

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 4217 Report

This analysis was run 04/05/24 on database version 557.

Pham number 4217 has 22 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Phendrix 185
- Track 2 : GodonK\_196
- Track 3: Boopy\_180, Mareelih\_178
- Track 4 : GMA2 75
- Track 5: BlueNGold 177, Forza 181
- Track 6 : Sixama\_182
- Track 7: Racecar 98, Talia1610 99, Mimi 103, Bloom 101, Patbob 98
- Track 8 : DunneganBoMo\_90
- Track 9 : Atuin 94
- Track 10 : SJReid 104
- Track 11 : PauloDiaboli\_103, A3Wally\_103
- Track 12 : Big4 92
- Track 13 : Zooman\_87Track 14 : Cece\_86
- Track 15: Pumpernickel 100

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

The start number called the most often in the published annotations is 12, it was called in 5 of the 14 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• A3Wally\_103, Big4\_92, PauloDiaboli\_103, Pumpernickel\_100, Zooman 87,

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

• Cece 86.

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

 Atuin\_94, Bloom\_101, BlueNGold\_177, Boopy\_180, DunneganBoMo\_90, Forza\_181, GMA2\_75, GodonK\_196, Mareelih\_178, Mimi\_103, Patbob\_98, Phendrix\_185, Racecar\_98, SJReid\_104, Sixama\_182, Talia1610\_99,

### **Summary by start number:**

## Start 1:

- Found in 2 of 22 (9.1%) of genes in pham
- Manual Annotations of this start: 1 of 14
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Phendrix\_185 (DK),

#### Start 4:

- Found in 6 of 22 (27.3%) of genes in pham
- Manual Annotations of this start: 3 of 14
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Boopy\_180 (DS), Mareelih\_178 (DS), Sixama\_182 (DS),

#### Start 5:

- Found in 2 of 22 (9.1%) of genes in pham
- Manual Annotations of this start: 1 of 14
- Called 50.0% of time when present
- Phage (with cluster) where this start called: GodonK\_196 (DK),

#### Start 6:

- Found in 6 of 22 (27.3%) of genes in pham
- Manual Annotations of this start: 2 of 14
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BlueNGold\_177 (DS), Forza\_181 (DS), GMA2\_75 (DS),

#### Start 7:

- Found in 2 of 22 (9.1%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DunneganBoMo 90 (FC),

## Start 8:

- Found in 3 of 22 (13.6%) of genes in pham
- No Manual Annotations of this start.
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Atuin\_94 (FC), SJReid\_104 (FC),

#### Start 11:

- Found in 6 of 22 (27.3%) of genes in pham
- Manual Annotations of this start: 2 of 14
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bloom\_101 (FC), Cece\_86 (GD3), Mimi\_103 (FC), Patbob\_98 (FC), Racecar\_98 (FC), Talia1610\_99 (FC),

#### Start 12:

- Found in 6 of 22 (27.3%) of genes in pham
- Manual Annotations of this start: 5 of 14
- Called 83.3% of time when present
- Phage (with cluster) where this start called: A3Wally\_103 (GD1), Big4\_92 (GD2), PauloDiaboli\_103 (GD1), Pumpernickel\_100 (GD4), Zooman\_87 (GD2),

# Summary by clusters:

There are 7 clusters represented in this pham: GD1, GD2, GD3, GD4, DK, FC, DS,

Info for manual annotations of cluster DK:

- •Start number 1 was manually annotated 1 time for cluster DK.
- •Start number 5 was manually annotated 1 time for cluster DK.

Info for manual annotations of cluster DS:

- •Start number 4 was manually annotated 3 times for cluster DS.
- •Start number 6 was manually annotated 2 times for cluster DS.

Info for manual annotations of cluster FC:

•Start number 11 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster GD1:

•Start number 12 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

•Start number 12 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

•Start number 11 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

•Start number 12 was manually annotated 1 time for cluster GD4.

# Gene Information:

Gene: A3Wally\_103 Start: 68020, Stop: 68490, Start Num: 12

Candidate Starts for A3Wally 103:

(Start: 12 @68020 has 5 MA's), (15, 68047), (26, 68194), (38, 68299), (41, 68332), (44, 68359), (57, 68461),

Gene: Atuin\_94 Start: 76996, Stop: 77553, Start Num: 8

Candidate Starts for Atuin\_94:

(7, 76978), (8, 76996), (15, 77062), (18, 77128), (21, 77179), (23, 77191), (43, 77419), (45, 77431), (46, 77434), (54, 77491), (60, 77536),

Gene: Big4 92 Start: 67235, Stop: 67705, Start Num: 12

Candidate Starts for Big4 92:

(Start: 12 @67235 has 5 MA's), (21, 67379), (22, 67385), (26, 67409), (39, 67517), (57, 67676),

Gene: Bloom\_101 Start: 77157, Stop: 77663, Start Num: 11

Candidate Starts for Bloom\_101:

(Start: 11 @77157 has 2 MA's), (14, 77181), (19, 77274), (20, 77292), (43, 77499), (45, 77511), (48, 77538), (52, 77559), (54, 77574),

Gene: BlueNGold 177 Start: 104697, Stop: 104134, Start Num: 6

Candidate Starts for BlueNGold 177:

(Start: 4 @104709 has 3 MA's), (Start: 6 @104697 has 2 MA's), (16, 104601), (24, 104472), (25, 104469), (27, 104451), (31, 104397), (42, 104286), (51, 104214),

Gene: Boopy\_180 Start: 104720, Stop: 104145, Start Num: 4

Candidate Starts for Boopy\_180:

(Start: 4 @104720 has 3 MA's), (Start: 6 @104708 has 2 MA's), (16, 104612), (24, 104483), (25, 104480), (27, 104462), (31, 104408), (42, 104297), (51, 104225),

Gene: Cece\_86 Start: 70286, Stop: 70759, Start Num: 11

Candidate Starts for Cece 86:

(Start: 11 @70286 has 2 MA's), (Start: 12 @70289 has 5 MA's), (28, 70475), (29, 70505), (30, 70523), (50, 70670), (57, 70730), (58, 70733),

Gene: DunneganBoMo 90 Start: 72889, Stop: 73455, Start Num: 7

Candidate Starts for DunneganBoMo\_90:

(7, 72889), (8, 72907), (18, 73030), (20, 73069), (23, 73093), (34, 73219), (35, 73222), (43, 73321), (46, 73336), (55, 73408),

Gene: Forza\_181 Start: 104625, Stop: 104062, Start Num: 6

Candidate Starts for Forza\_181:

(Start: 4 @104637 has 3 MA's), (Start: 6 @104625 has 2 MA's), (16, 104529), (24, 104400), (25, 104397), (27, 104379), (31, 104325), (42, 104214), (51, 104142),

Gene: GMA2\_75 Start: 76604, Stop: 76020, Start Num: 6

Candidate Starts for GMA2 75:

(3, 76628), (Start: 4 @76616 has 3 MA's), (Start: 6 @76604 has 2 MA's), (9, 76550), (13, 76529), (37, 76232), (40, 76196), (42, 76175), (51, 76103), (61, 76031),

Gene: GodonK\_196 Start: 101457, Stop: 100891, Start Num: 5

Candidate Starts for GodonK 196:

(Start: 1 @101487 has 1 MA's), (2, 101484), (3, 101475), (Start: 5 @101457 has 1 MA's), (16, 101349), (17, 101319), (20, 101247), (22, 101229), (36, 101100), (39, 101067), (42, 101034), (49, 100974), (53, 100950), (56, 100917),

Gene: Mareelih 178 Start: 104155, Stop: 103580, Start Num: 4

Candidate Starts for Mareelih 178:

(Start: 4 @104155 has 3 MA's), (Start: 6 @104143 has 2 MA's), (16, 104047), (24, 103918), (25, 103915), (27, 103897), (31, 103843), (42, 103732), (51, 103660),

Gene: Mimi\_103 Start: 76504, Stop: 77010, Start Num: 11

Candidate Starts for Mimi\_103:

(Start: 11 @76504 has 2 MA's), (14, 76528), (19, 76621), (20, 76639), (43, 76846), (45, 76858), (48, 76885), (52, 76906), (54, 76921),

Gene: Patbob\_98 Start: 77232, Stop: 77738, Start Num: 11

Candidate Starts for Patbob 98:

(Start: 11 @77232 has 2 MA's), (14, 77256), (19, 77349), (20, 77367), (43, 77574), (45, 77586), (48, 77613), (52, 77634), (54, 77649),

Gene: PauloDiaboli\_103 Start: 67377, Stop: 67847, Start Num: 12

Candidate Starts for PauloDiaboli\_103:

(Start: 12 @67377 has 5 MA's), (15, 67404), (26, 67551), (38, 67656), (41, 67689), (44, 67716), (57, 67818).

Gene: Phendrix\_185 Start: 100076, Stop: 99480, Start Num: 1

Candidate Starts for Phendrix 185:

(Start: 1 @100076 has 1 MA's), (2, 100073), (3, 100064), (Start: 5 @100046 has 1 MA's), (16, 99938), (17, 99908), (22, 99818), (36, 99689), (39, 99656), (42, 99623), (49, 99563), (53, 99539), (56, 99506),

Gene: Pumpernickel\_100 Start: 69028, Stop: 69498, Start Num: 12

Candidate Starts for Pumpernickel\_100:

(Start: 12 @69028 has 5 MA's), (20, 69160), (26, 69202), (28, 69214),

Gene: Racecar\_98 Start: 77157, Stop: 77663, Start Num: 11

Candidate Starts for Racecar\_98:

(Start: 11 @77157 has 2 MA's), (14, 77181), (19, 77274), (20, 77292), (43, 77499), (45, 77511), (48, 77538), (52, 77559), (54, 77574),

Gene: SJReid\_104 Start: 69475, Stop: 69978, Start Num: 8

Candidate Starts for SJReid\_104:

(8, 69475), (43, 69844), (46, 69859), (50, 69889),

Gene: Sixama\_182 Start: 105456, Stop: 104881, Start Num: 4

Candidate Starts for Sixama\_182:

(Start: 4 @105456 has 3 MA's), (Start: 6 @105444 has 2 MA's), (27, 105198), (33, 105138), (47, 104991), (50, 104970), (59, 104904), (61, 104889),

Gene: Talia1610\_99 Start: 76522, Stop: 77028, Start Num: 11

Candidate Starts for Talia1610\_99:

(Start: 11 @76522 has 2 MA's), (14, 76546), (19, 76639), (20, 76657), (43, 76864), (45, 76876), (48, 76903), (52, 76924), (54, 76939),

Gene: Zooman 87 Start: 65082, Stop: 65552, Start Num: 12

Candidate Starts for Zooman\_87:

(10, 65076), (Start: 12 @65082 has 5 MA's), (20, 65214), (26, 65256), (28, 65268), (32, 65322), (57, 65523),