

Cyanobacterial Subclone Library Results:

Successful construction and sequencing clone 4320C4 (groups 1 and 3)

Successful construction and sequencing clone 4320C2 (group 6)

Lost in construction, repeat nebulization: 3320C5, 4320C5, 3320C3

Lost in transformation, recover ligation and insert DNA: 3320C4

Group 1, clone 4320C4

192 reads from 96 clones
23 failed phred qual test
20 failed lucy qual test
1 failed length test
2 failed vector test
7 failed trimmed length test
139 good sequences used for BLASTX

29 hits to *Synechococcus* sp. WH
23 hits to *Prochlorococcus*

some of the hits:

ABC transporter, substrate binding p...
Cytochrome b6/f complex subunit (Rie...
Guanylate kinase (GMP kinase)
Guanylate kinase [*Synechococcus* sp. ...
Homoserine dehydrogenase:ACT domain ...
Permease of the major facilitator sup...
Photosystem I reaction center subuni...
Predicted protein [*Prochlorococcus* ma...
Prolipoprotein diacylglyceryltransfer...
apocytochrome f [*Synechococcus* sp. W...
conserved hypothetical protein [Proc...
conserved hypothetical protein [Syne...
cytochrome c oxidase subunit I [Syne...
homologous to C-terminus of pilT2 pr...
homologous to PilT2 protein [*Prochlo*...
hypothetical protein [*Prochlorococcu*...
possible cytochrome c oxidase subuni...
possible membrane fusion protein [Sy...
possible multidrug efflux transporte...
possible secreted protein MPB70 prec...
probable GTP-binding protein [*Prochl*...
probable GTP-binding protein [*Synech*...
probable o-sialoglycoprotein endopep...
protein secretion component, Tat fa...
protein secretion component, Tat fam...
putative ABC transporter, oligopepti...
putative exopolyphosphatase [*Prochlo*...
putative exopolyphosphatase [*Synecho*...
putative multidrug efflux ABC transp...
putative protoheme IX farnesyltransf...
similar to secreted protein MPB70 pr...

Group 2, clone 3320C5

192 reads from 96 clones

88 failed phred qual test

10 failed lucy qual test

0 failed length test

53 failed vector test

30 failed trimmed length test

23 good sequences used for BLASTX

0 hits to *Synechococcus* sp. WH

0 hits to *Prochlorococcus*

multiple hits to *Erwinia* hypothetical protein.

Group 3, clone 4320C4 (insert material from group 1)

192 reads from 96 clones
63 failed phred qual test
20 failed lucy qual test
0 failed length test
44 failed vector test
15 failed trimmed length test
50 good sequences used for BLASTX

11 hits to *Synechococcus* sp. WH

0 hits to *Prochlorococcus*

some of the hits:

cobalamin biosynthetic protein CobN ...
conserved hypothetical protein [Syne...
Phenylalanyl-tRNA synthetase beta su...
possible CsgA C-factor signaling pro...
Possible type 3 alternative RNA poly...
probable ribonuclease II [Synechococ...
putative branched-chain amino acid a...

Group 4, clone AP4320C5
(N.B. ligation material from group 3 failed library.
original ligation AP3320C4 must be re-transformed)

32 reads from 16 clones
13 failed phred qual test
3 failed lucy qual test
0 failed length test
5 failed vector test
1 failed trimmed length test
10 good sequences used for BLASTX

1 hits to Synechococcus sp. WH
0 hits to Prochlorococcus

hit:

conserved hypothetical protein Synechococcus sp. WH 8102

Group 5, clone 3320C3

192 reads from 96 clones
32 failed phred qual test
11 failed lucy qual test
0 failed length test
22 failed vector test
2 failed trimmed length test
129 good sequences used for BLASTX

1 hits to Synechococcus sp. WH

0 hits to Prochlorococcus

hit:

putative S-adenosylmethionine decarboxylase *Synechococcus* sp.

Group 6, clone 4320C2

192 reads from 96 clones
38 failed phred qual test
14 failed lucy qual test
0 failed length test
24 failed vector test
3 failed trimmed length test
116 good sequences used for BLASTX

61 hits to *Synechococcus* sp. WH
2 hits to *Prochlorococcus*

some of the hits:

30S ribosomal protein S6 [*Synechococcus*...]
aconitate hydratase B [*Synechococcus*...]
Argininosuccinate synthase [*Synechococcus*...]
conserved hypothetical protein [*Synechococcus*...]
conserved hypothetical [*Synechococcus*...]
cyanate lyase [*Synechococcus* sp. WH]
DAHP synthetase class I [*Synechococcus*...]
excinuclease ABC subunit A [*Synechococcus*...]
Ferredoxin--nitrite reductase [*Synechococcus*...]
GAR transformylase 2 [*Synechococcus* ...]
hypothetical [*Synechococcus* sp. WH 8...]
putative chloride channel [*Synechococcus*...]
putative polyphosphate kinase [*Synechococcus*...]
Formate and nitrite transporters [*Prochlorococcus marinus* str. MIT 9313]
multidrug efflux transporter, MFS family [*Prochlorococcus marinus* str. MIT 9313]