**Function Assignments**

2015-16 SEA-PHAGES

November, 2015

Use this list to record the best-formatted name for the functions that you have identified in your genome. This is not a comprehensive list, so we may make additions as needed. You can find it at <http://phagesdb.org/workflow/Annotation/> .

|  |
| --- |
| **SEA-PHAGES functional assignments** |
| **USE** | **Do NOT use** | **Example** |
| terminase, small subunit | TerS | Sisi\_1 |
| terminase, large subunit | TerL | Sisi\_2 |
| terminase | If there are not two obvious large and small terminase genes in the same genome, just assign the function "terminase". | TM4\_4 |
| portal protein | head to tail connector | TM4\_5 |
| scaffolding protein | Scaffold | Sisi\_5 |
| capsid maturation protease | Protease, prohead protease | Sisi\_4 |
| major capsid protein | capsid | Sisi\_6 |
| head-to-tail connector protein |   | Sisi\_7,8,9,10 |
| major tail protein | major tail subunit | Sisi\_11 |
| tail assembly chaperone | Tail scaffolding protein | TM4\_15; 16 |
| tape measure protein | Tape Measure, tmp, tapemeasure | TM4\_17 |
| minor tail protein |   | Sisi\_15-18 |
| minor tail protein, D-ala-D-ala carboxypeptidase |   | Sisi\_19 |
| tail sheath protein |   | Alice\_120 |
| baseplate J protein |   | Alice\_133 |
| capsid decoration protein | head decoration protein | Alice\_107, Alice\_232 |
| lysin A | LysA, endolysin A | Sisi\_30 |
| lysin B | LysB, endolysin B | Sisi\_31 |
| holin |   | Sisi\_32 |
| integrase, (S-int) |   | Bxb1\_35 |
| integrase, (Y-int) |   | Sisi\_43 |
| ParA dsDNA partitioning protein |   | RedRock\_37 |
| ParB dsDNA partitioning protein | Do not label anything a ParB or ParB domain without the presence of a ParA partner in the genome | RedRock\_38 |
| immunity repressor | Repressor | Sisi\_45 |
| excise | Excisionase, Xis | BPs\_34 |
| recombination directionality factor | RDF | RedRock\_58 |
| CRO (control of repressor’s operator) |   | Che9c\_47 |
| antirepressor |   | Sisi\_47 |
| DnaE DNA polymerase III (alpha) |   | Spud\_203 |
| DNA polymerase III sliding clamp (Beta) |   | Corndog\_84 |
| DnaC helicase loader |   | Alice\_189 |
| DNA helicase |   | Chah\_54 |
| DnaB dsDNA helicase |   | RedRock\_68 |
| DnaG DNA primase |  Topoisomerase primase | Spud\_199 |
| DNA primase/polymerase |   | Rosebush\_54 |
| DnaQ exonuclease (DNA polymerase III subunit) |   | Sisi\_35 |
| nucleotidyl transferase |   | Spud\_3 |
| polynucleotide kinase | pnk | Spud\_250 |
| Lsr2 DNA bridging protein | Lsr2 | Omega\_61 |
| RecA DNA Recombinase |   | Spud\_205 |
| RecB Exonuclease |   | RedRock\_72 |
| Ku dsDNA break-binding protein | Ku | Omega\_206 |
| RNA ligase |   | Cjw1\_93 |
| rtcB RNA ligase |   | Anaya\_88 |
| DNA ligase |   | Benedict\_29 |
| WhiB family transcription factor | WhiB | Sisi\_55,57 |
| ribonucleotide reductase |   | RedRock\_53 |
| SprT protease |   | Peaches\_79 |
| pyrimidine deaminase |   | DaVinci\_40 |
| nucleoside deaminase |   | Peaches\_35 |
| ThyX thymidylate synthase | ThyX | RedRock\_51 |
| MazG nucleotide pyrophosphohydrolase | MazG | Che12\_gp40 |
| Peptidyl tRNA hydrolase |   | Spud\_156 |
| DNA methylase |   | Sisi\_69 |
| methylase |   |   |
| methyltransferase |   | Optimus\_14 |
| O-methyltransferase |   | Send513\_63 |
| tRNA-methyltransferase |   | SPB78\_36 |
| ssDNA binding protein |   | Rey\_73 |
| helix-turn-helix DNA binding domain | Sigma factor, Transcription factor |   |
| HTH DNA binding protein, MerR-like |   | Che12\_39 |
| resolvase, RuvC-like |   | Chah\_6 |
| RusA resolvase (endonuclease) |   | Spud\_209 |
| exonuclease |   |   |
| RecE exonuclease |   | Che9c\_60 |
| RecT ssDNA binding protein |   | Che9c\_61 |
| ssDNA binding protein, ERF family |   | Cjw1\_70 |
| glycosylase |   | Barnyard\_33 |
| glycosyltransferase |   | Spud\_232 |
| galactosyltransferase |   | Sisi\_96 |
| hydrolase |   | RedRock\_64 |
| peptidase |   | Omega\_105 |
| nicotinate ribosyltransferase |   | LeBron\_72 |
| ClpP protease |   | Cjw1\_103 |
| thioredoxin |   | Cjw1\_37 |
| NrdH glutaredoxin |   | Bxb1\_56 |
| HNH endonuclease |   | Sisi\_99 |
| G-I-Y Y-I-G endonuclease |   | Sisi\_89 |
| LAGLIDADG endonuclease |   | Wee\_78 |
| endonuclease VII |   | Bxb1\_54 |
| transposase |   | Omega\_21 |
| Mycobacteriophage Mobile Element 1 (MPME 1) |   | Avrafan\_57 |
| Mycobacteriophage Mobile Element 2 (MPME 2) |   | Fruitloop\_71 |
| lipase, LipC-like |   | LittleE\_99 |
| esterase |   | Rockstar\_61 |
| thioesterase |   | Pukovnik\_62 |
| carboxylesterase |   | Omega\_105 |
| lipoprotein |   | MichelleMyBelle\_32 |
| phosphoesterase |   | BAKA\_189 |
| phosphatase |   |   |
| AAA-ATPase |   | Corndog\_96 |
| serine/threonine kinase |   | LittleE\_16 |
| ppGpp synthesis/degradation protein, SpoT-like |   | Phrann\_29 |
| queosine biosynthesis protein, QueC-like |   | Rosebush\_3 |
| queosine biosynthesis protein, QueD-like |   | Rosebush\_4 |
| queosine biosynthesis protein, QueE-like |   | Rosebush\_5 |
| RF-1 peptide chain release factor |   | Spud\_204 |
| Ro RNA binding protein | TROVE domain, Ro | Spud\_226 |
| membrane protein, Band-7 –like |   | Bxz1\_29 |
| adenylosuccinate synthetase, PurA like | PurA | Spud\_256 |
| histidine triad nucleotide binding protein | HIT domain | Catera\_17 |
| pentapeptide repeat protein |   | Cjw1\_59 |
| dsDNA break-binding protein, AddA-like |   | Omega\_123 |
| FtsK DNA translocase |   | Omega\_203 |
| endolysin, LysM-like |   | Spud\_96 |
| CobT cobalamin biosynthesis protein |   | PBI1\_57 |
| toxin, VIP2-like |   | RedRock\_2 |
| SOS regulon repressor, LexA-like |   | Wildcat\_13 |
| tRNA nucleotidyltransferase |   | Myrna\_28 |
| Chaperonin, DnaJ-like |   | Myrna\_190 |
| PTPc tyrosine phosphatase | PTPc | Bongo\_83 |
| antirestriction protein, ArdA-like |   | Airmid\_82 |
| aminotransferase |   | Spud\_193 |
| antitoxin, VbhA-like |   | Gaia\_133 |
| antitoxin in toxin/antitoxin system, RelB-like |   | Fruitloop\_42 |
| toxin in toxin/antitoxin system, RelE-like |   | Fruitloop\_41 |
| antitoxin in toxin/antitoxin system, HicB-like |   | Xeno\_30 |
| toxin in toxin/antitoxin system, HicB-like |   | Xeno\_32 |
| deoxycytidylate deaminase |   |   |