

Supplementary Information

Supplementary Table 1. List of *Halolamina pelagica* CDK2 strain specific genes

1)	2,3,4,5-tetrahydropyridine-2,6-dicarboxylate N-acetyltransferase
2)	2-methoxy-6-polyprenyl-1,4-benzoquinol methylase, mitochondrial
3)	2-succinyl-6-hydroxy-2,4-cyclohexadiene-1-carboxylate synthase
4)	3',5'-cyclic adenosine monophosphate phosphodiesterase <i>cpdA</i>
5)	3-hydroxy-3-methylglutaryl-coenzyme A reductase
6)	4-hydroxybutyrate--CoA ligase 2
7)	5,10-methylenetetrahydromethanopterin reductase
8)	ADP-L-glycero-D-manno-heptose-6-epimerase
9)	ATPase RavA
10)	Acryloyl-coenzyme A reductase
11)	Acyl carrier protein
12)	Adaptive-response sensory-kinase <i>sasA</i>
13)	Adenylosuccinate synthetase
14)	Alkanesulfonate monooxygenase
15)	Amidase
16)	Anti-sigma F factor
17)	Arabinonate dehydratase
18)	Archaemetzincin
19)	Bacterioopsin transcriptional activator
20)	Bifunctional protein GlmU
21)	Bis(5'-nucleosyl)-tetraphosphatase, symmetrical
22)	Carbamoyl-phosphate synthase large chain
23)	Carbon disulfide hydrolase
24)	Carnitine monooxygenase reductase subunit
25)	Cation/acetate symporter <i>actP</i>
26)	Chromosome partition protein Smc
27)	Cobalt transport protein CbiM
28)	Cruxrhodopsin-1
29)	D-inositol-3-phosphate glycosyltransferase
30)	DNA double-strand break repair protein Mre11

31)	DNA mismatch repair protein MutL
32)	DNA polymerase sliding clamp
33)	Divalent-cation tolerance protein CutA
34)	Energy-coupling factor transporter transmembrane protein EcfT
35)	F420-dependent glucose-6-phosphate dehydrogenase
36)	Flagellin A2
37)	GTP cyclohydrolase III
38)	HTH-type sugar sensing transcriptional regulator TrmBL1
39)	HTH-type transcriptional regulator SgrR
40)	Halolysin
41)	Hydroxyacylglutathione hydrolase
42)	Inositol 2-dehydrogenase/D-chiro-inositol 3-dehydrogenase
43)	L-2-hydroxyglutarate dehydrogenase
44)	L-aspartate oxidase
45)	L-threonine 3-dehydrogenase
46)	Lycopene beta-cyclase
47)	Methionine aminopeptidase 1, mitochondrial
48)	Minichromosome maintenance protein MCM
49)	Multidrug resistance protein MdtG
50)	Mycothiol acetyltransferase
51)	NADH pyrophosphatase
52)	Na(+)-translocating NADH-quinone reductase subunit F
53)	Nucleoside triphosphatase NudI
54)	O-succinylhomoserine sulfhydrylase
55)	Outer membrane protein assembly factor BamB
56)	PanD regulatory factor
57)	Phosphoglucomutase/phosphomannomutase
58)	Phosphomethylpyrimidine synthase
59)	Polyphosphate kinase
60)	Potassium-transporting ATPase ATP-binding subunit
61)	Prefoldin subunit beta
62)	Proline iminopeptidase

63)	Proline--tRNA ligase
64)	Protein-export membrane protein SecF
65)	Putative flagella-related protein H
66)	Putrescine transporter PotE
67)	Quinolate synthase A
68)	RNA polymerase-associated protein RapA
69)	RNA pyrophosphohydrolase
70)	Release factor glutamine methyltransferase
71)	Ribosomal RNA small subunit methyltransferase C
72)	Sensor histidine kinase RcsC
73)	Small heat shock protein HSP16.5
74)	Small-conductance mechanosensitive channel MscMJ
75)	Spermidine N(1)-acetyltransferase
76)	Spermidine export protein MdtI
77)	Superoxide dismutase [Mn] 1
78)	Thermostable carboxypeptidase 1
79)	Thioredoxin
80)	Tol-Pal system protein TolB
81)	Trans-aconitate 2-methyltransferase
82)	Transcription initiation factor IIB
83)	Trehalose/maltose import ATP-binding protein MalK
84)	Tubulin-like protein CetZ1
85)	Tungsten-containing aldehyde ferredoxin oxidoreductase
86)	Tyrosine recombinase XerC
87)	UDP-N-acetyl-D-mannosamine dehydrogenase
88)	UDP-glucose 6-dehydrogenase AglM
89)	UDP-sulfoquinovose synthase
90)	UTP--glucose-1-phosphate uridylyltransferase AglF
91)	Undecaprenyl-phosphate 4-deoxy-4-formamido-L-arabinose transferase
92)	Vitamin B12 import ATP-binding protein BtuD
93)	Xaa-Pro dipeptidase
94)	[LysW]-aminoadipate semialdehyde/glutamate semialdehyde transaminase

95)	beta-carotene 15,15'-dioxygenase
96)	lipid II flippase MurJ
97)	malonic semialdehyde reductase RutE
98)	o-succinylbenzoate synthase
99)	putative ABC transporter ATP-binding protein
100)	putative L-aspartate dehydrogenase
101)	putative deoxyhypusine synthase
102)	putative flippase AglR
103)	putative phosphoglucosamine mutase
104)	tRNA(fMet)-specific endonuclease VapC