

**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/>.

<b>SEA-PHAGES functional assignments</b>		
<b>USE</b>	<b>Do NOT use</b>	<b>Example</b>
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		Che9c_47

operator)		
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/helicase		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
phosphoribosyl pyrophosphate transferase		Faith1_74
deoxycytidylate deaminase		