NA	NA
MYPU_2080	Hypothetical protein		153	NA	NA	NA
MYPU_2090	Trigger factor	tig	1380	MG238	no	no
MYPU_2110	Conserved hypothetical protein		9651	NA	NA	NA
MYPU_2120	Conserved hypothetical protein		4134	NA	NA	NA
MYPU_2130	Conserved hypothetical protein		4887	NA	NA	NA
MYPU_2140	Conserved hypothetical protein		3810	NA	NA	NA
MYPU_2160	Hypothetical protein		3387	NA	NA	NA
MYPU_2180	Phosphonate ABC transporter, permease protein (P69)		1746	MG291	no	no
MYPU_2210	Glycerol kinase	glpK	1524	MG038	yes	no
MYPU_2260	Conserved hypothetical protein		864	MG103	no	no
MYPU_2290	Hypothetical protein		1524	NA	NA	NA
MYPU_2360	ATP synthase subunit B	atpD	2097	MG399	yes	no
MYPU_2420	Hypothetical protein		735	NA	NA	NA
MYPU_2450	Lipoprotein		2757	NA	NA	NA
MYPU_2470	Translation factor LepA	lepA	1836	MG138	no	no
MYPU_2490	Hypothetical protein		165	NA	NA	NA
MYPU_2500	Hypothetical protein		1371	NA	NA	NA
MYPU_2520	DNA recombinase A	recA	1020	MG339	no	no
MYPU_2540	Conserved hypothetical protein		459	NA	NA	NA
MYPU_2620	Conserved hypothetical protein		1404	MG294	no	no
MYPU_2630	Glycerophosphoryl diester phosphodiesterase	glpQ	723	MG293	no	no
MYPU_2640	Glycerol-3-phosphate dehydrogenase	glpD	1155	MG039	no	no
MYPU_2750	Hypothetical protein		288	NA	NA	NA
MYPU_2760	Conserved hypothetical protein		363	NA	NA	no
MYPU_2790	Hypothetical protein		3300	NA	NA	NA
MYPU_2800	Hypothetical protein		414	NA	NA	NA
MYPU_2810	Xanthine/uracil permease family protein		1509	NA	NA	no
MYPU_2860	Oligopeptide ABC transporter ATP-binding protein	oppF	2346	MG080	yes	no
MYPU_2880	Conserved lipoprotein		2358	MG395	yes	no
MYPU_2970	Amino acid permease	aapA	1566	MG225	yes	no
MYPU_2990	Hypothetical protein		924	NA	NA	NA
MYPU_3040	SpoU rRNA methylase family		753	MG252	no	no
MYPU_3070	Heat shock protein HSP33		870	NA	NA	no
MYPU_3080	Conserved hypothetical protein		3054	NA	NA	NA
MYPU_3160	Lipoprotein		1896	NA	NA	NA
MYPU_3170	Hypothetical protein		156	NA	NA	NA
MYPU_3180	Lipoprotein		1908	NA	NA	NA
MYPU_3190	Lipoprotein		1929	NA	NA	NA
MYPU_3200	Lipoprotein		1854	NA	NA	NA
MYPU_3210	Oligoendopeptidase F	pepF	1842	MG183	no	no

MYPYU_3250	Conserved protein		747	NA	NA	NA
MYPYU_3260	Conserved hypothetical metal-dependent hydrolase		534	NA	NA	NA
MYPYU_3340	Hypothetical protein		831	NA	NA	NA
MYPYU_3380	Lipoprotein		1851	NA	NA	NA
MYPYU_3400	Hypothetical protein		150	NA	NA	NA
MYPYU_3410	Hypothetical protein		1710	NA	NA	NA
MYPYU_3430	Xylose ABC transporter, substrate-binding protein	xylF	1383	NA	NA	NA
MYPYU_3440	Xylose ABC transporter ATP-binding protein	xylG	1581	NA	NA	NA
MYPYU_3450	Xylose ABC transporter permease protein	xylH	1917	NA	NA	NA
MYPYU_3460	ABC transporter xylose-binding lipoprotein	xylF	1386	NA	NA	NA
MYPYU_3490	Hypothetical protein		714	NA	NA	NA
MYPYU_3510	Ribonuclease R	vacB	2178	MG104	yes	no
MYPYU_3550	Conserved hypothetical protein		354	NA	NA	NA
MYPYU_3560	Hypothetical protein		1134	NA	NA	NA
MYPYU_3570	Conserved hypothetical protein		441	NA	NA	NA
MYPYU_3600	Fructose-biphosphate aldolase	fba	843	MG023	yes	yes
MYPYU_3620	Glucosamine-6-phosphate isomerase	nagB (gamA)	771	NA	NA	no
MYPYU_3660	Hypothetical protein		345	NA	NA	NA
MYPYU_3670	Hypothetical protein		411	NA	NA	NA
MYPYU_3680	Hypothetical protein		411	NA	NA	no
MYPYU_3690	N-acetylglucosamine-6-phosphate deacetylase	nagA	762	NA	NA	no
MYPYU_3700	Hypothetical protein		879	NA	NA	NA
MYPYU_3710	Lipoprotein		1107	NA	NA	no
MYPYU_3750	Leucyl aminopeptidase	pepA	1380	MG391	yes	no
MYPYU_3760	ABC transporter ATP-binding and permease protein		2043	MG390	no	no
MYPYU_3790	Cytidine deaminase	cdd	339	MG052	yes	no
MYPYU_3820	Conserved hypothetical protein		3552	NA	NA	no
MYPYU_3830	TrsE transfer complex protein	trsE	2562	NA	NA	NA
MYPYU_3840	Hypothetical membrane protein		1113	NA	NA	NA
MYPYU_3900	Lysyl-tRNA synthetase	lysS	1533	MG136	yes	yes
MYPYU_3920	IS3 transposase, amino half		561	NA	NA	NA
MYPYU_3930	Conserved hypothetical protein		2274	NA	NA	NA
MYPYU_3940	IS1138 transposase		1209	NA	NA	NA
MYPYU_3950	Type III restriction-modification system nuclease		2694	NA	NA	NA
MYPYU_3970	Type III restriction-modification system methylase		1698	NA	NA	NA
MYPYU_3980	Type III restriction-modification system methylase		1959	NA	NA	NA
MYPYU_3990	IS3 transposase, carboxy half		441	NA	NA	NA
MYPYU_4000	IS3 transposase, amino half		561	NA	NA	NA
MYPYU_4020	Lysyl-tRNA synthetase	lysS	1476	MG136	yes	yes
MYPYU_4040	Hypothetical protein		786	NA	NA	NA
MYPYU_4110	Oligopeptide ABC transporter system permease protein	oppC	963	NA	NA	no
MYPYU_4120	Oligopeptide ABC transporter ATP-binding protein	oppD	1464	NA	NA	no
MYPYU_4130	Oligopeptide ABC transporter ATP-binding protein	oppF	1323	NA	NA	no
MYPYU_4140	Conserved hypothetical protein		6735	NA	NA	NA
MYPYU_4150	Lipoprotein		2715	NA	NA	NA

MYPYU_4160	Hypothetical protein		1419	NA	NA	NA
MYPYU_4180	Hypothetical protein		1020	NA	NA	NA
MYPYU_4200	Hypothetical protein		1737	NA	NA	NA
MYPYU_4310	Restriction-modification enzyme subunit S2A	hsdS	1188	NA	NA	NA
MYPYU_4320	Restriction-modification enzyme subunit R2	hsdR	2961	NA	NA	NA
MYPYU_4330	Restriction-modification enzyme subunit M2	hsdM	1563	NA	NA	NA
MYPYU_4340	Restriction-modification enzyme subunit S2B	hsdS	1011	NA	NA	NA
MYPYU_4350	Hypothetical protein		807	NA	NA	NA
MYPYU_4360	Lipoprotein		543	NA	NA	NA
MYPYU_4370	Hypothetical protein		2376	NA	NA	NA
MYPYU_4380	Conserved hypothetical protein		2379	NA	NA	NA
MYPYU_4390	Hypothetical protein		2001	NA	NA	NA
MYPYU_4400	Oxygenase		1044	NA	NA	no
MYPYU_4410	Glycine cleavage system H protein	gcdh	336	NA	NA	no
MYPYU_4430	Lipoate-protein ligase A		1035	NA	NA	NA
MYPYU_4460	Hypothetical protein		825	NA	NA	NA
MYPYU_4480	Hypothetical protein		2739	NA	NA	NA
MYPYU_4500	ATP synthase subunit B	atpD	1407	MG399	yes	no
MYPYU_4550	Lipoprotein		585	NA	NA	NA
MYPYU_4560	Conserved hypothetical protein		753	NA	NA	NA
MYPYU_4600	Conserved hypothetical protein		543	NA	NA	NA
MYPYU_4610	Conserved hypothetical protein		1272	NA	NA	NA
MYPYU_4630	Glucan 1,6-alpha-glucosidase	dexB	1587	NA	NA	no
MYPYU_4640	RmuC domain protein	rmuC	1353	NA	NA	NA
MYPYU_4650	Lipoprotein		1869	NA	NA	NA
MYPYU_4660	Hypothetical protein		1488	NA	NA	NA
MYPYU_4730	Putative transcriptional regulator, homolog of Bvg accessory factor		675	NA	NA	NA
MYPYU_4750	Conserved hypothetical protein		561	MG029	yes	no
MYPYU_4780	Lipoprotein		2253	NA	NA	NA
MYPYU_4790	Conserved hypothetical protein		2415	NA	NA	NA
MYPYU_4800	Type III restriction-modification system methylase		1764	NA	NA	NA
MYPYU_4820	Lipoprotein		2274	NA	NA	NA
MYPYU_4870	Lipoprotein		1458	NA	NA	NA
MYPYU_4890	Ribosomal protein L33	rpmG	153	MG325	yes	yes
MYPYU_4970	ABC transporter ATP-binding protein		1536	MG187	yes	no
MYPYU_4980	ABC transporter permease protein		1011	MG188	yes	no
MYPYU_4990	ABC transporter permease protein		834	MG189	yes	no
MYPYU_5000	Conserved hypothetical membrane protein		2211	NA	NA	NA
MYPYU_5030	Conserved hypothetical protein		1479	NA	NA	NA
MYPYU_5040	Conserved hypothetical lipoprotein		2406	NA	NA	NA
MYPYU_5050	Conserved hypothetical protein		2502	NA	NA	NA
MYPYU_5070	Conserved hypothetical protein		1434	NA	NA	NA
MYPYU_5080	Lipoprotein		2043	NA	NA	NA
MYPYU_5090	Lipoprotein		1863	NA	NA	NA
MYPYU_5200	Lipoprotein D		999	NA	NA	NA
MYPYU_5210	Hypothetical protein		1410	NA	NA	NA
MYPYU_5220	Lipoprotein B		711	NA	NA	NA

MYPYU_5230	Lipoprotein VsaA (fragment)		846	NA	NA	NA
MYPYU_5260	Lipoprotein VsaE (fragment)		945	NA	NA	NA
MYPYU_5300	Lipoprotein A		1737	NA	NA	NA
MYPYU_5310	Site-specific DNA recombinase	hvsR	825	NA	NA	NA
MYPYU_5340	Hypothetical protein		492	NA	NA	NA
MYPYU_5350	Hypothetical protein		900	NA	NA	NA
MYPYU_5360	TatD-related DNase		1308	MG009	no	no
MYPYU_5380	Thymidylate synthase	thyA	861	MG227	no	no
MYPYU_5390	Ribonucleotide-diphosphate reductase beta subunit	nrdF	1026	MG229	yes	yes
MYPYU_5410	Ribonucleotide-diphosphate reductase alpha subunit	nrdE	2136	MG231	yes	yes
MYPYU_5440	Conserved hypothetical protein, hydrolase		858	MG265	yes	no
MYPYU_5520	Deoxyguanosine kinase	dgk	651	MG268	no	no
MYPYU_5590	Hypothetical protein		3687	NA	NA	NA
MYPYU_5910	Conserved hypothetical protein		888	NA	NA	NA
MYPYU_5920	Hypothetical protein		198	NA	NA	NA
MYPYU_5930	Phosphotriesterase		1056	NA	NA	NA
MYPYU_5940	Ascorbate-specific PTS system enzyme IIC	sgaT	1785	NA	NA	NA
MYPYU_5970	Hexulose-6-phosphate synthase	sgaH	699	NA	NA	NA
MYPYU_5980	Hexulose-6-phosphate isomerase	sgaU	918	NA	NA	NA
MYPYU_6000	High-affinity ribose transport protein	rbsD	402	NA	NA	NA
MYPYU_6040	Lipoprotein		1482	NA	NA	NA
MYPYU_6050	Lipoprotein		504	NA	NA	NA
MYPYU_6060	Lipoprotein		1923	NA	NA	NA
MYPYU_6070	Lipoprotein		2370	NA	NA	NA
MYPYU_6080	Hypothetical protein, possible oligopeptide ABC transporter		1110	NA	NA	NA
MYPYU_6090	Ribosomal protein S18	rpsR	318	MG092	yes	yes
MYPYU_6150	Uracil-DNA glycosylase	ung	666	MG097	yes	no
MYPYU_6180	Sugar ABC transporter permease protein		1797	MG120	yes	no
MYPYU_6190	Sugar ABC transporter ATP-binding protein	mgIA	1560	MG119	yes	no
MYPYU_6200	Hypothetical protein		960	NA	NA	NA
MYPYU_6220	Conserved hypothetical protein, transcriptional regulator		948	NA	NA	NA
MYPYU_6240	Conserved hypothetical protein		726	MG332	yes	no
MYPYU_6250	ABC transporter ATP-binding and permease protein		2253	MG467	yes	no
MYPYU_6260	ABC transporter ATP-binding and permease protein		1923	MG065	yes	no
MYPYU_6270	Hypothetical protein		1041	NA	NA	NA
MYPYU_6280	Hypothetical protein		714	NA	NA	NA
MYPYU_6310	Hypothetical protein		156	NA	NA	NA
MYPYU_6320	Alpha-amylase 3	amyA	1824	NA	NA	NA
MYPYU_6340	Trehalose/maltose hydrolase (possible phosphorylase)		2334	NA	NA	NA
MYPYU_6350	Beta-phosphoglucomutase	pgmB	678	NA	NA	NA
MYPYU_6370	Lipoprotein		2331	NA	NA	NA
MYPYU_6390	Maltodextrin ABC transporter permease protein	malC	3105	NA	NA	NA
MYPYU_6400	Maltodextrin ABC transporter permease protein	malD	945	NA	NA	NA
MYPYU_6410	Maltodextrin ABC transporter ATP-binding protein	malK	1179	NA	NA	NA
MYPYU_6440	Pullulanase precursor	pulA	2076	NA	NA	NA
MYPYU_6460	Thymidine phosphorylase	deoA	1293	MG051	no	no

MYPYU_6470	Hypothetical protein		2631	NA	NA	NA
MYPYU_6480	Hypothetical protein		852	NA	NA	NA
MYPYU_6500	Hypothetical protein		3669	NA	NA	NA
MYPYU_6510	Hypothetical protein		3819	NA	NA	NA
MYPYU_6520	Lipoprotein		627	NA	NA	NA
MYPYU_6540	Lipoprotein		630	NA	NA	NA
MYPYU_6550	Subtilisin, serine protease		1662	NA	NA	NA
MYPYU_6570	Holliday junction DNA helicase motor protein	ruvA	594	MG358	no	no
MYPYU_6580	Holliday junction DNA helicase RuvB	ruvB	948	MG359	no	no
MYPYU_6610	Amino acid permease		1527	NA	NA	no
MYPYU_6620	Phosphoesterase, putative		705	NA	NA	NA
MYPYU_6630	Hypothetical protein		1668	NA	NA	NA
MYPYU_6760	Restriction-modification enzyme subunit S1A	hsdS	1107	NA	NA	NA
MYPYU_6770	Restriction-modification enzyme subunit R1	hsdR	2961	NA	NA	NA
MYPYU_6780	Restriction-modification enzyme subunit M1	hsdM	1563	NA	NA	NA
MYPYU_6790	Restriction-modification enzyme subunit S1B	hsdS	1110	NA	NA	NA
MYPYU_6840	GTPase		819	MG110	no	Yes
MYPYU_6880	N6-adenine-specific methylase		549	NA	NA	no
MYPYU_6910	Hypothetical protein		1044	NA	NA	NA
MYPYU_6930	Membrane nuclease, lipoprotein	mnuA	3378	NA	NA	NA
MYPYU_6940	Membrane nuclease		1185	NA	NA	NA
MYPYU_6960	Ribosomal protein L28	rpmB	192	MG426	yes	yes
MYPYU_6980	ATP-dependent helicase PcrA	pcrA, uvrD	2205	MG244	no	yes
MYPYU_7000	ATP synthase subunit A	atpA	1530	MG401	yes	no
MYPYU_7010	Conserved hypothetical protein		645	NA	NA	NA
MYPYU_7030	Hypothetical protein		2259	NA	NA	NA
MYPYU_7060	Conserved hypothetical protein		1038	NA	NA	NA
MYPYU_7100	Excinuclease ABC subunit A	uvrA	2835	MG421	yes	no
MYPYU_7210	Dephospho-coenzyme A kinase	coaE	519	MG264	no	yes
MYPYU_7250	Mannose-6-phosphate isomerase	pmi	912	NA	NA	NA
MYPYU_7290	Possibly related to phosphopentomutase		708	NA	NA	NA
MYPYU_7300	Aminopeptidase		1104	NA	NA	NA
MYPYU_7310	Hypothetical protein		1086	NA	NA	NA
MYPYU_7340	Lipoprotein		2049	NA	NA	NA
MYPYU_7350	Lipoprotein		4641	NA	NA	NA
MYPYU_7370	Hypothetical protein		2976	NA	NA	NA
MYPYU_7410	ABC-type multidrug transport system, ATPase and permease components		1629	NA	NA	NA
MYPYU_7420	ABC-type multidrug transport system, ATPase and permease components		1617	NA	NA	NA
MYPYU_7470	Hypothetical protein		405	NA	NA	NA
MYPYU_7480	Hexosephosphate transport protein	uphT	1428	MG061	no	no
MYPYU_7500	Mannitol-1-phosphate 5-dehydrogenase PTS system, mannitol-specific IIABC component	mtlD	1083	NA	NA	NA
MYPYU_7510	component	mtlA	1029	NA	NA	NA
MYPYU_7540	Hypothetical protein		732	NA	NA	NA
MYPYU_7560	IS1138 transposase		1209	NA	NA	NA
MYPYU_7630	Pyruvate dehydrogenase E1 component,	pdhB	999	MG273	yes	no

beta subunit						
MYPU_7720	NADH-dependent flavin oxidoreductase	baiH	1197	NA	NA	no
MYPU_7750	Carnitine O-acetyltransferase	cat	1806	NA	NA	NA
MYPU_7760	Hypothetical protein		1614	NA	NA	NA
MYPU_7770	Hypothetical protein		228	NA	NA	NA

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<sup>a</sup>Essential genes in *M. genitalium* (Mg) and *B. subtilis* (Bs) are as reported by Glass et al. and Kobayashi et al. (Glass *et al.*, 2006; Kobayashi *et al.*, 2003).



Table S2. List of essential genes (putative) in *M. pulmonis*<sup>a</sup>

Gene	Product	Gene symbol	Gene length (bp)	Mg ortholog	Essential in Mg	Essential in Bs
MYPU_0010	Chromosomal replication initiator protein DnaA	dnaA	1386	MG469	Yes	Yes
MYPU_0020	DNA polymerase III, beta chain	dnaN	1122	MG001	Yes	Yes
MYPU_0060	M. hominis P80-related membrane protein		2157	NA	NA	
MYPU_0070	P60-like( <i>Mycoplasma hominis</i> ) lipoprotein		1431	NA	Yes	
MYPU_0080	HIT-like protein (Cell cycle regulation)		351	MG132	Yes	
MYPU_0090	Ribosomal protein L11	rplK	654	MG081	Yes	Yes
MYPU_0100	Ribosomal protein L1	rplA	690	MG082	Yes	Yes
MYPU_0110	Conserved hypothetical protein		1377	NA	NA	
MYPU_0130	tRNA modification GTPase TrmE		1329	MG008	Yes	
MYPU_0230	NADH oxidase	nox	1371	MG275	Yes	
MYPU_0240	Lipoprotein		2532	MG260	No	
MYPU_0250	Lipoprotein (nuclease)		771	MG186	Yes	
MYPU_0260	ABC transporter ATP-binding protein		1803	MG187	Yes	
MYPU_0270	ABC transporter permease protein		1065	MG188	Yes	
MYPU_0280	ABC transporter permease protein		1005	MG189	Yes	
MYPU_0340	Seryl-tRNA synthetase	serS	1266	MG005	Yes	Yes
MYPU_0450	Methionyl-tRNA formyltransferase	fmt	870	MG365	Yes	Yes
MYPU_0460	Glyceraldehyde 3-phosphate dehydrogenase	gap	1050	MG301	Yes	
MYPU_0490	DNA polymerase III subunits gamma and tau	dnaX (holB)	2511	MG419	Yes	Yes
MYPU_0520	Thymidylate kinase (dTMP kinase)	tmk	705	MG006	Yes	Yes
MYPU_0530	DNA polymerase III delta' subunit	dnaH	894	MG420	Yes	Yes
MYPU_0870	DNA-binding protein Hu	hup	381	MG353	Yes	Yes
MYPU_0880	GTP-binding protein EngA	engA	1308	MG329	Yes	Yes
MYPU_0890	Cytidylate kinase	cmk	672	MG330	Yes	Yes
MYPU_0930	Leucyl-tRNA synthetase	leuS	2424	MG266	Yes	Yes
MYPU_1030	Oligo-1,6-glucosidase		1635	NA	NA	
MYPU_1040	Preprotein translocase SecA subunit	secA	2604	MG072	Yes	Yes
MYPU_1050	Peptide chain release factor 1	prfA	1080	MG258	Yes	Yes
MYPU_1060	Protoporphirogen oxidase	hemK	693	MG259	Yes	
MYPU_1100	Fructose-biphosphate aldolase	fbaA	861	MG023	Yes	Yes
MYPU_1130	Holo-[acyl-carrier protein] synthase	acpS	327	MG211.1	Yes	Yes
MYPU_1140	1-acyl-sn-glycerol-3-phosphate acyltransferase	plsC	768	MG212	Yes	Yes
MYPU_1150	Segregation and condensation protein A	scpA	747	MG213	No	Yes
MYPU_1160	Segregation and condensation protein B	scpB	624	MG214	No	Yes
MYPU_1180	O-sialoglycoprotein endopeptidase	gcp	909	MG046	Yes	Yes
MYPU_1190	Conserved hypothetical protein, similar to glycoprotein endopeptidase		543	MG208	Yes	Yes

MYPYU_1200	Conserved protein			NA	NA	Yes
MYPYU_1240	Glycerol-3-phosphate dehydrogenase	gpsA	969	NA	NA	Yes
MYPYU_1270	Ribose-phosphate pyrophosphokinase	prs	966	MG058	Yes	Yes
MYPYU_1310	Glucose-6-phosphate isomerase	pgiB	1284	MG111	Yes	
MYPYU_1330	Hypothetical protein		1740	NA	NA	
MYPYU_1370	Potassium uptake protein KtrA	ktrA	714	MG323	Yes	
MYPYU_1400	Ribosomal protein L31	rpmE	210	MG257	Yes	Yes
MYPYU_1420	Heat-inducible transcription repressor	hrcA	1044	MG205	Yes	
MYPYU_1430	Co-chaperone GrpE	grpE	897	MG201	Yes	Yes
MYPYU_1440	Potassium uptake protein KtrB	ktrB	1572	MG322	Yes	
MYPYU_1460	Conserved hypothetical protein		228	MG335.1	Yes	
MYPYU_1470	DNA gyrase subunit A	gyrA	2664	MG004	Yes	Yes
MYPYU_1490	Hypothetical protein		1395	NA	NA	
MYPYU_1520	Inner membrane protein translocase component YidC	yldC	1827	MG464	Yes	
MYPYU_1530	Ribonuclease P protein component	rnpA	336	MG465	Yes	Yes
MYPYU_1540	Ribosomal protein L34	rpmH	147	MG466	Yes	Yes
MYPYU_1550	Cation-transporting P-type ATPase	mgtA	2790	MG071	Yes	
MYPYU_1580	Lipoprotein		1980	NA	NA	
MYPYU_1610	Predicted kinase, related to dihydroxyacetone kinase		1638	MG369	Yes	
MYPYU_1620	Fatty acid/phospholipid synthesis protein	plsX	978	MG368	Yes	Yes
MYPYU_1650	GTPase translation factor, putative	ychF	1110	MG024	No	
MYPYU_1680	Phosphatidylglycerophosphate synthase	pgsA	615	MG114	No	Yes
MYPYU_1730	Cysteine desulfurase	csd	1164	MG336	Yes	Yes
MYPYU_1740	IscU, NifU homolog involved in Fe-S cluster formation	iscU	435	MG337	Yes	Yes
MYPYU_1760	Conserved protein		1878	NA	NA	
MYPYU_1770	Cysteinyl-tRNA synthetase	cysS	1791	MG253	Yes	Yes
MYPYU_1800	Ribosomal protein L3s	rpmG	141	MG325	Yes	Yes
MYPYU_1820	Transcription antitermination protein NusG	nusG	591	MG054	Yes	Yes
MYPYU_1830	Prolyl-tRNA synthetase	proS	1506	MG283	Yes	Yes
MYPYU_1840	Thioredoxin	trxA	378	MG124	Yes	Yes
MYPYU_1990	Glutamyl-tRNA amidotransferase subunit C	gatC	306	MG098	Yes	Yes
MYPYU_2000	Glutamyl-tRNA amidotransferase subunit A	gatA	1347	MG099	Yes	Yes
MYPYU_2010	Aspartyl/glutamyl-tRNA amidotransferase subunit B	gatB	1485	MG100	Yes	Yes
MYPYU_2030	Transcription elongation factor NusA	nusA	1653	MG141	Yes	Yes
MYPYU_2050	Translation initiation factor IF-2	infB	1812	MG142	Yes	Yes
MYPYU_2190	Ribosome recycling factor	frr	564	MG435	Yes	Yes
MYPYU_2200	Uridylate kinase	pyrH	732	MG434	Yes	
MYPYU_2230	Molecular chaperone DnaK		1800	MG305	Yes	
MYPYU_2240	Phosphonate ABC transporter, ATP-binding protein, putative		741	MG290	No	

MYPUP_2250	Phosphonate ABC transporter, substrate binding protein (P37), putative		1239	MG289	No	
MYPUP_2310	Hypothetical protein		1149	NA	NA	
MYPUP_2330	Hypothetical protein		2391	NA	NA	
MYPUP_2350	ATP synthase alpha chain	atpA	1590	NA	NA	
MYPUP_2370	Phosphate acetyltransferase	pta	957	MG299	Yes	
MYPUP_2380	Acetate kinase	ackA	1182	MG357	Yes	
MYPUP_2390	GTPase protein YihA (EngB)	ysxC	561	MG335	Yes	Yes
MYPUP_2400	Pyruvate kinase	pyk	1428	MG216	Yes	
MYPUP_2430	Arginyl-tRNA synthetase	argS	1605	MG378	Yes	Yes
MYPUP_2440	COF family HAD hydrolase protein, conserved		813	MG265	Yes	
MYPUP_2460	Phosphoglycerate kinase	pgk	2316	MG300	Yes	Yes
MYPUP_2510	Hypothetical protein		1146	NA	NA	
MYPUP_2530	Glucose-inhibited division protein A	gidA	1836	MG379	Yes	
MYPUP_2560	Hypothetical protein		2364	NA	NA	
MYPUP_2570	Valyl-tRNA synthetase	valS	2484	MG334	Yes	Yes
MYPUP_2580	Methylenetetrahydrofolate dehydrogenase/methylenetetrahydrofolate cyclohydrolase	folD	819	MG013	Yes	Yes
MYPUP_2590	Translation initiation factor IF-3	infC	711	MG196	Yes	Yes
MYPUP_2600	Ribosomal protein L35	rpmI	195	MG197	Yes	Yes
MYPUP_2610	Ribosomal protein L20	rplT	351	MG198	Yes	Yes
MYPUP_2660	ATP synthase subunit B	atpD	1428	MG399	Yes	Yes
MYPUP_2670	ATP synthase subunit C	atpG	840	MG400	Yes	Yes
MYPUP_2680	ATP synthase subunit A	atpA	1587	MG401	Yes	
MYPUP_2690	ATP synthase delta chain	atpH	540	MG402	Yes	
MYPUP_2700	ATP synthase B chain	atpF	543	MG403	Yes	
MYPUP_2710	ATP synthase C chain	atpE	279	MG404	Yes	
MYPUP_2720	ATP synthase A chain	atpB	813	MG405	Yes	
MYPUP_2770	Phosphopentomutase	deoB	1185	NA	NA	
MYPUP_2820	Lipoprotein		2631	NA	NA	
MYPUP_2830	Oligopeptide ABC transporter, permease protein (OppB)	oppB	1059	MG077	Yes	
MYPUP_2840	Oligopeptide ABC transporter, permease protein (OppC)	oppC	1155	MG078	Yes	
MYPUP_2850	Oligopeptide ABC transporter, ATP-binding protein	oppD	1104	MG079	Yes	
MYPUP_2890	Ribosomal protein L7/L12	rplL	369	MG362	Yes	Yes
MYPUP_2900	Ribosomal protein L10	rplJ	561	MG361	Yes	Yes
MYPUP_2930	Conserved hypothetical protein, putative Na <sup>+</sup> driven multidrug efflux pump		1560	NA	NA	
MYPUP_2950	Conserved hypothetical membrane protein		675	MG247	Yes	Yes
MYPUP_2980	Pseudouridine synthase	rluD	891	MG209	Yes	
MYPUP_3000	Ribonuclease HIII	rnhC	732	MG199	Yes	
MYPUP_3010	COF family HAD hydrolase protein		924	MG265	Yes	

MYPYU_3030	SpoU class tRNA/rRNA methyltransferase		525	MG346	No	Yes
MYPYU_3050	Conserved hypothetical protein		294	MG211	Yes	
MYPYU_3060	GTPase protein YlqF	ylqF	876	MG442	Yes	Yes
MYPYU_3100	Formamidopyrimidine-DNA glycosylase MutM	fpg	837	MG262.1	Yes	
MYPYU_3120	Acyl carrier protein phosphodiesterase	acpD	597	MG333	Yes	Yes
MYPYU_3130	Hypothetical protein, possible esterase or lipase		8460	NA	NA	
MYPYU_3140	Deoxyribose-phosphate aldolase	deoC	690	MG050	Yes	
MYPYU_3150	Uracil phosphoribosyltransferase	upp	627	MG030	Yes	
MYPYU_3220	Adenine phosphoribosyltransferase	apt	513	MG276	Yes	
MYPYU_3230	Lipoprotein		1896	NA	NA	
MYPYU_3240	Ribosomal protein L32	rpmF	186	MG363	Yes	Yes
MYPYU_3280	Ribosomal protein S15	rpsO	267	MG424	Yes	Yes
MYPYU_3290	Ribosomal protein L27	rpmA	258	MG234	Yes	Yes
MYPYU_3300	Ribosomal protein L21	rplU	396	MG232	Yes	Yes
MYPYU_3320	Aspartyl-tRNA synthetase	aspS	1737	MG036	Yes	Yes
MYPYU_3330	Histidyl-tRNA synthetase	hisS	1263	MG035	Yes	Yes
MYPYU_3350	Nicotinamide-nucleotide adenylyltransferase	nadD	1101	MG240	Yes	Yes
MYPYU_3390	Serine hydroxymethyltransferase	glyA	1242	MG394	Yes	Yes
MYPYU_3420	Signal recognition particle protein	ffh	1350	MG048	Yes	Yes
MYPYU_3470	Phenylalanyl-tRNA synthetase, beta subunit	pheT	2157	MG195	Yes	Yes
MYPYU_3480	Phenylalanyl-tRNA synthetase, alpha subunit	pheS	945	MG194	Yes	Yes
MYPYU_3520	SsrA-binding protein	smpB	438	MG059	Yes	Yes
MYPYU_3530	GTPase protein Obg	obg	1257	MG384	Yes	Yes
MYPYU_3580	Acyl carrier protein	acpA	222	MG287	Yes	Yes
MYPYU_3590	DegV family protein		867	MG326	Yes	
MYPYU_3610	PTS system, N-acetylglucosamine-specific IIABC component	nagE	1578	NA	NA	
MYPYU_3640	PTS system, glucose-specific IIABC component	ptsG	1809	MG069	Yes	
MYPYU_3720	DNA topoisomerase IV subunit B	parE	1929	MG203	Yes	Yes
MYPYU_3730	DNA topoisomerase IV subunit A	parC	2820	MG204	Yes	Yes
MYPYU_3740	Lipoprotein		1449	NA	NA	Yes
MYPYU_3800	GTP-binding protein Era	era	882	MG387	Yes	Yes
MYPYU_3860	Metal ion ABC transporter, ATP-binding protein, putative	cbiO	798	MG179	Yes	
MYPYU_3870	Metal ion ABC transporter ATP-binding protein, putative	cbiO	915	MG180	Yes	
MYPYU_3880	Metal ion ABC transporter, permease protein	cbiQ	891	MG181	Yes	
MYPYU_3890	DNA ligase, NAD-dependent	ligA	2040	MG254	Yes	Yes
MYPYU_4010	DNA ligase, NAD-dependent	ligA	1104	NA	NA	
MYPYU_4050	Elongation factor Tu	tufA	1191	MG451	Yes	Yes
MYPYU_4060	Conserved hypothetical protein	ymdA	1338	NA	NA	Yes
MYPYU_4070	Conserved hypothetical protein		627	MG105	Yes	

MYPYU_4080	Mg <sup>2+</sup> transport protein (MgtE)		1458	NA	NA	
MYPYU_4100	Oligopeptide ABC transporter, permease protein	oppB	1107	NA	NA	
MYPYU_4210	Potassium channel protein		1035	NA	NA	
MYPYU_4220	Spermidine/putrescine ABC transporter substrate binding protein	potD	1719	MG045	Yes	
MYPYU_4230	Spermidine/putrescine ABC transporter permease protein PotC	potC	894	MG044	Yes	
MYPYU_4240	Spermidine/putrescine ABC transporter permease protein PotB	potB	840	MG043	Yes	
MYPYU_4250	Spermidine/putrescine ABC transporter ATP-binding protein PotA	potA	1377	MG042	Yes	
MYPYU_4280	Elongation factor EF-2	fusA	2088	MG089	Yes	Yes
MYPYU_4290	Ribosomal protein S7	rpsG	471	MG088	Yes	Yes
MYPYU_4300	Ribosomal protein S12	rpsL	414	MG087	Yes	Yes
MYPYU_4440	Hypothetical protein		1527	NA	NA	
MYPYU_4480	Hypothetical protein		2739	NA	NA	
MYPYU_4490	ATP synthase subunit A		1542	NA	NA	
MYPYU_4510	Glycyl-tRNA synthetase	glyS	1362	MG251	Yes	Yes
MYPYU_4530	DNA primase	dnaG	1809	MG250	Yes	Yes
MYPYU_4540	RNA polymerase sigma factor	rpoD (sigA)	1386	MG249	Yes	Yes
MYPYU_4580	Triosephosphate isomerase	tpiA	747	MG431	Yes	Yes
MYPYU_4590	Phosphoglyceromutase	pgm	1518	MG430	Yes	Yes
MYPYU_4620	DNA polymerase III delta subunit	holA	942	NA	NA	Yes
MYPYU_4670	Ribosomal protein L19	rplS	354	MG444	Yes	Yes
MYPYU_4680	tRNA (guanine-N1)-methyltransferase	trmD	678	MG445	Yes	Yes
MYPYU_4690	Ribosomal protein S16	rpsP	267	MG446	Yes	Yes
MYPYU_4700	Inorganic pyrophosphatase	ppa	552	MG351	Yes	Yes
MYPYU_4710	DNA topoisomerase I	topA	1878	MG122	Yes	Yes
MYPYU_4740	Phosphatidate cytidylyltransferase	cdsA	969	MG437	No	Yes
MYPYU_4760	Conserved hypothetical protein		1683	MG366	Yes	
MYPYU_4770	Conserved hypothetical protein		852	MG373	Yes	
MYPYU_4830	Nicotinate phosphoribosyltransferase		1005	NA	NA	Yes
MYPYU_4840	Conserved hypothetical protein		2736	NA	NA	
MYPYU_4850	Tyrosyl-tRNA synthetase	tyrS	1245	MG455	Yes	Yes
MYPYU_4860	Phenylalanyl-tRNA synthetase, beta subunit	pheT	591	MG195	Yes	Yes
MYPYU_4880	Aminopeptidase	pepP	1047	MG324	Yes	
MYPYU_4900	Methionyl-tRNA synthetase	metS	1530	MG021	Yes	Yes
MYPYU_4910	Cell division protein FtsZ	ftsZ	1173	MG224	Yes	Yes
MYPYU_4920	Hypothetical protein		1233	NA	NA	
MYPYU_4930	S-adenosyl-methyltransferase		900	MG222	Yes	
MYPYU_4940	Protein MraZ		465	MG221	Yes	
MYPYU_4950	Ribosomal protein L13	rplM	435	MG418	Yes	Yes
MYPYU_4960	Ribosomal protein S9	rpsI	411	MG417	Yes	Yes

MYPYU_5060	Methionine sulfoxide reductase B	msrB	438	MG448	Yes	
MYPYU_5110	Transketolase	tktA	1848	MG066	No	Yes
MYPYU_5130	Elongation factor P	efp	564	MG026	Yes	
MYPYU_5140	Conserved hypothetical protein, possible hemolysin		1290	MG146	Yes	
MYPYU_5150	Replicative DNA helicase	dnaC	1368	MG094	Yes	Yes
MYPYU_5160	Ribosomal protein L9	rplI	471	MG093	Yes	Yes
MYPYU_5170	Conserved hypothetical protein		1983	NA	NA	
MYPYU_5180	Enolase	eno	1371	MG407	Yes	Yes
MYPYU_5190	Heat shock ATP-dependent protease La	lon	2529	MG239	Yes	
MYPYU_5320	Elongation factor Ts	tsf	885	MG433	Yes	Yes
MYPYU_5330	Ribosomal protein S2	rpsB	993	MG070	Yes	Yes
MYPYU_5370	Dihydrofolate reductase	dhfr	540	MG228	Yes	Yes
MYPYU_5400	Ribonucleoprotein NrdI	nrdI	456	MG230	Yes	Yes
MYPYU_5450	DNA-directed RNA polymerase beta' subunit	rpoC	4281	MG340	Yes	Yes
MYPYU_5460	DNA-directed RNA polymerase beta subunit	rpoB	3651	MG341	Yes	Yes
MYPYU_5480	Riboflavin kinase/FAD synthetase	ribF	840	MG145	Yes	
MYPYU_5490	COF family HAD hydrolase protein		828	MG265	Yes	
MYPYU_5510	Hypoxanthine-guanine phosphoribosyltransferase	hpt (hprT)	582	MG458	Yes	Yes
MYPYU_5530	Transcription elongation factor GreA	greA	495	MG282	Yes	
MYPYU_5560	Holliday junction resolvase, putative		441	MG291.1	Yes	
MYPYU_5570	Alanyl-tRNA synthetase	alaS	2622	MG292	Yes	Yes
MYPYU_5580	tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase	trmU	1116	MG295	Yes	Yes
MYPYU_5600	Ribosomal protein L17	rplQ	363	MG178	Yes	Yes
MYPYU_5610	DNA-directed RNA polymerase alpha subunit	rpoA	1002	MG177	Yes	Yes
MYPYU_5620	Ribosomal protein S11	rpsK	411	MG176	Yes	Yes
MYPYU_5630	Ribosomal protein S13	rpsM	399	MG175	Yes	Yes
MYPYU_5640	Ribosomal protein L36	rplJ	114	MG174	Yes	Yes
MYPYU_5650	Translation initiation factor IF-1	infA	219	MG173	Yes	Yes
MYPYU_5660	Methionine aminopeptidase	map	750	MG172	Yes	Yes
MYPYU_5670	Adenylate kinase	adk	645	MG171	Yes	Yes
MYPYU_5680	Preprotein translocase SecY	secY	1425	MG170	Yes	Yes
MYPYU_5690	Ribosomal protein L15	rplO	438	MG169	Yes	Yes
MYPYU_5700	Ribosomal protein S5	rpsE	690	MG168	Yes	Yes
MYPYU_5710	Ribosomal protein L18	rplR	357	MG167	Yes	Yes
MYPYU_5720	Ribosomal protein L6	rplF	540	MG166	Yes	Yes
MYPYU_5730	Ribosomal protein S8	rpsH	399	MG165	Yes	Yes
MYPYU_5740	Ribosomal protein S14	rpsN	186	MG164	Yes	Yes
MYPYU_5750	Ribosomal protein L5	rplE	546	MG163	Yes	Yes
MYPYU_5760	Ribosomal protein L24	rplX	327	MG162	Yes	Yes

MYPU_5770	Ribosomal protein L14	rplN	396	MG161	Yes	Yes
MYPU_5780	Ribosomal protein S17	rpsQ	267	MG160	Yes	Yes
MYPU_5790	Ribosomal protein L29	rmpC	198	MG159	Yes	Yes
MYPU_5800	Ribosomal protein L16	rplP	429	MG158	Yes	Yes
MYPU_5810	Ribosomal protein S3	rpsC	654	MG157	Yes	Yes
MYPU_5830	Ribosomal protein L22	rplV	333	MG156	Yes	Yes
MYPU_5840	Ribosomal protein S19	rpsS	276	MG155	Yes	Yes
MYPU_5850	Ribosomal protein L2	rplB	846	MG154	Yes	Yes
MYPU_5860	Ribosomal protein L23	rplW	465	MG153	Yes	Yes
MYPU_5870	Ribosomal protein L4	rplD	879	MG152	Yes	Yes
MYPU_5890	Ribosomal protein L3	rplC	801	MG151	Yes	Yes
MYPU_5900	Ribosomal protein S10	rpsJ	312	MG150	Yes	Yes
MYPU_6010	6-phosphofruktokinase	pfkA	981	MG215	Yes	Yes
MYPU_6020	Phosphoenolpyruvate-protein phosphotransferase	ptsI	1710	MG429	Yes	
MYPU_6030	Phosphocarrier protein HPr	ptsH	264	MG041	Yes	Yes
MYPU_6100	Single-strand DNA binding protein	ssb	546	MG091	Yes	Yes
MYPU_6110	Ribosomal protein S6	rbsF	453	MG090	Yes	Yes
MYPU_6120	Ribose-5-phosphate isomerase B	rpiB	468	MG396	Yes	
MYPU_6130	Conserved protein		462	NA	NA	Yes
MYPU_6210	Endonuclease IV	nfo	834	MG235	Yes	
MYPU_6230	NH(3)-dependent NAD(+) synthase	nadE	774	MG383	Yes	Yes
MYPU_6330	Oligo-1,6-glucosidase		1635	NA	NA	
MYPU_6450	Purine nucleoside phosphorylase	deoD	699	MG049	Yes	
MYPU_6560	Ribosomal protein S20	rpsT	333	MG363.1	Yes	Yes
MYPU_6590	Protein-export membrane protein SecD	secD	2622	NA	NA	
MYPU_6650	Cardiolipin synthetase	cls	1506	NA	NA	
MYPU_6660	CTP synthetase	pyrG	1620	NA	NA	Yes
MYPU_6670	Isoleucyl-tRNA synthetase		2667	MG345	Yes	Yes
MYPU_6680	Lipoprotein signal peptidase (signal peptidase II)	lspA	831	MG210	No	
MYPU_6690	Hypothetical protein, likely surface protein		1983	NA	NA	
MYPU_6700	Conserved hypothetical protein		1944	MG414	No	
MYPU_6710	Conserved hypothetical protein, possible Ser/Thr protein phosphatase		813	MG246	Yes	
MYPU_6720	Ribosome-binding factor A		339	MG143	Yes	
MYPU_6740	Cell division protein FtsY	ftsY	1122	MG297	Yes	Yes
MYPU_6750	DNA polymerase III subunit alpha	polC	4308	MG031	Yes	Yes
MYPU_6820	Glutamyl-tRNA synthetase	gltX	1407	MG462	Yes	Yes
MYPU_6850	Serine/threonine-protein kinase PknB	pknB	963	MG109	Yes	
MYPU_6860	Protein phosphatase		738	MG108	Yes	
MYPU_6870	Guanylate kinase	gmk	591	MG107	Yes	Yes
MYPU_6890	Peptide deformylase	def	597	MG106	Yes	

MYPYU_6900	ABC transporter ATP-binding protein		1614	NA	NA	
MYPYU_6920	Phosphoesterase, DHH subfamily 1		975	MG190	Yes	
MYPYU_6990	ATP synthase subunit B		1407	MG399	Yes	
MYPYU_7020	S-adenosylmethionine synthetase	metK	1131	MG047	Yes	Yes
MYPYU_7040	Metallo-beta-lactamase superfamily protein		1896	MG139	Yes	Yes
MYPYU_7050	Hydrolase, metallo-beta-lactamase superfamily		1641	MG423	Yes	
MYPYU_7070	Thioredoxin	trxA	330	MG124	Yes	Yes
MYPYU_7090	Conserved hypothetical protein, possibly related to phosphomannomutase		1536	NA	NA	
MYPYU_7110	HPr kinase/phosphorylase	hprK	930	MG085	Yes	
MYPYU_7120	Prolipoprotein diacylglyceryl transferase	lgt	969	MG086	Yes	
MYPYU_7130	Thioredoxin reductase	trxB	924	MG102	Yes	Yes
MYPYU_7140	Chromosome segregation ATPase Smc	smc	2940	MG298	No	Yes
MYPYU_7160	Ribosomal protein S4	rpsD	600	MG311	Yes	Yes
MYPYU_7170	Hypothetical protein		1665	NA	NA	
MYPYU_7180	Thiamine biosynthesis/tRNA modification protein	thiI	1140	MG372	Yes	
MYPYU_7190	DNA polymerase III subunit alpha	dnaE	2946	MG261	Yes	Yes
MYPYU_7200	5'-3' exonuclease, exo domain of DNA polymerase I		894	MG262	Yes	
MYPYU_7220	Chromosome replication initiation and membrane attachment protein	dnaB	945	NA	NA	Yes
MYPYU_7240	Hypothetical protein		1326	NA	NA	
MYPYU_7260	Aminopeptidase (leucine aminopeptidase)	pepA	1365	MG391	Yes	
MYPYU_7330	Heat shock protein DnaJ	dnaJ	1152	MG019	Yes	
MYPYU_7380	Conserved hypothetical protein, putative Na <sup>+</sup> driven multidrug efflux pump		1497	NA	NA	
MYPYU_7390	DNA gyrase subunit B	gyrB	1935	MG003	Yes	Yes
MYPYU_7430	Conserved hypothetical protein		1482	NA	NA	
MYPYU_7450	Tryptophanyl-tRNA synthetase	trpS	999	MG126	Yes	Yes
MYPYU_7460	Threonyl-tRNA synthetase	thrS	1770	MG375	Yes	
MYPYU_7610	Dihydroliipoamide dehydrogenase	pdhD	1884	MG271	No	
MYPYU_7620	Dihydroliipoamide acetyltransferase	pdhC	948	MG272	Yes	Yes
MYPYU_7640	Pyruvate dehydrogenase component E1, alpha subunit	pdhA	1107	MG274	Yes	Yes
MYPYU_7660	Conserved hypothetical protein, degV family member		849	MG326	Yes	
MYPYU_7670	Hypothetical protein		1599	NA	NA	
MYPYU_7680	ATP-dependent helicase PcrA	pcrA (uvrD)	2184	MG244	No	Yes
MYPYU_7700	Glycosyltransferase		1011	MG335.2	Yes	
MYPYU_7710	Asparaginyl-tRNA synthetase	asnS	1353	MG113	Yes	Yes
MYPYU_7730	ABC transporter ATP-binding protein		906	MG065	Yes	
MYPYU_7740	ABC transporter permease protein		7800	MG064	Yes	
MYPYU_7790	Cell division protein FtsH	ftsH	2178	MG457	Yes	
MYPYU_7800	PP-loop superfamily ATPase/cell cycle protein	mesJ	861	MG084	Unknown	Yes



MYPU_7810	Peptidyl-tRNA hydrolase	pth (spoVC)	561	MG083	Yes	Yes
MYPU_7820	Exodeoxyribonuclease V alpha chain	recD	2085	NA	NA	

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<sup>a</sup>Essential genes in *M. genitalium* (Mg) and *B. subtilis* (Bs) are as reported by Glass et al. and Kobayashi et al. (Glass *et al.*, 2006; Kobayashi *et al.*, 2003).