Pham 4396


Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 4396 Report

This analysis was run 04/05/24 on database version 557.
Pham number 4396 has 19 members, 3 are drafts.
Phages represented in each track:

- Track 1 : Norvs_9
- Track 2 : Bachita_10, Engineer_9, ClubL_9, Abscondus_8, Cucurbita_8,

PhinkBoden_10, Miskis_10, Aphēlion_9, Lozinak_9, Smoothie_9, Culver_8

- Track 3 : WilliamBoone_8
- Track 4 : Toniann_9
- Track 5 : BrutonGāster_6
- Track 6 : OneUp_8
- Track 7 : Cardigan_13, Yvonnetastic_13, JonJames_12


## Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 3, it was called in 12 of the 16 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abscondus_8, Aphelion_9, Bachita_10, BrutonGaster_6, ClubL_9, Cucurbita_8, Culver_8, Engineer_9, Lozinak_9, Miskis_10, OneUp_8, PhinkBoden_10, Smooth̄ie_9, WilliamBoone_8,

Genes that have the "Most Annotated" start but do not call it:

- Norvs_9, Toniann_9,

Genes that do not have the "Most Annotated" start:

- Cardigan_13, JonJames_12, Yvonnetastic_13,


## Summary by start number:

Start 1:

- Found in 13 of 19 ( $68.4 \%$ ) of genes in pham
- Manual Annotations of this start: 1 of 16
- Called $7.7 \%$ of time when present
- Phage (with cluster) where this start called: Toniann_9 (CQ1),

Start 3:

- Found in 16 of 19 ( 84.2\% ) of genes in pham
- Manual Annotations of this start: 12 of 16
- Called $87.5 \%$ of time when present
- Phage (with cluster) where this start called: Abscondus 8 (CQ), Aphelion_9 (CQ1), Bachita_10 (CQ1), BrutonGaster_6 (CQ2), ClubL 9 (CQ1), Cucurbita 8 (CQ1), Culver_8 (CQ1), Engineer 9 (CQ1), Lozinak 9 (CQ1), Miskis_10 (CQ), OneUp_8 (CQ2), PhinkBoden_10 (CQ1), Smoothie_9 (CQ1), WilliamBoōne_8 (CQ1),


## Start 4:

- Found in 3 of 19 (15.8\%) of genes in pham
- Manual Annotations of this start: 2 of 16
- Called 100.0\% of time when present
- Phage (with cluster) where this start called: Cardigan_13 (DD), JonJames_12 (DD),

Yvonnetastic_13 (DD),
Start 8:

- Found in 15 of 19 ( $78.9 \%$ ) of genes in pham
- Manual Annotations of this start: 1 of 16
- Called $6.7 \%$ of time when present
- Phage (with cluster) where this start called: Norvs_9 (CQ),


## Summary by clusters:

There are 4 clusters represented in this pham: CQ2, CQ1, CQ, DD,
Info for manual annotations of cluster CQ:

- Start number 8 was manually annotated 1 time for cluster CQ.

Info for manual annotations of cluster CQ1:

- Start number 1 was manually annotated 1 time for cluster CQ1.
- Start number 3 was manually annotated 10 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 3 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DD:

- Start number 4 was manually annotated 2 times for cluster DD.


## Gene Information:

Gene: Abscondus_8 Start: 1908, Stop: 2192, Start Num: 3
Candidate Starts for Abscondus_8:
(Start: 1 @1878 has 1 MA's), (2, 1884), (Start: 3 @1908 has 12 MA's), (Start: 8 @1962 has 1 MA's), (9, 1995), (11, 2025), (13, 2034), (15, 2064), (19, 2103),

Gene: Aphelion_9 Start: 2084, Stop: 2368, Start Num: 3
Candidate Starts for Aphelion_9:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), (9, 2171), (11, 2201), (13, 2210), (15, 2240), (19, 2279),

Gene: Bachita_10 Start: 2584, Stop: 2868, Start Num: 3

Candidate Starts for Bachita_10:
(Start: 1 @ 2554 has 1 MA's), ( 2 , 2560), (Start: 3 @ 2584 has 12 MA's), (Start: 8 @ 2638 has 1 MA's), $(9,2671),(11,2701),(13,2710),(15,2740),(19,2779)$,

Gene: BrutonGaster_6 Start: 1374, Stop: 1661, Start Num: 3
Candidate Starts for BrutonGaster_6:
(Start: 3 @1374 has 12 MA's), (Start: 8 @1428 has 1 MA's), (12, 1497), (13, 1500), (14, 1506), (17, 1563), (19, 1569),

Gene: Cardigan_13 Start: 3546, Stop: 3821, Start Num: 4
Candidate Starts for Cardigan_13:
(Start: 4 @3546 has 2 MA's), (10, 3657), (14, 3678), (15, 3696), (16, 3720), (20, 3759), (22, 3816),
Gene: ClubL_9 Start: 2084, Stop: 2368, Start Num: 3
Candidate Starts for ClubL_9:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), $(9,2171),(11,2201),(13,2210),(15,2240),(19,2279)$,

Gene: Cucurbita_8 Start: 2084, Stop: 2368, Start Num: 3
Candidate Starts for Cucurbita_8:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), $(9,2171),(11,2201),(13,2210),(15,2240),(19,2279)$,

Gene: Culver_8 Start: 1908, Stop: 2192, Start Num: 3
Candidate Starts for Culver_8:
(Start: 1 @1878 has 1 MA's), (2, 1884), (Start: 3 @1908 has 12 MA's), (Start: 8 @1962 has 1 MA's), $(9,1995),(11,2025),(13,2034),(15,2064),(19,2103)$,

Gene: Engineer_9 Start: 2084, Stop: 2368, Start Num: 3
Candidate Starts for Engineer_9:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), $(9,2171),(11,2201),(13,2210),(15,2240),(19,2279)$,

Gene: JonJames_12 Start: 3697, Stop: 3972, Start Num: 4
Candidate Starts for JonJames_12:
(Start: 4 @3697 has 2 MA's), ( 10,3808 ), ( 14,3829 ), ( 15,3847 ), ( 16,3871 ), ( 20,3910 ), ( 22,3967 ),
Gene: Lozinak_9 Start: 2084, Stop: 2368, Start Num: 3
Candidate Starts for Lozinak_9:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), $(9,2171),(11,2201),(13,2210),(15,2240),(19,2279)$,

Gene: Miskis_10 Start: 2084, Stop: 2368, Start Num: 3
Candidate Starts for Miskis_10:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), $(9,2171),(11,2201),(13,2210),(15,2240),(19,2279)$,

Gene: Norvs_9 Start: 2138, Stop: 2368, Start Num: 8
Candidate Starts for Norvs_9:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), $(9,2171),(11,2201),(13,2210),(15,2240),(19,2279)$,

Gene: OneUp_8 Start: 1818, Stop: 2105, Start Num: 3

Candidate Starts for OneUp_8:
(Start: 3 @1818 has 12 MA's), (6, 1842), (7, 1860), (Start: 8 @1872 has 1 MA's), (9, 1905), (12, 1941), $(13,1944),(18,2010),(19,2013),(23,2097)$,

Gene: PhinkBoden_10 Start: 2584, Stop: 2868, Start Num: 3
Candidate Starts for PhinkBoden_10:
(Start: 1 @ 2554 has 1 MA's), (2, 2560), (Start: 3 @2584 has 12 MA's), (Start: 8 @ 2638 has 1 MA's), $(9,2671),(11,2701),(13,2710),(15,2740),(19,2779)$,

Gene: Smoothie_9 Start: 2084, Stop: 2368, Start Num: 3
Candidate Starts for Smoothie_9:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @2138 has 1 MA's), (9, 2171), (11, 2201), ( 13,2210 ), ( 15,2240 ), (19, 2279),

Gene: Toniann_9 Start: 2054, Stop: 2368, Start Num: 1
Candidate Starts for Toniann_9:
(Start: 1 @2054 has 1 MA's), (2, 2060), (Start: 3 @2084 has 12 MA's), (Start: 8 @ 2138 has 1 MA's), $(9,2171),(11,2201),(13,2210),(15,2240),(19,2279)$,

Gene: WilliamBoone_8 Start: 1935, Stop: 2219, Start Num: 3
Candidate Starts for WilliamBoone_8:
(2, 1911), (Start: 3 @1935 has 12 MA's), (5, 1950), (9, 2022), (11, 2052), (12, 2058), (13, 2061), (15, 2091), (19, 2130), (21, 2160),

Gene: Yvonnetastic_13 Start: 3330, Stop: 3605, Start Num: 4
Candidate Starts for Yvonnetastic_13:
(Start: 4 @3330 has 2 MA's), ( 10,3441 ), ( 14,3462 ), ( 15,3480 ), ( 16,3504 ), ( 20,3543 ), ( 22,3600 ),

