

Amino acid biosynthesis

TSB
AC
SYN



Protein name
 pseudouridine synthase, RluD
 phosphate ABC transporter
 phosphate ABC transporter
 HflK protein
 phosphoserine phosphatase SerB
 extracellular ligand-binding receptor
 GTP pyrophosphokinase
 MFS transporter, ACS family
 regulatory protein, MerR
 gamma-aminobutyrate metabolism dehydratase
 twin-arginine translocation pathway signal
 molybdopterin binding domain

Biosynthesis of prosthetic groups, cofactors/carriers

TSB
AC
SYN



Protein name
 4-hydroxy-3-methylbut-2-en-1-yl diphosphate synthase
 protease IV
 double-strand break repair protein AddB
 carnitiny-CoA dehydratase
 cyclic nucleotide-binding protein
 putative HTH-type transcriptional regulator YcjZ
 acylphosphatase
 H-NS histone family
 glutamyl-tRNA synthetase
 glutaminy-tRNA synthetase
 histidine kinase
 dGTP triphosphohydrolase
 acyl carrier protein
 ErfK/YbiS/YcfS/YnhG
 formamidase
 prolipoprotein diacylglycerol transferase

Cell envelope proteins

TSB
AC
SYN



Protein name
 membrane protein
 pyridoxal phosphate enzyme, YggS family
 glucokinase
 respiratory nitrate reductase 2 delta chain
 3-ketoacyl-CoA thiolase
 secretion protein HlyD family protein
 glycosyl transferase, group 1
 amino acid transport ATP-binding protein
 ferrichrome receptor FcuA
 acriflavin resistance protein
 ABC-type transport system
 DUF58
 trans-aconitate 2-methyltransferase
 excinuclease ABC, C subunit
 holliday junction DNA helicase RuvA
 xanthine dehydrogenase, small subunit
 NLP/P60
 ABC transporter
 tRNA-Arg-6
 P-type DNA transfer ATPase

Central intermediary metabolism and cellular processes

TSB	AC	SYN	Protein name
Red	Red	Green	binding-protein-dependent transport systems
Red	Red	Green	protein-P-II uridylyltransferase
Red	Red	Green	3-isopropylmalate dehydratase, small subunit
Red	Red	Green	patatin
Red	Red	Green	histidine triad
Red	Red	Green	hemolysin-3 (Hemolysin III)
Red	Red	Green	ribosomal protein L14
Red	Red	Green	indole-3-glycerol phosphate synthase
Red	Red	Green	molybdenum cofactor biosynthesis protein C
Red	Red	Green	methyl-accepting chemotaxis receptor/sensory transducer
Red	Red	Green	rhodanese domain protein
Red	Red	Green	acyl-CoA synthetase
Red	Red	Green	pollen allergen Poa pIX/Phl pVI
Red	Red	Green	hydroxyacylglutathione hydrolase
Red	Red	Green	acetyl-CoA acetyltransferase
Red	Red	Green	fad binding fold protein
Red	Red	Green	aspartyl-trna synthetase
Red	Red	Green	sulfite reductase
Red	Red	Green	TonB-dependent heme
Red	Red	Green	peptidoglycan glycosyltransferase
Red	Red	Green	adenylate kinase
Red	Red	Green	ribosomal protein L33
Red	Red	Green	aspartate carbamoyltransferase
Red	Red	Green	thiol-disulfide isomerase and thioredoxins
Red	Red	Green	tRNA-Pro-2
Red	Red	Green	glycosyl transferase
Red	Red	Green	2-isopropylmalate synthase
Red	Red	Green	putative acetyltransferase
Red	Red	Green	squalene synthase HpnC
Red	Red	Green	malto-oligosyltrehalose synthase
Red	Red	Green	Tol-Pal system beta propeller repeat protein TolB
Red	Red	Green	iron permease FTR1

DNA metabolism

TSB	AC	SYN	Protein name
Red	Red	Green	helicase
Red	Red	Green	tyrosine recombinase XerD
Red	Red	Green	N-(5-phosphoribosyl) anthranilate isomerase
Red	Red	Green	lipoprotein A
Red	Red	Green	rect protein
Red	Red	Green	3-dehydroquinate dehydratase, type II
Red	Red	Green	Cd(II)/Pb(II)-responsive transcriptional regulator
Red	Red	Green	CumA
Red	Red	Green	ribosomal protein L34

Energy metabolism

TSB
AC
SYN



Protein name
photosynthetic apparatus regulatory protein RegA
succinate dehydrogenase cytochrome b556 subunit
uroporphyrinogen-III synthase
methyltransferase type 12
phosphinothricin N-acetyltransferase
integral membrane protein
tyrosine recombinase XerC
acetyl-CoA acetyltransferase
AtsE
glycine oxidase ThiO
pyruvate kinase
putrescine transport system permease protein PotI
regulatory protein, ArsR
methionine-R-sulfoxide reductase
mRNA 3'-end processing factor
AMP-dependent synthetase and ligase
flagellar basal-body rod protein FlgC
cytochrome c, class IC
putative phage late control D
multicopper oxidase, type 2
UMP kinase
peptidase M23/M37
formyl-CoA transferase
single-stranded DNA-binding protein (SSB)
protein-export membrane protein SecF
Fmu
type IV pilus assembly PilZ
ferredoxin
dihydropteroate synthase
hopanoid biosynthesis associated radical SAM protein HpnH
ABC transporter substrate-binding protein
acriflavin resistance protein
cytochrome c2
octaprenyl-diphosphate synthase
putative membrane protein of unknown function
methyl-accepting chemotaxis sensory transducer
chaperonin GroL
putative Cell division protease FtsH-like protein
Sel1
disulphide bond formation protein DsbB
glutaconate CoA-transferase, subunit A

Fatty acid and phospholipid metabolism

TSB
AC
SYN



Protein name
acetyl-CoA carboxylase
acetoacetyl-CoA reductase
tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase
transcriptional regulator, XRE family
NADH-quinone oxidoreductase subunit I
caspase catalytic subunit p20
aspartyl-tRNA synthetase
aminotransferase class-III
abc-type transporter, atpase component: haat family

Protein synthesis

TSB
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Protein name
anti-freeze glycopeptide
[Ni/Fe] hydrogenase maturation protein
nitrogen-fixing protein
nuclease
nuclease
TraA
adhesin
VirB11-like protein

Purines, pyrimidines, nucleosides, nucleotides, etc.

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Protein name
BA14K family protein
TonB like protein
TonB system transport protein ExbD
1-deoxy-D-xylulose-5-phosphate synthase

Protein fate

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Protein name
peptidase M48, Ste24p
preprotein translocase, SecA subunit
PpiC-type peptidyl-prolyl cis-trans isomerase
penicillin-binding protein 1A
heat shock protein Hsp20
non-canonical purine NTP pyrophosphatase
transcriptional regulator of AraC family
ABC transporter, permease protein, FecCD family
ATP synthase F1, alpha subunit
cadmium-translocating P-type ATPase
NosL protein
CrtK protein
ribosomal protein L4/L1 family
gamma-glutamyltransferase
glycosyl transferase, family 9
permease YjgP/YjgQ
lipopolysaccharide biosynthesis
ribosome recycling factor
poly-beta-hydroxybutyrate polymerase
allophanate hydrolase subunit 2
tRNA-Lys-1
preprotein translocase, YajC subunit
OqxB
3-oxoacyl-(acyl carrier protein) synthase II
MRP ATP/GTP-binding protein
3-deoxy-D-manno-octulosonate cytidyltransferase
HhH-GPD domain protein
PTS system permease

Regulatory functions

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Protein name
twin-arginine translocation pathway signal
diguanylate cyclase/phosphodiesterase
exodeoxyribonuclease III xth
ribosomal RNA adenine methylase transferase
flagellar basal body rod protein
DTW domain containing protein
major facilitator superfamily MFS_1
binding-protein-dependent transport systems inner membrane component
porin
inner membrane ABC transporter permease protein YddR
succinyl-diaminopimelate desuccinylase

Transport and binding proteins

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SYN



Protein name
ABC transporter
two component transcriptional regulator
amidohydrolase
acyltransferase 3
cytochrome c oxidase assembly protein CtaG
H⁺-transporting two-sector ATPase
histone family protein DNA-binding protein
nitrite extrusion protein
tRNA delta(2)-isopentenylpyrophosphate transferase
phosphoenolpyruvate carboxylase
hydrolase, Alpha/Beta family
TonB-dependent receptor, plug
transcriptional regulator, LysR family
NADH-quinone oxidoreductase subunit b 1
tRNA-Arg-5
2-Hydroxychromene-2-carboxylate isomerase
lipid A biosynthesis acyltransferase
putrescine-binding periplasmic protein
squalene synthase HpnD
formate dehydrogenase-O, major subunit
HmuU protein
dihydroorotase, multifunctional complex type
polynucleotide adenylyltransferase region
metallophosphoesterase
cytochrome c oxidase, subunit III
NodQ bifunctional enzyme; Nodulation protein Q
malate synthase G
beta-propeller domains of methanol dehydrogenase-type
conjugal transfer protein

Transcription

TSB
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Protein name
ferric uptake regulator
extracellular solute-binding protein
major subunit of formate dehydrogenase-O
transcriptional regulator
ribosomal protein L22
phosphatidate cytidylyltransferase

Unclassified protein or function unlisted

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TSB	AC	SYN	Protein name
Green	Green	Green	septum formation protein Maf
Green	Green	Green	small GTP-binding protein domain
Green	Green	Green	bordetella uptake protein
Green	Green	Green	FAD/FMN-binding oxidoreductase
Green	Green	Green	extracellular solute-binding protein, family 3
Green	Green	Green	periplasmic serine protease
Green	Green	Green	lytic murein transglycosylase
Green	Green	Green	3-isopropylmalate dehydrogenase
Green	Green	Green	oxidoreductase domain protein
Green	Green	Green	phage Tail Protein X
Green	Green	Green	ATP-NAD kinase
Green	Green	Green	ribosomal protein S14
Green	Green	Green	SsrA-binding protein
Green	Green	Green	Trna-Val-2
Green	Green	Green	putative cation efflux permease
Green	Green	Green	cation diffusion facilitator family transporter
Green	Green	Green	transcriptional regulatory protein FixJ
Green	Green	Green	CpaF
Green	Green	Green	transcriptional regulator, LysR family
Green	Green	Green	cation efflux system protein CusA
Green	Green	Green	tetraacyldisaccharide 4'-kinase
Green	Green	Green	glutathione import ATP-binding protein GsiA
Green	Green	Green	lipolytic enzyme, G-D-S-L
Green	Green	Green	oxidoreductase, molybdopterin binding subunit
Green	Green	Green	type I secretion outer membrane protein, TolC
Green	Green	Green	glycosyl hydrolase family 10
Green	Green	Green	carboxymethylenebutenolidase
Green	Green	Green	replication protein A
Green	Green	Green	shikimate transporter
Green	Green	Green	histidinol dehydrogenase
Green	Green	Green	band 7 protein
Green	Green	Green	copper transport ATP-binding protein NosF
Green	Green	Green	formate dehydrogenase H
Green	Green	Green	FAD linked oxidase
Green	Green	Green	metallophosphoesterase
Green	Green	Green	transcriptional regulator, ArsR family
Green	Green	Green	CoxI family protein
Green	Green	Green	short-chain dehydrogenase SDR
Green	Green	Green	transcription antitermination factor NusB
Green	Green	Green	phosphatidate cytidyltransferase
Green	Green	Green	phage capsid family
Green	Green	Green	ATP-dependent DNA helicase RecG
Green	Green	Green	CreA
Green	Green	Green	3-oxoacyl-
Green	Green	Green	cytochrome C biogenesis protein
Green	Green	Green	tRNA-Gln-2
Green	Green	Green	NADP-specific glutamate dehydrogenase
Green	Green	Green	cytochrome c oxidase, Cbb3-type
Green	Green	Green	ATP-binding protein of ABC transporter, duplicated ATPase domains
Green	Green	Green	HAD-superfamily subfamily IIA hydrolase
Green	Green	Green	P-type conjugative transfer protein TrbJ
Green	Green	Green	transposase of insertion sequence ISRM1 OrfA protein
Green	Green	Green	secretion protein HlyD

