

Genome Annotation Submission Cover Sheet

Preliminary Annotation Review Checklist 4-4-2018

Phage Name:

Your Name:

Your Institution:

Your email:

Additional emails:

(For correspondence)

Please check each box indicating completion of each task. If you are not sure how to do something, please see the Online Bioinformatics manual page "How to Pass Preliminary Review".

1. Does the genome sequence in your final contain the same number of bases and is it the same as the posted sequence on phagesdb.org?
2. Are all the genes "valid" when you click the "validate" button?
3. Have the genes been renumbered such that they go sequentially from 1 to the highest number?
4. Have all old BLAST hits been cleared, and all gene features reBLASTed?
5. Are the locus tags the "SEA_PHAGENAME"?
6. Has the Documentation been recreated to match the information in the feature table?
7. Have tRNA ends been adjusted with web-based Aragorn and/or tRNAscan SE?
8. Has the frameshift in the tail assembly chaperone been annotated (where applicable?)
9. For the items below, generate a genome profile, and review the following. For the

YourPhageName_CompleteNotes.dnam5 file:

- a. Have any duplicate genes (or any with the same stop coordinate?) been removed?
- b. Does every gene have **one and only one** complete set of Notes
- c. Do the functions in the Notes match the official function list?
- d. Are all three lines of functional evidence described for EVERY gene?
- e. Do the notes contain the initial Glimmer/GeneMark data from the autoannotation?

For the YourPhageName .dnam5 file:

- a. Have any duplicate genes (or any with the same stop coordinate?) been removed?
- b. Is the Notes field empty for all the features with no known function (including hidden marks?)
- c. Do the function names in the Notes match the official function list?
- d. Is the function field EMPTY for all features?

10. Did you use PECAAN to annotate your phage?

If, so please describe how in the text field after question 11.

11. Describe any issues or specific genes that you were unable to satisfactorily resolve, and warrant further inspection in the Quality Control review.

Tomathan Annotation Revised Version (June 1, 2018):

head-to-tail connector complex protein

Review Evidence phage SPP1 gp15 or gp16, phage HK97 gp6, or Bacillus protein yqgB

Gene 16 --> 21

13272

13646

head-to-tail connector complex protein

Phagesdb BLAST

Kerberos21 head-to-tail connector protein (e = 6e-65)

HHPRED

Yqbg; Putative Head-Tail Connector Protein Yqbg from Bacillus subtilis (e = 0.0000087)

15 protein (Bacteriophage SPP1 complete; three alpha-helix bundle, VIRAL PROTEIN;
NMR {Bacillus phage SPP1} (e = 0.00016)

NCBI BLAST

head-to-tail connector [Mycobacterium phage StarStuff] (e = 1.02595e-82)

Conserved Domain Database

pfam09355 Phage protein Gp19/Gp15/Gp42. (E = 5.09974e-34)

Gene 17 --> 22

13643

13837

NKF

Phagesdb BLAST

Kerberos22 head-to-tail connector protein (e = 3e-34)

StarStuff22 head-to-tail connector (e = 3e-34)

Pomar16 22 head-tail connector (e = 3e-34)

Gene 18 --> 23

13837

14205

head-to-tail connector complex protein

HHPRED

PORTAL PROTEIN, 15 PROTEIN, HEAD; VIRAL PROTEIN, VIRAL INFECTION, TAILED;
7.2A {BACILLUS PHAGE SPP1} (e = 0.0052)

NCBI BLAST

putative head-tail connector [Mycobacterium phage C3 gp18] (e = 4.04533e-85)

Gene 19 --> 24

14205

14540

NKF

Phagesdb BLAST

Kerberos 24 head-to-tail connector protein (e = 1e-59)

HHPRED HK97-gp10_like ; Bacteriophage HK97-gp10, putative tail-component (e = 9.1)

NCBI BLAST

head-to-tail connector [Mycobacterium phage StarStuff] (e = 8.18097e-74)

Gene 20 --> 25

14577

14969

head-to-tail connector complex protein

Phagesdb BLAST

Kerberos 25 head-to-tail connector protein (e = 7e-75)

HHPRED

PORTAL PROTEIN, 15 PROTEIN, HEAD; VIRAL PROTEIN, VIRAL INFECTION, TAILED;
7.2A {BACILLUS PHAGE SPP1} (e = 4.8e-10)

NCBI BLAST

head-to-tail connector protein [Mycobacterium phage Kerberos]

>gi|1102356613|gb|APC46143.1| head-to-tail connector [Mycobacterium phage StarStuff]
(e = 5.76112e-97)

Added Gene 62 DNA Pimase

Changed Function Names to:

Gene 51 ThyX-like thymidylate synthase

Gene 60 NrdH-like glutaredoxin

Gene 70 DNAB-like dsDNA helicase

Gene 76 RecB-like Exonuclease, helicase