

Chaperone client proteins

References: Fujiwara K, Ishihama Y, Nakahigashi K, Soga T, Taguchi H, EMBO J., 2010, 29 (9), 1552-64
Calloni G, Chen T, Schermann SM, Chang HC, Genevoux P, Agostini F, Tartaglia GG, Hayer-Hartl M, Hartl FU, Cell Rep., 2012, 1 (3), 251-64

Protein name	RefSeqID	geneID	sequence length (aa)	# of TMHs (TMHMM)?	Has PDB?	signal sequence?	multimerization?	DnaK substrate?	GroEL substrate?	Reference
IS186 transposase	NP_414557.1	insL	370	0	No	No	N/A	Yes	No	Calloni et al.
L-arabinose isomerase	NP_414604.1	araA	500	0	Yes	No	Hexamer	No	Yes	Fujiwara et al.
GTP-binding tubulin-like cell division protein	NP_414637.1	ftsZ	383	0	No	No	Dimer	Yes	No	Calloni et al.
conserved protein	NP_414644.1	yacF	247	0	No	No	N/A	Yes	No	Calloni et al.
carbonic anhydrase	NP_414668.1	can	220	0	Yes	No	Dimer	Yes	No	Calloni et al.
tetraacyldisaccharide-1-P synthase	NP_414724.1	lpxB	382	0	No	No	N/A	Yes	No	Calloni et al.
ribonuclease HII, degrades RNA of DNA-RNA hybrids	NP_414725.1	rhbB	198	0	No	No	N/A	Yes	No	Calloni et al.
DL-methionine transporter subunit	NP_414741.1	metN	343	0	Yes	No	Pentamer	Yes	No	Calloni et al.
conserved protein	NP_414745.1	yafD	266	0	No	No	N/A	No	Yes	Fujiwara et al.
antitoxin of YafQ-DinJ toxin-antitoxin system	NP_414761.1	dinJ	86	0	No	No	Tetramer	Yes	No	Calloni et al.
IS5 transposase and trans-activator	NP_414793.1	insH	338	0	No	No	N/A	Yes	No	Calloni et al.
alcohol dehydrogenase class III/glutathione-dependent formaldehyde dehydrogenase	NP_414890.1	frmA	369	0	No	No	Dimer	Yes	No	Calloni et al.
dehydratase (porphobilinogen synthase)	NP_414903.4	hemB	324	0	Yes	No	>Hexamer	No	Yes	Fujiwara et al.
exonuclease, dsDNA, ATP-dependent	NP_414932.1	sbcD	400	0	No	No	Dimer	Yes	No	Calloni et al.
conserved protein	NP_414938.1	acpH	193	0	No	No	N/A	No	Yes	Fujiwara et al.
conserved protein	NP_414947.1	nrdR	149	0	No	No	N/A	Yes	No	Calloni et al.
2-carboxybenzaldehyde reductase, function unknown	NP_414953.2	yajO	324	0	No	No	N/A	No	Yes	Fujiwara et al.
proteolytic subunit of ClpA-ClpP and ClpX-ClpP ATP-dependent serine proteases	NP_414971.1	clpP	207	0	Yes	No	>Hexamer	Yes	No	Calloni et al.
modulator of gene expression, with H-NS	NP_414993.1	hha	72	0	Yes	No	N/A	Yes	No	Calloni et al.
DNA-binding global transcriptional activator; DLP12 prophage	NP_415096.1	appY	249	0	No	No	N/A	Yes	No	Calloni et al.
DLP12 prophage; outer membrane protease VII (outer membrane protein 3b)	NP_415097.1	ompT	317	0	Yes	Yes	Pentamer	Yes	No	Calloni et al.
isochorismate synthase 1	NP_415125.1	entC	391	0	Yes	No	Monomer	Yes	No	Calloni et al.
isochorismatase	NP_415127.1	entB	285	0	Yes	No	Tetramer	Yes	No	Calloni et al.
lipote synthase	NP_415161.1	lipA	321	0	No	No	N/A	Yes	Yes	Fujiwara et al.
septal ring protein, suppressor of prc, minor	NP_415166.1	rlpA	362	0	No	No	N/A	Yes	No	Calloni et al.
tRNA-i(6)A37 methylthiotransferase	NP_415194.1	miaB	474	0	No	No	Monomer	Yes	No	Calloni et al.
succinate dehydrogenase, flavoprotein subunit	NP_415251.1	sdhA	588	0	Yes	No	Tetramer	Yes	Yes	Fujiwara et al., Calloni et al.
8-amino-7-oxononanoate synthase	NP_415297.1	bioF	384	0	Yes	No	Dimer	No	Yes	Fujiwara et al.
malonyl-CoA methyltransferase, SAM-dependent	NP_415298.1	bioC	251	0	No	No	N/A	Yes	No	Calloni et al.
dethiobiotin synthetase	NP_415299.1	bioD	225	0	Yes	No	Dimer	Yes	No	Calloni et al.
molybdopterin biosynthesis protein A	NP_415302.1	moaA	329	0	No	No	N/A	Yes	No	Calloni et al.
molybdopterin biosynthesis, protein C	NP_415304.1	moaC	161	0	Yes	No	Hexamer	Yes	No	Calloni et al.
glutamine transporter subunit	NP_415330.1	glnQ	240	0	No	No	Tetramer	Yes	No	Calloni et al.
L,D-transpeptidase linking Lpp to murein	NP_415340.1	ybiS	306	1	No	Yes	N/A	Yes	No	Calloni et al.
molybdopterin synthase sulfurlyase	NP_415347.1	moeB	249	0	Yes	No	Dimer	Yes	No	Calloni et al.
ribosomal protein S12 methylthiotransferase; radical SAM superfamily	NP_415356.1	rimO	441	0	No	No	N/A	Yes	No	Calloni et al.
FMN and erythrose-4-P phosphatase	NP_415365.4	ybjI	271	0	No	No	N/A	Yes	No	Calloni et al.
putrescine transporter subunit: ATP-binding component of ABC	NP_415376.4	potG	377	0	No	No	N/A	Yes	No	Calloni et al.
oxidoreductase with NAD(P)-binding Rossmann-fold domain	NP_415389.2	ybiS	337	0	No	No	N/A	No	Yes	Fujiwara et al.
L-allo-threonine aldolase, PLP-dependent	NP_415391.1	ltaE	333	0	No	No	Tetramer	No	Yes	Fujiwara et al.

conserved protein	NP_415398.1	ybiX	330	0	No	No	N/A	Yes	No	Calloni et al.
ring sorting daughter chromosomes	NP_415410.1	ftsK	1329	5	No	No	Hexamer	Yes	No	Calloni et al.
predicted hydrolase, isochorismatase family	NP_415417.1	ycaC	208	0	Yes	No	>Hexamer	Yes	No	Calloni et al.
3-phosphoserine/phosphohydroxythreonine aminotransferase	NP_415427.1	serC	362	0	Yes	No	Dimer	No	Yes	Fujiwara et al.
conserved protein, UPF0434 family	NP_415437.1	ycaR	60	0	No	No	N/A	Yes	No	Calloni et al.
outer membrane porin 1a (Ia;B;F)	NP_415449.1	ompF	362	0	Yes	Yes	Trimer	Yes	No	Calloni et al.
dihydro-orotate oxidase, FMN-linked	NP_415465.1	pyrD	336	0	Yes	No	Monomer	No	Yes	Fujiwara et al.
phosphotyrosine-protein phosphatase	NP_415502.4	etp	148	0	No	No	N/A	Yes	No	Calloni et al.
DNA-binding response regulator in two-component regulatory system with TorS	NP_415515.1	torR	230	0	No	No	N/A	Yes	No	Calloni et al.
curved DNA-binding protein, DnaJ homologue that functions as a co-chaperone	NP_415520.1	cbpA	306	0	No	No	N/A	Yes	No	Calloni et al.
curli production assembly/transport outer membrane lipoprotein	NP_415555.1	csgG	277	0	No	Yes	N/A	Yes	No	Calloni et al.
DNA-binding transcriptional activator for csgBA	NP_415558.1	csgD	216	0	No	No	N/A	Yes	No	Calloni et al.
predicted rhodanese-related sulfurtransferase	NP_415573.1	yceA	350	0	No	No	N/A	Yes	No	Calloni et al.
dihydro-orotase	NP_415580.1	pyrC	348	0	Yes	No	Dimer	Yes	Yes	Fujiwara et al., Calloni et al.
anti-sigma factor for FliA (sigma 28)	NP_415589.1	flgM	97	0	No	No	N/A	Yes	No	Calloni et al.
3-oxoacyl-[acyl-carrier-protein] synthase II	NP_415613.1	fabF	413	0	Yes	No	Dimer	No	Yes	Fujiwara et al.
predicted DNase	NP_415618.1	ycfH	265	0	Yes	No	N/A	No	Yes	Fujiwara et al.
outer membrane lipoprotein	NP_415623.1	ycfM (lpoB)	213	0	No	Yes	N/A	Yes	No	Calloni et al.
beta N-acetyl-	NP_415625.1	naqZ	341	0	No	No	Monomer	No	Yes	Fujiwara et al.
outer membrane-specific lipoprotein transporter subunit	NP_415635.4	lolD	233	0	No	No	Tetramer	Yes	No	Calloni et al.
membrane ATPase of the MinC-MinD-MinE system	NP_415693.1	minD	270	0	Yes	No	N/A	Yes	No	Calloni et al.
predicted protein	NP_415696.1	ycgK (pliG)	133	0	Yes	Yes	N/A	Yes	No	Calloni et al.
D-amino acid dehydrogenase	NP_415707.1	dadA	432	0	No	No	Dimer	No	Yes	Fujiwara et al.
alanine racemase 2, PLP-binding	NP_415708.1	dadX	356	0	No	No	N/A	No	Yes	Fujiwara et al.
octulosonate 8-phosphate synthase	NP_415733.1	kdsA	284	0	Yes	No	Trimer	No	Yes	Fujiwara et al.
nitrate reductase 1, alpha subunit	NP_415742.1	narG	1247	0	Yes	No	Hexamer	Yes	No	Calloni et al.
conserved protein, UPF0225 family	NP_415749.1	yehJ	152	0	No	No	N/A	Yes	No	Calloni et al.
thymidine kinase/deoxyuridine kinase	NP_415754.1	tdk	205	0	No	No	Tetramer	Yes	No	Calloni et al.
oligopeptide transporter subunit	YP_025300.1	oppD	337	0	No	No	N/A	Yes	No	Calloni et al.
membrane spanning protein in TonB-ExbB-ExbD transport complex	NP_415768.1	tonB	239	0	No	No	Dimer	Yes	No	Calloni et al.
outer membrane protein W	NP_415772.1	ompW	212	0	Yes	Yes	N/A	Yes	No	Calloni et al.
DNA:cysteine-protein methyltransferase	NP_415851.1	ogt	171	0	No	No	N/A	Yes	No	Calloni et al.
tRNA 2-thiocytidine biosynthesis protein	NP_415860.1	ttcA	311	0	No	No	N/A	Yes	No	Calloni et al.
Rac prophage; recombination and repair protein	NP_415865.1	recT	269	0	No	No	Tetramer	Yes	No	Calloni et al.
predicted DNA-binding transcriptional regulator	NP_415939.2	ydcl	307	0	No	No	N/A	Yes	No	Calloni et al.
predicted peptidase	NP_415952.2	ydcP	653	0	No	No	N/A	Yes	No	Calloni et al.
glutamate decarboxylase B, PLP-dependent	NP_416010.1	gadB	466	0	Yes	No	Hexamer	Yes	No	Calloni et al.
putative autoinducer-2 (AI-2) aldolase	NP_416034.1	yneB (IsrF)	291	0	Yes	No	N/A	No	Yes	Fujiwara et al.
bifunctional D-altronate/D-mannonate dehydratase	NP_416098.1	rspA	404	0	No	No	N/A	No	Yes	Fujiwara et al.
predicted protein	NP_416121.1	ydgH	314	0	No	Yes	N/A	Yes	No	Calloni et al.
adenosine deaminase	NP_416140.1	add	333	0	No	No	N/A	No	Yes	Fujiwara et al.

electron transport complex protein required for the reduction of SoxR; predicted membrane-associated NADH oxidoreductase	NP_416146.1	rsxC	740	0	No	No	Hexamer	Yes	No	Calloni et al.
electron transport complex protein required for the reduction of SoxR	NP_416148.1	rsxG	206	0	No	Yes	Hexamer	Yes	No	Calloni et al.
cysteine desulfurase, stimulated by SufE; selenocysteine lyase, PLP-dependent	NP_416195.1	csdB (sufS)	406	0	Yes	No	Dimer	No	Yes	Fujiwara et al.
predicted FAD-linked oxidoreductase	NP_416202.1	ydiJ	1018	0	No	No	N/A	Yes	No	Calloni et al.
subunit : ATP-binding component of ABC superfamily	NP_416224.1	btuD	249	0	Yes	No	Pentamer	Yes	No	Calloni et al.
threonyl-tRNA synthetase	NP_416234.1	thrS	642	0	Yes	No	Dimer	Yes	No	Calloni et al.
catalase HP11, heme d-containing	YP_025308.1	katE	753	0	Yes	No	Tetramer	Yes	No	Calloni et al.
glutamate dehydrogenase, NADP-specific	NP_416275.1	gdhA	447	0	Yes	No	Hexamer	No	Yes	Fujiwara et al.
diguanylate cyclase	NP_416308.4	yeaP	341	0	No	No	Dimer	Yes	No	Calloni et al.
fused mannose-specific PTS enzymes: IIA component/IIB component	NP_416331.1	manX	323	0	No	No	N/A	Yes	No	Calloni et al.
23S rRNA m(1)G745 methyltransferase	NP_416336.1	rlmA	269	0	Yes	No	Dimer	Yes	No	Calloni et al.
DNA polymerase III, theta subunit	NP_416356.1	holE	76	0	Yes	No	>Hexamer	Yes	No	Calloni et al.
DNA exonuclease X	NP_416358.1	exoX	220	0	No	No	N/A	Yes	No	Calloni et al.
zinc transporter subunit: periplasmic-binding component of ABC	NP_416371.4	znuA	310	0	Yes	Yes	N/A	Yes	No	Calloni et al.
zinc transporter subunit: ATP-binding component of ABC superfamily	NP_416372.1	znuC	251	0	No	No	Pentamer	Yes	No	Calloni et al.
ATP-dependent DNA helicase, component of RuvABC resolvosome	NP_416374.1	ruvB	336	0	No	No	>Hexamer	Yes	No	Calloni et al.
DNA-binding response regulator in two-component regulatory system with BarA	NP_416424.1	uvrY	218	0	No	No	N/A	Yes	No	Calloni et al.
predicted transporter subunit: ATP-binding component of ABC superfamily	NP_416427.1	yecC	250	0	No	No	N/A	Yes	No	Calloni et al.
dTDP-4-deoxyribose-3,5-epimerase	NP_416542.1	rbcC	185	0	No	No	Dimer	No	Yes	Fujiwara et al.
uridine/cytidine kinase	NP_416570.2	udk	213	0	No	No	Tetramer	Yes	No	Calloni et al.
D-tagatose 1,6-bisphosphate aldolase 2, subunit	NP_416598.1	gatZ	420	0	Yes	No	Dimer	Yes	No	Calloni et al.
D-tagatose 1,6-bisphosphate aldolase 2, catalytic subunit	NP_416599.2	gatY	284	0	No	No	Dimer	No	Yes	Fujiwara et al.
fructose-bisphosphate aldolase class I	NP_416600.4	fbaB	350	0	No	No	>Hexamer	No	Yes	Fujiwara et al.
FAD-binding, NADH independent	NP_416637.1	dld	571	0	Yes	No	N/A	Yes	No	Calloni et al.
tRNA-dihydrouridine synthase C	NP_416645.1	dusC	315	0	No	No	N/A	No	Yes	Fujiwara et al.
endonuclease IV with intrinsic 3'-5' exonuclease activity	NP_416664.1	nfo	285	0	Yes	No	Monomer	No	Yes	Fujiwara et al.
DNA-binding response regulator in two-component regulatory system with NarQ or NarX	NP_416697.1	narP	215	0	No	No	N/A	Yes	No	Calloni et al.
outer membrane porin protein C	NP_416719.1	ompC	367	0	Yes	Yes	Trimer	Yes	No	Calloni et al.
conserved protein, acid-induced	NP_416740.1	inaA	216	0	No	No	N/A	Yes	No	Calloni et al.
NADH:ubiquinone oxidoreductase, chain G	NP_416786.4	nuoG	908	0	No	No	>Hexamer	Yes	No	Calloni et al.
NADH:ubiquinone oxidoreductase, chain E	NP_416788.1	nuoE	166	0	No	No	>Hexamer	Yes	No	Calloni et al.
NADH:ubiquinone oxidoreductase, fused CD subunit	NP_416789.2	nuoC	596	0	No	No	>Hexamer	Yes	Yes	Fujiwara et al., Calloni et al.
NADH:ubiquinone oxidoreductase, chain B	NP_416790.1	nuoB	220	0	No	No	>Hexamer	Yes	No	Calloni et al.
valine-pyruvate aminotransferase 2	NP_416793.1	yfbQ (alaA)	405	0	No	No	Dimer	Yes	Yes	Fujiwara et al.
histidine/lysine/arginine/ornithine transporter subunit	NP_416809.1	hisP	257	0	No	No	N/A	Yes	No	Calloni et al.
DNA-binding transcriptional dual regulator	NP_416865.1	dsdC	311	0	No	No	N/A	Yes	No	Calloni et al.

hybrid sensory histidine kinase in two-component regulatory system with EvgA	NP_416871.1	evgS	1197	0	No	Yes	N/A	Yes	No	Calloni et al.
pyridoxal-pyridoxamine kinase/hydroxymethylpyrimidine kinase	NP_416913.1	pdxK	283	0	Yes	No	N/A	Yes	No	Calloni et al.
lyase, large subunit, heavy chain	NP_416936.4	eutB	453	0	Yes	No	Dimer	No	Yes	Fujiwara et al.
dihydrodipicolinate synthase dependent and NAD(P)-binding	NP_416973.1	dapA	292	0	Yes	No	Tetramer	No	Yes	Fujiwara et al.
predicted DNA-binding transcriptional regulator	NP_417040.2	yphC	353	0	No	No	N/A	Yes	No	Calloni et al.
predicted DNA-binding transcriptional regulator	NP_417045.4	yphH	397	0	No	No	N/A	Yes	No	Calloni et al.
tRNA-specific adenosine deaminase	NP_417054.2	tadA	167	0	Yes	No	Dimer	Yes	No	Calloni et al.
membrane-associated, 16S rRNA-binding GTPase	NP_417061.1	era	301	0	Yes	No	Monomer	Yes	No	Calloni et al.
back-translocating Elongation Factor EF4, GTPase	NP_417064.1	lepA	599	0	Yes	No	N/A	Yes	No	Calloni et al.
quinolinate synthase, L-aspartate oxidase (B protein) subunit	NP_417069.1	nadB	540	0	Yes	No	Monomer	Yes	No	Calloni et al.
predicted DNA-binding transcriptional regulator	NP_417072.4	yfiE	293	0	No	No	N/A	Yes	No	Calloni et al.
lipoprotein required for OM biogenesis, in BamABCDE complex	NP_417086.1	bamD	245	0	Yes	Yes	unspecific oligomer	Yes	No	Calloni et al.
recombination and repair protein	YP_026172.1	recN	553	0	No	No	N/A	Yes	No	Calloni et al.
CP4-57 prophage: RNase LS	NP_417119.1	rnlA	357	0	No	No	N/A	Yes	No	Calloni et al.
fructose-1-P and 6-phosphogluconate phosphatase	NP_417175.1	yqaB	188	0	No	No	N/A	Yes	Yes	Fujiwara et al., Calloni et al.
DNA strand exchange and recombination protein with protease and nuclease activity	NP_417179.1	recA	353	0	Yes	No	N/A	Yes	No	Calloni et al.
GTP hydrolase involved in nickel liganding into hydrogenases	NP_417207.1	hypB	290	0	No	No	N/A	Yes	No	Calloni et al.
activator of AmiC murein hydrolase activity, lipoprotein	NP_417222.1	nlpD	379	0	No	Yes	N/A	Yes	No	Calloni et al.
sulfate adenyltransferase, subunit 1	NP_417231.1	cysN	475	0	No	No	Dimer	Yes	No	Calloni et al.
reductase (NADPH-dependent)	NP_417274.1	queF	282	0	No	No	Dimer	Yes	No	Calloni et al.
DNA-binding transcriptional activator	NP_417285.1	fucR	243	0	No	No	N/A	Yes	Yes	Fujiwara et al., Calloni et al.
fused PTS enzyme: PEP-protein phosphotransferase (enzyme I)/GAF domain containing protein	NP_417306.1	ptsP	748	0	No	No	N/A	Yes	No	Calloni et al.
xanthine dehydrogenase, FAD-binding subunit	NP_417343.1	xdhB	292	0	No	No	Trimer	Yes	No	Calloni et al.
ssDNA exonuclease, 5' --> 3'-specific	NP_417368.1	recJ	577	0	No	No	N/A	Yes	No	Calloni et al.
2-octaprenyl-6-methoxyphenol hydroxylase, FAD/NAD(P)-binding	NP_417383.1	ubiH	392	0	No	No	N/A	Yes	No	Calloni et al.
DNA-binding transcriptional activator, replication initiation inhibitor	NP_417391.1	argP	297	0	No	No	N/A	No	Yes	Fujiwara et al.
methylmalonyl-CoA decarboxylase, biotin-independent	NP_417394.4	scpB	261	0	Yes	No	Hexamer	Yes	No	Calloni et al.
S-adenosylmethionine synthetase	NP_417417.1	metK	384	0	Yes	No	Tetramer	No	Yes	Fujiwara et al.
predicted oxidoreductase, HemN family	NP_417430.1	yggW	378	0	No	No	N/A	Yes	No	Calloni et al.
hydrogenase 2 4Fe-4S ferredoxin-type component	NP_417470.1	hybA	328	0	No	Yes	N/A	Yes	No	Calloni et al.
antitoxin for MqsR toxin; predicted transcriptional regulator	NP_417493.1	ygiT (mqsA)	131	0	Yes	No	Dimer	Yes	No	Calloni et al.
quorum sensing DNA-binding response regulator in two-component regulatory system with QseC	NP_417497.1	qseB	219	0	No	No	N/A	Yes	No	Calloni et al.
transport channel	NP_417507.2	tolC	493	0	Yes	Yes	Trimer	Yes	No	Calloni et al.
DNA primase	NP_417538.1	dnaG	581	0	No	No	Monomer	Yes	No	Calloni et al.
predicted metal dependent hydrolase	NP_417556.2	ygiP	167	0	No	No	N/A	Yes	No	Calloni et al.
uronate isomerase	NP_417563.1	uxaC	470	0	No	No	N/A	No	Yes	Fujiwara et al.
predicted lipid carrier protein, COG3154 family	NP_417626.1	yhbT	174	0	No	No	N/A	Yes	No	Calloni et al.

UDP-N-acetylglucosamine 1-carboxyvinyltransferase	NP_417656.1	murA	419	0	Yes	No	N/A	Yes	No	Calloni et al.
D-arabinose 5-phosphate isomerase	NP_417664.1	kdsD	328	0	No	No	Tetramer	Yes	No	Calloni et al.
ABC transporter ATP-binding protein of the LptBFGC export complex	NP_417668.1	lptB	241	0	No	No	Tetramer	Yes	No	Calloni et al.
glutamate synthase, large subunit	NP_417679.2	gltB	1486	0	No	No	>Hexamer	Yes	No	Calloni et al.
N-acetylneuraminatase lyase	NP_417692.1	nanA	297	0	Yes	No	Tetramer	No	Yes	Fujiwara et al.
CipXP protease specificity-enhancing factor	NP_417695.1	sspB	165	0	No	No	N/A	Yes	No	Calloni et al.
predicted peptidase	NP_417711.1	tldD	481	0	No	No	N/A	No	Yes	Fujiwara et al.
cell wall structural complex MreBCD, actin-like component MreB	NP_417717.2	mreB	347	0	No	No	N/A	Yes	No	Calloni et al.
tRNA-dihydrouridine synthase B	NP_417726.1	dusB	321	0	No	No	N/A	Yes	Yes	Fujiwara et al., Calloni et al.
predicted DNA	YP_026210.1	yrdD	180	0	No	No	N/A	Yes	No	Calloni et al.
fused predicted transporter subunits of ABC superfamily: ATP-binding components	NP_417811.1	yheS	637	0	No	No	N/A	Yes	No	Calloni et al.
DNA-binding transcriptional dual regulator	NP_417816.1	crp	210	0	Yes	No	Dimer	Yes	No	Calloni et al.
nitrite reductase, large subunit, NAD(P)H-binding	NP_417824.1	nirB	847	0	No	No	Dimer	Yes	No	Calloni et al.
GMP/IMP nucleotidase	NP_417858.4	yrfG	222	0	No	No	N/A	Yes	No	Calloni et al.
ferrous iron transporter, protein A	NP_417867.1	feoA	75	0	No	No	N/A	Yes	No	Calloni et al.
fused ferrous iron transporter, protein B: GTP-binding protein/membrane protein	NP_417868.1	feoB	773	10	No	No	N/A	Yes	No	Calloni et al.
conserved protein	NP_417879.1	rtcB	408	0	No	No	Monomer	Yes	No	Calloni et al.
aspartate-semialdehyde dehydrogenase, NAD(P)-binding	NP_417891.1	asd	367	0	Yes	No	Dimer	No	Yes	Fujiwara et al.
glycerol-3-phosphate transporter subunit	NP_417907.2	ugpC	356	0	No	No	Pentamer	Yes	No	Calloni et al.
leucine/isoleucine/valine transporter subunit	YP_026223.1	livJ	367	0	Yes	Yes	N/A	Yes	No	Calloni et al.
predicted transporter subunit: ATP-binding component of ABC superfamily	NP_417920.1	ftsE	222	0	No	No	N/A	Yes	Yes	Fujiwara et al., Calloni et al.
holo-(acyl carrier protein) synthase 2	NP_417932.1	acpT	195	0	No	No	N/A	Yes	No	Calloni et al.
acid-resistance protein	NP_417966.4	hdeB	108	0	No	Yes	N/A	Yes	No	Calloni et al.
transcriptional activator of gadA and gadBC in absence of GadX	NP_417972.1	gadW	242	0	No	No	Dimer	Yes	No	Calloni et al.
cellulose production protein	NP_417993.1	bcsE	523	0	No	No	N/A	Yes	No	Calloni et al.
3-methyl-adenine DNA glycosylase I, constitutive	NP_418005.1	tag	187	0	Yes	No	N/A	Yes	No	Calloni et al.
predicted transcriptional regulator, HTH_CROC1 family	NP_418011.1	yiaG	96	0	No	No	N/A	Yes	No	Calloni et al.
D-xylose isomerase	NP_418022.1	xylA	440	0	No	No	Tetramer	No	Yes	Fujiwara et al.
aldehyde dehydrogenase B	NP_418045.4	aldB	512	0	No	No	Tetramer	No	Yes	Fujiwara et al.
L-lactate dehydrogenase, FMN-linked	NP_418062.1	lldD	396	0	No	No	N/A	No	Yes	Fujiwara et al.
predicted polysaccharide deacetylase	NP_418071.4	yibQ	319	1	No	Yes	N/A	Yes	No	Calloni et al.
lipopolysaccharide core biosynthesis protein	NP_418082.1	rfaY	232	0	No	No	N/A	Yes	No	Calloni et al.
heat shock chaperone	NP_418141.2	ibpB	142	0	No	No	Dimer	Yes	No	Calloni et al.
heat shock chaperone	NP_418142.1	ibpA	137	0	No	No	N/A	Yes	No	Calloni et al.
phosphate transporter subunit	NP_418181.1	pstB	257	0	No	No	Pentamer	Yes	No	Calloni et al.
asparagine synthetase A	NP_418200.1	asnA	330	0	Yes	No	Dimer	Yes	No	Calloni et al.
predicted von Willibrand factor containing protein	YP_026243.1	viaA	483	0	No	No	N/A	Yes	No	Calloni et al.
D-ribose transporter subunit	NP_418207.1	rbsB	296	0	Yes	Yes	N/A	Yes	No	Calloni et al.
conserved protein, 4HBT family of thioesterases	NP_418264.4	yigl	155	0	No	No	N/A	Yes	No	Calloni et al.
bifunctional 2-octaprenyl-6-methoxy-1,4-benzoquinone methylase/ S-adenosylmethionine:2-DMK methyltransferase	YP_026269.1	ubiE	251	0	No	No	N/A	Yes	No	Calloni et al.
quality control of Tat-exported FeS proteins; Mg-dependent cytoplasmic DNase	YP_026271.1	tatD	260	0	Yes	No	Monomer	No	Yes	Fujiwara et al.
3-ketoacyl-CoA thiolase (thiolase I)	YP_026272.1	fadA	387	0	Yes	No	Tetramer	No	Yes	Fujiwara et al.
proline dipeptidase	NP_418289.1	pepQ	443	0	No	No	N/A	No	Yes	Fujiwara et al.

protoporphyrin oxidase, flavoprotein	NP_418292.1	hemG	181	0	No	No	unspecific oligomer	Yes	No	Calloni et al.
sensory histidine kinase in two-component regulatory system with GlnG	NP_418305.1	glnL	349	0	No	No	N/A	Yes	No	Calloni et al.
formate dehydrogenase formation protein	NP_418327.1	fdhE	309	0	No	No	N/A	Yes	No	Calloni et al.
conserved protein	NP_418355.1	yjiQ	199	0	No	Yes	N/A	Yes	No	Calloni et al.
methylenetetrahydrofolate reductase	NP_418376.1	metF	296	0	Yes	No	Tetramer	No	Yes	Fujiwara et al.
acetylornithine deacetylase subunit	NP_418392.1	argE	383	0	No	No	Dimer	Yes	Yes	Fujiwara et al., Calloni et al.
tyrosine lyase, involved in thiamin-thiazole moiety synthesis	NP_418414.1	rpoB	1342	0	Yes	No	N/A	Yes	No	Calloni et al.
adenylyltransferase, modifies ThiS C-terminus	NP_418417.1	thiH	377	0	No	No	Dimer	Yes	Yes	Fujiwara et al., Calloni et al.
thiamin phosphate synthase (thiamin phosphate pyrophosphorylase)	NP_418420.4	thiF	251	1	Yes	No	Dimer	Yes	No	Calloni et al.
thiamin phosphate synthase (thiamin phosphate pyrophosphorylase)	NP_418421.1	thiE	211	0	No	No	N/A	Yes	No	Calloni et al.
stationary phase protein, binds sigma 70 RNA polymerase subunit	NP_418423.1	rsd	158	0	Yes	No	N/A	Yes	No	Calloni et al.
homocysteine-N5-methyltetrahydrofolate transmethylase, B12-dependent	NP_418443.1	methH	1227	0	No	No	N/A	Yes	No	Calloni et al.
chorismate-pyruvate lyase	NP_418463.4	ubiC	165	0	Yes	No	Monomer	Yes	No	Calloni et al.
DNA-binding transcriptional repressor, Zn(II)-binding	NP_418470.4	zur	171	0	No	No	N/A	Yes	No	Calloni et al.
ATPase and DNA damage recognition protein of nucleotide excision repair excinuclease UvrABC	NP_418482.1	uvrA	940	0	No	No	Tetramer	Yes	No	Calloni et al.
ribose 5-phosphate isomerase B/allose 6-phosphate isomerase	NP_418514.1	rpiB	149	0	Yes	No	N/A	Yes	No	Calloni et al.
predicted acyltransferase with acyl-CoA N-acyltransferase domain	NP_418517.1	phnO	144	0	No	No	N/A	Yes	No	Calloni et al.
EF-P lysylation protein; weak lysine 2,3-aminomutase	NP_418570.1	yjeK	342	0	No	No	N/A	Yes	No	Calloni et al.
outer membrane lipoprotein (lipocalin), cell division and growth function	NP_418573.1	bic	177	0	Yes	Yes	Dimer	Yes	No	Calloni et al.
fumarate reductase (anaerobic), Fe-S subunit	NP_418577.1	frdB	244	0	Yes	No	Tetramer	Yes	No	Calloni et al.
fumarate reductase (anaerobic) catalytic and NAD/flavoprotein subunit	NP_418578.1	frdA	602	0	Yes	No	Tetramer	No	Yes	Fujiwara et al.
methyl-directed mismatch repair protein	NP_418591.1	mutL	615	0	No	No	N/A	Yes	No	Calloni et al.
predicted cell envelope opacity-associated protein	NP_418627.4	ytfB	212	0	No	No	N/A	Yes	No	Calloni et al.
predicted peptidase required for the maturation and secretion of the antibiotic peptide MccB17	NP_418656.1	tldE (pmbA)	450	0	Yes	No	N/A	No	Yes	Fujiwara et al.
predicted alcohol dehydrogenase, Zn-dependent and NAD(P)-binding	NP_418690.4	yigB	339	0	No	No	N/A	Yes	No	Calloni et al.
KpLE2 phage-like element; predicted lyase/synthase	NP_418718.4	yjhH	301	0	No	No	Tetramer	No	Yes	Fujiwara et al.
periplasmic protein	NP_418793.1	osmY	201	0	No	Yes	N/A	Yes	No	Calloni et al.
predicted phospholipase, patatin-like family	NP_418794.1	yjiU	357	0	No	No	N/A	No	Yes	Fujiwara et al.
thymidine phosphorylase	NP_418799.1	deoA	440	0	Yes	No	Dimer	No	Yes	Fujiwara et al.
DNA repair protein	NP_418806.1	radA	460	0	No	No	N/A	Yes	No	Calloni et al.

Summary	<200 aa: 38	at least 1	PDB: 74	sig. seq.: 23	Monomers: 11	DnaK substrates: 181	GroEL substrates: 57
	>200 aa: 189	TM helix: 5	no PDB: 153	no sig. seq.: 204	Dimers: 36		
					Trimers: 5		
					Tetramers: 23		
					Pentamers: 6		
					Hexamers: 9		
					>Hexamers: 11		
					unspecific oligomers: 2		