

Table S2 Putative pseudogenes with functional annotations in the “*Ca. D. mandela*” genome

Locus tag	Gene	EC_number	Product	Putative function
CD822_00056	yehT		Transcriptional regulatory protein YehT	regulation
CD822_00098	kdsD	5.3.1.13	Arabinose 5-phosphate isomerase KdsD	LPS biosynthesis
CD822_00099	fumA	4.2.1.2	Fumarate hydratase class I, aerobic	TCA cycle
CD822_00122	araD	5.1.3.4	L-ribulose-5-phosphate 4-epimerase	L-arabinose degradation
CD822_00124	araA	5.3.1.4	L-arabinose isomerase	L-arabinose degradation
CD822_00250	mask	2.7.10.2	Tyrosine-protein kinase MasK	
CD822_00259	ybeZ		PhoH-like protein	16S rRNA maturation?
CD822_00309	clpB_1		Chaperone protein ClpB	protein folding
CD822_00310	clpB_2		Chaperone protein ClpB	protein folding
CD822_00353	ribB	4.1.99.12	3,4-dihydroxy-2-butanone 4-phosphate synthase	riboflavin biosynthesis
CD822_00507	glpK	2.7.1.30	Glycerol kinase	glycerol utilization in glycolysis
CD822_00684		4.1.1.38	PPi-type phosphoenolpyruvate carboxykinase	gluconeogenesis
CD822_00685	feoB		Ferrous iron transport protein B	iron uptake
CD822_00762	deoC	4.1.2.4	Deoxyribose-phosphate aldolase	nucleic acid catabolism
CD822_00764	aldA	1.2.1.3	Putative aldehyde dehydrogenase AldA	folate biosynthesis, fucose and rhamnose metabolism
CD822_00766	acoD	1.2.1.3	Acetaldehyde dehydrogenase 2	
CD822_00833	xylA	5.3.1.5	Xylose isomerase	Xylose catabolism
CD822_00875	yehU	2.7.13.3	Sensor histidine kinase YehU	regulation
CD822_00876	ypdA	2.7.13.3	Sensor histidine kinase YpdA	regulation
CD822_00994	kdsA_1	2.5.1.55	2-dehydro-3-deoxyphosphooctonate aldolase	LPS biosynthesis
CD822_00995	kdsA_2	2.5.1.55	2-dehydro-3-deoxyphosphooctonate aldolase	LPS biosynthesis
CD822_01026	dcp	3.4.15.5	Peptidyl-dipeptidase dcp	Utilization of N-blocked peptides as carbon sources
CD822_01040	queA	2.4.99.17	S-adenosylmethionine:tRNA ribosyltransferase-isomerase	Formation of queuosine anticodon loop in some tRNAs
CD822_01042	ilvD	4.2.1.9	Dihydroxy-acid dehydratase	Isoleucine and valine biosynthesis
CD822_01045	ilvB1	2.2.1.6	Acetolactate synthase large subunit IlvB1	Isoleucine and valine biosynthesis
CD822_01047	ilvC	1.1.1.86	Ketol-acid reductoisomerase	Isoleucine and valine biosynthesis
CD822_01049	leuA	2.3.3.13	2-isopropylmalate synthase	Leucine biosynthesis
CD822_01050	leuB	1.1.1.85	3-isopropylmalate dehydrogenase	Leucine biosynthesis

CD822_01097	luxQ	2.7.13.3	Autoinducer 2 sensor kinase/phosphatase LuxQ	AI-2 quorum sensing
CD822_01128	trpB	4.2.1.20	Tryptophan synthase beta chain	Tryptophan biosynthesis
CD822_01149	waaA	2.4.99.12	3-deoxy-D-manno-octulosonic acid transferase	LPS biosynthesis
CD822_01254	nifJ	1.2.7.-	Pyruvate-flavodoxin oxidoreductase	Anaerobic fermentation
CD822_01259	ndhB	1.6.5.11	NAD(P)H-quinone oxidoreductase subunit 2, chloroplastic	Respiratory chain
CD822_01351	galE1	5.1.3.2	UDP-glucose 4-epimerase	Galactose catabolism
CD822_01384	cysT		Sulfate transport system permease protein CysT	Sulfate import
CD822_01387	cysW		Sulfate transport system permease protein CysW	Sulfate import
CD822_01420	glgC_1	2.7.7.27	Glucose-1-phosphate adenyltransferase	Glycogen biosynthesis
CD822_01421	glgC_2	2.7.7.27	Glucose-1-phosphate adenyltransferase	Glycogen biosynthesis
CD822_01422	glgC_3	2.7.7.27	Glucose-1-phosphate adenyltransferase	Glycogen biosynthesis
CD822_01423	glgC_4	2.7.7.27	Glucose-1-phosphate adenyltransferase	Glycogen biosynthesis
CD822_01574	phrA	4.1.99.3	Deoxyribodipyrimidine photo-lyase	Glycogen biosynthesis
CD822_01627	lptD		LPS-assembly protein LptD	LPS biosynthesis
CD822_01655	ribD		Riboflavin biosynthesis protein RibD	Riboflavin biosynthesis
CD822_01710	hemL	5.4.3.8	Glutamate-1-semialdehyde 2,1-aminomutase	Porphyrin biosynthesis
CD822_01724	mazG	3.6.1.1	Nucleoside triphosphate pyrophosphohydrolase/ pyrophosphatase MazG	Regulation of starvation response
CD822_01774	hsrA		putative transport protein HsrA	Drug efflux?
CD822_01857	polX_1		DNA polymerase/3'-5' exonuclease PolX	DNA repair
CD822_01858	polX_2		DNA polymerase/3'-5' exonuclease PolX	DNA repair
CD822_01873	mpl	6.3.2.45	UDP-N-acetylmuramate--L-alanyl-gamma-D-glutamyl-meso-2,6-diaminoheptandioate ligase	Murein recycling for peptidoglycan
CD822_01937	rfaF	2.-.-.-	ADP-heptose--LPS heptosyltransferase 2	LPS biosynthesis
CD822_01965	pgk/ tpi_1		Bifunctional PGK/TIM	Glycolysis
CD822_01966	pgk/ tpi_2		Bifunctional PGK/TIM	Glycolysis
CD822_02049	mIaE		putative phospholipid ABC transporter permease protein MlaE	Phospholipid transport
CD822_02053	proB_1	2.7.2.11	Glutamate 5-kinase	Proline biosynthesis
CD822_02054	proB_2	2.7.2.11	Glutamate 5-kinase 1	Proline biosynthesis
CD822_02226	rplY		50S ribosomal protein L25	Ribosomal protein
CD822_02349	lpxK_1	2.7.1.130	Tetraacyldisaccharide 4'-kinase	Lipid A biosynthesis
CD822_02350	lpxK_2	2.7.1.130	Tetraacyldisaccharide 4'-kinase	Lipid A biosynthesis
CD822_02363	malP	2.4.1.1	Maltodextrin phosphorylase	Maltodextrin utilization
CD822_02378	xpsE		Type II secretion system protein E	Protein secretion

CD822_02389	acsA	6.2.1.1	Acetyl-coenzyme A synthetase	Acetyl-CoA biosynthesis from acetate
CD822_02427	arnB	2.6.1.87	UDP-4-amino-4-deoxy-L-arabinose--oxoglutarate aminotransferase	Lipid A modification
CD822_02428	desV	2.6.1.106	dTDP-3-amino-3,4,6-trideoxy-alpha-D-glucose transaminase	Desosamine biosynthesis
CD822_02456	gmd	4.2.1.47	GDP-mannose 4,6-dehydratase	LPS biosynthesis
CD822_02458	fcl_1	1.1.1.271	GDP-L-fucose synthase	LPS biosynthesis
CD822_02494	resA		Thiol-disulfide oxidoreductase ResA	Cytochrome c assembly
CD822_02510	fbpC2	3.6.3.30	Fe(3+) ions import ATP-binding protein FbpC 2	Iron uptake
CD822_02565	glgA	2.4.1.21	Glycogen synthase	Glycogen biosynthesis
CD822_02629	mfppA	3.1.3.79	Mannosylfructose-phosphate phosphatase	Osmotic stress response
CD822_02652	ettA		Energy-dependent translational throttle protein EttA	Regulation of translation
CD822_02727	aceB	2.3.3.9	Malate synthase	Glyoxylate cycle
CD822_02780	rfaQ	2.-.-.-	Lipopolysaccharide core heptosyltransferase RfaQ	LPS biosynthesis
CD822_02795	ptsI_1	2.7.3.9	Phosphoenolpyruvate-protein phosphotransferase	Sugar uptake
CD822_02796	ptsI_2	2.7.3.9	Phosphoenolpyruvate-protein phosphotransferase	Sugar uptake
CD822_02839		1.2.1.26	Alpha-ketoglutaric semialdehyde dehydrogenase	Xylose catabolism
CD822_02843	nsaE	4.1.2.45	Trans-O-hydroxybenzylidenepyruvate hydratase-aldolase	Naphthalene degradation
CD822_02872	tal	2.2.1.2	Transaldolase	Pentose phosphate pathway
CD822_02889	kdpA		Potassium-transporting ATPase potassium-binding subunit	Potassium transport
CD822_02895	kdsB_1	2.7.7.38	3-deoxy-manno-octulosonate cytidylyltransferase	LPS biosynthesis
CD822_02896	kdsB_2	2.7.7.38	3-deoxy-manno-octulosonate cytidylyltransferase	LPS biosynthesis
CD822_02897	crh		HPr-like protein Crh	Carbon catabolite repression