Supplementary Material

# Supplementary Figures and Tables

**Supplementary Figure 1.** Phylogenomic tree displays the relationship between 21 SPFM phages and phages SEGD1 and SPN3US within the genus *SPN3USvirus*.The tree was built from single nucleotide polymorphisms (SNPs) taken from codon alignments of 188 core genes shared by all the 23 sequenced phages with the generalized time-reversible model of nucleotide evolution. The tree is drawn to scale and the scale bar represents the relative genetic distances.

**Supplementary Table 1**. Viral (v) RNAP and non-viral (nv) RNAP subunits present in all SPFM phages when compared to annotated and predicted RNAP’s in phage SPN3US.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Gene product in SPN3US genome1 | Protein ID in SPN3US genome1 | Annotation2  |
| nvRNAP subunits | 23 | [YP\_009153317.1](https://www.ncbi.nlm.nih.gov/protein/849122557) | nvRNAP β’ |
| 30 | [YP\_009153324.1](https://www.ncbi.nlm.nih.gov/protein/849122564) | Predicted nvRNAP |
| 34 | [YP\_009153328.1](https://www.ncbi.nlm.nih.gov/protein/849122568) | nvRNAP β |
| 35 | [YP\_009153329.1](https://www.ncbi.nlm.nih.gov/protein/849122569) | nvRNAP β’ |
| 77 | [YP\_009153371.1](https://www.ncbi.nlm.nih.gov/protein/849122611) | Predicted nvRNAP β’ |
| vRNAP subunits  | 42 | [YP\_009153336.1](https://www.ncbi.nlm.nih.gov/protein/849122576) | vRNAP β’C |
| 218 | [YP\_009153342.1](https://www.ncbi.nlm.nih.gov/protein/849122582) | Predicted vRNAP βC |
| 240 | [YP\_009153534.1](https://www.ncbi.nlm.nih.gov/protein/849122774) | vRNAP β’N |
| 241 | [YP\_009153535.1](https://www.ncbi.nlm.nih.gov/protein/849122775) | vRNAP βN |
| 244 | [YP\_009153538.1](https://www.ncbi.nlm.nih.gov/protein/849122778) | Predicted vRNAP β’C |

1 Gene product, protein ID and annotations are from SPN3US genome with GenBank number JN641803.1 and publications (Ali *et al.*, 2017; Thomas *et al.*, 2016).

2 C, C terminus region and N, N Terminus region.

**Supplementary Table 2**. List of all *Salmonella* phage genomes used to construct the heatmap in Figure 5 and their order in the heatmap.

|  |  |
| --- | --- |
| Phage ID | Accession number |
| *Salmonella*\_phage\_Fels-1 | NC\_010391 |
| *Salmonella*\_phage\_SEN4 | NC\_029015 |
| *Salmonella*\_phage\_RE-2010 | NC\_019488 |
| *Salmonella*\_phage\_ST64B | NC\_004313 |
| *Salmonella*\_phage\_118970\_sal3 | NC\_031940 |
| *Salmonella*\_phage\_Fels-2 | NC\_010463 |
| *Salmonella*\_phage\_SEN8 | KT630647.2 |
| *Salmonella*\_phage\_SEN1 | NC\_029003 |
| *Salmonella*\_virus\_PsP3 | NC\_005340 |
| *Salmonella*\_phage\_FSL\_SP-004 | NC\_021774 |
| *Salmonella*\_phage\_SSE121 | NC\_027351 |
| *Salmonella*\_phage\_PVP-SE1 | NC\_016071 |
| *Salmonella*\_phage\_38 | NC\_029042  |
| *Salmonella*\_phage\_40 | KR296694 |
| *Salmonella*\_phage\_21 | NC\_029050 |
| *Salmonella*\_phage\_vB\_SenS\_Sergei | KY742649 |
| *Salmonella*\_phage\_vB\_SenS\_Sasha | KX987158 |
| *Salmonella*\_phage\_9NA | NC\_025443 |
| *Salmonella*\_phage\_vB\_SalM\_SJ2 | NC\_023856 |
| *Salmonella*\_phage\_STML-13-1 | JX181828 |
| *Salmonella*\_phage\_ViI | FQ312032 |
| *Salmonella*\_phage\_Maynard | NC\_022768 |
| *Salmonella*\_phage\_Marshall | NC\_022772 |
| *Salmonella*\_phage\_SFP10 | NC\_016073  |
| *Salmonella*\_phage\_GG32 | NC\_031045 |
| *Salmonella*\_phage\_PhiSH19 | NC\_019530 |
| *Salmonella*\_phage\_vB\_SalM\_PM10 | NC\_031128 |
| *Salmonella*\_phage\_vB\_SalM\_SJ3 | NC\_024122 |
| *Salmonella*\_phage\_Det7 | NC\_027119  |
| *Salmonella*\_phage\_SKML-39 | NC\_019910 |
| *Salmonella*\_phage\_FSL\_SP-076 | NC\_021782  |
| *Salmonella*\_phage\_FSL\_SP-058 | NC\_021772 |
| *Salmonella*\_phage\_FSL\_SP-101 | KC139511 |
| *Salmonella*\_phage\_LSPA1 | NC\_026017 |
| *Salmonella*\_phage\_Jersey | NC\_021777 |
| *Salmonella*\_phage\_SETP13 | NC\_022752 |
| *Salmonella*\_phage\_SETP7 | NC\_022754 |
| *Salmonella*\_phage\_vB\_SenS\_AG11 | JX297445 |
| *Salmonella*\_phage\_BPS11Q3 | NC\_031925 |
| *Salmonella*\_phage\_LPSE1 | KY379853 |
| *Salmonella*\_phage\_MA12 | NC\_031021 |
| *Salmonella*\_phage\_L13 | NC\_021317  |
| *Salmonella*\_phage\_wksl3 | JX202565  |
| *Salmonella*\_phage\_SS3e | NC\_006940  |
| *Salmonella*\_phage\_SE2 | NC\_016763 |
| *Salmonella*\_phage\_vB\_SenS-Ent3 | NC\_024204 |
| *Salmonella*\_phage\_Ent1 | HE775250 |
| *Salmonella*\_phage\_vB\_SenS-Ent2 | NC\_023608 |
| *Salmonella*\_phage\_SETP3 | NC\_009232 |
| *Salmonella*\_phage\_f3SE | KU951147 |
| *Salmonella*\_phage\_f2SE | KU951146 |
| *Salmonella*\_phage\_f18SE | NC\_028698 |
| *Salmonella*\_phage\_fSE4S | KT881477 |
| *Salmonella*\_phage\_fSE1C | KT962832 |
| *Salmonella*\_phage\_FSL\_SP-031 | [NC\_021775](https://www.genome.jp/dbget-bin/www_bget?refseq:NC_021775) |
| *Salmonella*\_phage\_64795\_sal3 | [NC\_031918](https://www.genome.jp/dbget-bin/www_bget?refseq:NC_031918) |
| *Salmonella*\_phage\_Vi\_II-E1 | NC\_010495 |
| *Salmonella*\_phage\_BP12B | [NC\_031271](https://www.genome.jp/dbget-bin/www_bget?refseq:NC_031271) |
| *Salmonella*\_virus\_SP6 | NC\_004831 |
| *Salmonella*\_phage\_SE1 | NC\_011802 |
| *Salmonella*\_phage\_ST160 | NC\_014900  |
| *Salmonella*\_phage\_ST64T | AY052766 |
| *Salmonella\_*phage\_g341c | NC\_013059 |
| *Salmonella*\_phage\_vB\_SemP\_Emek | JQ806763 |
| *Salmonella*\_phage\_SPN9CC | NC\_017985 |
| *Salmonella*\_phage\_vB\_SosS\_Oslo | NC\_018279 |
| *Salmonella*\_phage\_SEN22 | NC\_028696 |
| *Salmonella*\_phage\_34 | EU570103 |
| *Salmonella*\_phage\_25 | KR296687 |
| *Salmonella*\_phage\_P22-pbi | AF527608 |
| *Salmonella*\_phage\_22 | KR296686 |
| Enterobacteria\_phage\_UAB\_Phi20 | NC\_031019 |
| *Salmonella*\_phage\_103203\_sal4 | KU927495 |
| *Salmonella*\_phage\_64795\_sal4 | KU927498 |
| *Salmonella*\_phage\_146851\_sal4 | KU927492 |
| *Salmonella*\_phage\_118970\_sal4 | NC\_030919 |
| *Salmonella*\_phage\_146851\_sal5 | KU927491 |
| *Salmonella*\_phage\_103203\_sal5 | NC\_031946 |
| *Salmonella*\_phage\_101962B\_sal5 | KU927496 |
| *Salmonella*\_phage\_SJ46 | NC\_031129 |
| *Salmonella*\_phage\_HK620 | NC\_002730 |
| *Salmonella*\_phage\_epsilon15 | NC\_004775 |
| *Salmonella*\_phage\_epsilon34 | NC\_011976 |
| *Salmonella*\_phage\_37 | NC\_029045 |
| *Salmonella*\_phage\_35 | KR296689 |
| *Salmonella*\_phage\_FSL\_SP-039 | KC139514 |
| *Salmonella*\_phage\_FSLSP030 | NC\_021779 |
| *Salmonella*\_phage\_Chi | NC\_025442 |
| *Salmonella*\_phage\_118970\_sal1 | NC\_031930 |
| *Salmonella*\_phage\_BP12C | NC\_031228 |
| *Salmonella*\_phage\_iEPS5 | KC677662 |
| *Salmonella*\_phage\_FSLSP088 | NC\_021780 |
| *Salmonella*\_phage\_FSL\_SP-124 | KC139515 |
| *Salmonella*\_phage\_SPN19 | NC\_019417 |
| *Salmonella*\_phage\_FSL\_SP-016 | KC139516 |
| *Salmonella*\_phage\_SPN3UB | NC\_019545 |
| Phage\_Gifsy2 | NC\_010393 |
| *Salmonella*\_phage\_SEN34 | NC\_028699 |
| *Salmonella*\_phage\_NR01 | NC\_031042 |
| *Salmonella*\_phage\_Shivani | NC\_028754 |
| *Salmonella*\_phage\_118970\_sal2 | KU927493 |
| *Salmonella*\_phage\_100268\_sal2 | KU927497 |
| *Salmonella*\_virus\_Stitch | NC\_027297 |
| *Salmonella*\_phage\_7-11 | NC\_015938 |
| *Salmonella*\_phage\_19 | NC\_029072 |
| *Salmonella*\_phage\_41 | KR296695 |
| *Salmonella*\_phage\_18-India | KR091942 |
| *Salmonella*\_phage\_phSE-2 | NC\_031026 |
| *Salmonella*\_phage\_phSE-5 | KX015771 |
| *Salmonella*\_phage\_36 | NC\_029071 |
| *Salmonella*\_phage\_FSL\_SP-126 | KC139513 |
| *Salmonella*\_phage\_FelixO1 | NC\_005282 |
| *Salmonella*\_phage\_FO1a | JF461087 |
| *Salmonella*\_phage\_Mushroom | KP143762 |
| Enterobacteriaphage\_UAB\_Phi87 | JN225449 |
| *Salmonella*\_phage\_HB-2014 | NC\_027329 |
| *Salmonella*\_phage\_BPS15Q2 | NC\_031939 |
| *Salmonella*\_phage\_39 | KR296693 |
| *Salmonella*\_phage\_SPC32N | KC911857 |
| *Salmonella*\_phage\_SPN9TCW | JQ691610 |
| *Salmonella*\_phage\_SPC32H | KC911856 |
| *Salmonella*\_phage\_SPN1S | NC\_016761 |
| *Salmonella*\_phage\_SPFM16 | LR535916 |
| *Salmonella*\_phage\_SPFM2 | LR535902 |
| *Salmonella*\_phage\_SPFM13 | LR535913 |
| *Salmonella*\_phage\_SPFM15 | LR535915 |
| *Salmonella*\_phage\_SPFM17 | LR535917 |
| *Salmonella*\_phage\_SPFM5 | LR535905 |
| *Salmonella*\_phage\_SPFM21 | LR535920 |
| *Salmonella*\_phage\_SPFM3 | LR535903 |
| *Salmonella*\_phage\_SPFM22 | LR535921 |
| *Salmonella*\_phage\_SPFM14 | LR535914 |
| *Salmonella*\_phage\_SPFM12 | LR535912 |
| *Salmonella*\_phage\_SPFM11 | LR535911 |
| *Salmonella*\_phage\_SPFM9 | LR535909 |
| *Salmonella*\_phage\_SPFM10 | LR535910 |
| *Salmonella*\_phage\_SPFM19 | LR535918 |
| *Salmonella*\_phage\_SPFM8 | LR535908 |
| *Salmonella*\_phage\_SPFM4 | LR535904 |
| *Salmonella*\_phage\_SPFM7 | LR535907 |
| *Salmonella*\_phage\_SPFM6 | LR535906 |
| *Salmonella*\_phage\_SPFM20 | LR535919 |
| Enterobacteria\_phage\_14L4 | LC465543 |
| *Salmonella*\_phage\_SPFM1 | LR535901 |
| *Salmonella*\_phage\_SPN3US | NC\_027402 |
| Enterobacteria\_phage\_SEGD1 | KU726251 |
| *Salmonella*\_phage\_phiSG-JL2 | NC\_010807 |
| *Salmonella*\_phage\_BP12A | NC\_031258 |
| *Salmonella*\_phage\_Vi06 | NC\_015271 |
| Enterobacteria\_phage\_vB\_KleM-RaK2 | NC\_019526 |
| *Salmonella*\_phage\_BP63 | NC\_031250 |
| *Salmonella*\_phage\_vB\_SenMS16 | NC\_020416 |
| *Salmonella*\_phage\_STP4-a | NC\_026607 |
| *Salmonella*\_phage\_STML-198 | NC\_027344 |
| *Salmonella*\_phage\_vB\_SnwM\_CGG4-1 | NC\_031065 |
| *Salmonella*\_phage\_SSU5 | NC\_018843 |
| *Salmonella*\_phage\_IME207 | NC\_031924 |
| Enterobacteria\_phage\_K1-5 | NC\_008152 |