

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Virology Papers

Virology, Nebraska Center for

2-20-2007

Supplementary Data for "Sequence and annotation of the 369-kb NY-2A and the 345-kb AR158 viruses that infect *Chlorella* NC64A": Appendix A: Gene Names b002R – b797R

Lisa A. Fitzgerald

University of Nebraska-Lincoln, lisa.fitzgerald@nrl.navy.mil

Michael V. Graves

University of Massachusetts-Lowell, Michael_Graves@uml.edu

Xiao Li

University of Massachusetts-Lowell

Tamara Feldblyum

The Institute for Genomic Research, Rockville, MD

William C. Nierman

The Institute for Genomic Research, Rockville, MD, wnierman@tigr.org

See next page for additional authors

Follow this and additional works at: <https://digitalcommons.unl.edu/virologypub>



Part of the [Virology Commons](#)

Fitzgerald, Lisa A.; Graves, Michael V.; Li, Xiao; Feldblyum, Tamara; Nierman, William C.; and Van Etten, James L., "Supplementary Data for "Sequence and annotation of the 369-kb NY-2A and the 345-kb AR158 viruses that infect *Chlorella* NC64A": Appendix A: Gene Names b002R – b797R" (2007). *Virology Papers*. 7.

<https://digitalcommons.unl.edu/virologypub/7>

This Article is brought to you for free and open access by the Virology, Nebraska Center for at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Virology Papers by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Authors

Lisa A. Fitzgerald, Michael V. Graves, Xiao Li, Tamara Feldblyum, William C. Nierman, and James L. Van Etten

SUPPLEMENTARY DATA FOR

Sequence and annotation of the 369-kb NY-2A and the 345-kb AR158 viruses that infect *Chlorella* NC64A

Lisa A. Fitzgerald^a, Michael V. Graves^b, Xiao Li^b, Tamara Feldblyum^c, William C. Nierman^{c, d}, and James L. Van Etten^{e, *}

^aDepartment of Chemistry, University of Nebraska-Lincoln, Lincoln, NE 68588-0304

^bDepartment of Biological Sciences, University of Massachusetts-Lowell, Lowell, MA 01854

^cThe Institute for Genomic Research, 9712 Medical Center Drive, Rockville, MD 20850

^dThe George Washington University School of Medicine, Department of Biochemistry and Molecular Biology, Washington, DC 20037

^eDepartment of Plant Pathology, University of Nebraska-Lincoln, Lincoln, NE 68583-0722 and Nebraska Center for Virology, University of Nebraska-Lincoln, Lincoln, NE 68588-0666

* Corresponding author. Email: jvanetten@unlnotes.unl.edu

Abstract: Viruses NY-2A and AR158, members of the family *Phycodnaviridae*, genus *Chlorovirus*, infect the fresh water, unicellular, eukaryotic, chlorella-like green alga, *Chlorella* NC64A. The 368,683-bp genome of NY-2A and the 344,690-bp genome of AR158 are the two largest chlorella virus genomes sequenced to date; NY-2A contains 404 putative protein-encoding and 7 tRNA-encoding genes and AR158 contains 360 putative protein-encoding and 6 tRNA-encoding genes. The protein-encoding genes are almost evenly distributed on both strands, and intergenic space is minimal. Two of the NY-2A genes encode inteins, the large subunit of ribonucleotide reductase and a superfamily II helicase. These are the first inteins to be detected in the chlorella viruses. Approximately 40% of the viral gene products resemble entries in the public databases, including some that are unexpected for a virus. These include GDP-d-mannose dehydratase, fucose synthase, aspartate transcarbamylase, Ca⁺⁺ transporting ATPase and ubiquitin. Comparison of NY-2A and AR158 protein-encoding genes with the prototype chlorella virus PBCV-1 indicates that 85% of the genes are present in all three viruses.

Keywords: Chlorella viruses, Phycodnaviridae, Virus NY-2A, Virus AR158, Genome sequence

Supplementary data associated with this article is archived in this repository as 4 separate files: Appendices A–D. Each document, in spreadsheet format, shows Gene Name, Genome Position, A.A. length, Peptide Mw, pI, CDD Hit Number, COGs, COG Definition, Bit Score, E-value, % Identity, % Positive, Query from-to, Hit from-to, BLASTp Hit Number, Hit Accession, BLASTp Definition, Bit Score, E-value, % Identity, % Positive, Query from-to, and Hit from-to.

Appendix A: Gene Names b002R – b797R

Appendix B: Gene Names B001L – B886R

Appendix C: Gene Names c001R – c814L

Appendix D: Gene Names C006R – C815L

Appendix A: Gene Names b002R – b797R

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|--|-----------|----------|------------|------------|---------------|-------------|-------------------|---------------|---|--|----------|------------|------------|---------------|-------------|---------|
| b002R | 1094-1315 | 74 | 8.633 | 7.51 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b005L | 2238-1993 | 82 | 8.912 | 5.03 | | No Hit Found | | | | | | | | 1 | NP_049046 | identical to PBCV-1 terminal repeat ORF, corresponds to GenBank Accession Number M55319 | 97.06 | 1.64E-19 | 64% | 75% | 6-82 | 2-77 | |
| b007R | 2490-2783 | 98 | 11.941 | 6.93 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b009L | 3809-3489 | 107 | 12.109 | 8.91 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b011R | 4401-4643 | 81 | 9.618 | 10.10 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b012L | 4938-4663 | 92 | 10.958 | 5.82 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b014R | 5639-5839 | 67 | 8.180 | 7.70 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b015R | 5727-5945 | 73 | 8.112 | 10.74 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b017R | 6534-6788 | 85 | 9.952 | 8.18 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b019R | 7503-7757 | 85 | 9.543 | 11.48 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b020R | 7886-8089 | 68 | 8.041 | 9.50 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b021R | 8099-8404 | 102 | 11.885 | 5.08 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b023L | 10098-9820 | 93 | 10.453 | 10.95 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b025R | 11545-11772 | 76 | 8.823 | 5.58 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b026R | 11772-12020 | 83 | 9.549 | 6.77 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b028L | 12034-11801 | 78 | 8.798 | 12.04 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b029R | 11941-12279 | 113 | 10.711 | 5.51 | 1 | pfam05642 | Sporozoite_P67. Sporozoite P67 surface antigen. This family consists of several Theileria P67 surface antigens. A stage specific surface antigen of Theileria parva, p67, is the basis for the development of an anti-sporozoite vaccine for the control of East Coast fever (ECF) in cattle. The antigen has been shown to contain five distinct linear peptide sequences recognised by sporozoite-neutralising murine monoclonal antibodies. | 42.86 | 5.94E-05 | 44% | 50% | 36-107 | 180-250 | | No Hit Found | | | | | | | | |
| b030L | 12532-12290 | 81 | 9.242 | 9.03 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b032L | 13424-13227 | 66 | 7.378 | 12.02 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b035L | 15050-14856 | 65 | 7.534 | 11.07 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b036R | 16436-16714 | 93 | 10.260 | 4.54 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b037R | 16808-17014 | 69 | 7.533 | 4.11 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b038R | 17756-17971 | 72 | 8.118 | 4.88 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b041R | 21050-21361 | 104 | 11.414 | 7.21 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b042R | 22389-22667 | 93 | 11.857 | 12.12 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b043R | 22421-22840 | 140 | 15.312 | 6.34 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b044R | 23459-23809 | 117 | 12.727 | 4.77 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b045R | 23930-24172 | 81 | 8.902 | 4.36 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b046R | 24182-24586 | 135 | 14.731 | 4.23 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b048L | 26325-26113 | 71 | 8.650 | 8.14 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b049R | 26791-26985 | 65 | 8.149 | 12.09 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b050R | 26811-27242 | 144 | 15.584 | 4.13 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b051R | 27309-27836 | 176 | 18.677 | 4.12 | | No Hit Found | | | | | | | | | 1 | AAC39774 | hepatitis A virus cellular receptor 1 long form | 57.38 | 2.14E-07 | 28% | 36% | 2-152 | 164-320 |
| | | | | | | | | | | | | | | | 2 | AAC39772 | hepatitis A virus cellular receptor 1 short form | 57.38 | 2.14E-07 | 28% | 36% | 2-152 | 159-315 |
| | | | | | | | | | | | | | | | 3 | AAC39772 | hepatitis A virus cellular receptor 1 long form | 56.23 | 4.76E-07 | 27% | 36% | 2-152 | 164-316 |
| | | | | | | | | | | | | | | | 4 | AAC39771 | hepatitis A virus cellular receptor 1 short form | 56.23 | 4.76E-07 | 27% | 36% | 2-152 | 159-311 |
| | | | | | | | | | | | | | | | 5 | BAA21556 | hepatitis A virus receptor | 55.45 | 8.12E-07 | 29% | 34% | 2-152 | 171-302 |
| | | | | | | | | | | | | | | | 6 | CAA68906 | HAVcr-1 protein | 54.68 | 1.38E-06 | 30% | 35% | 16-152 | 159-293 |
| b052R | 27861-28160 | 100 | 10.798 | 4.22 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b053R | 28332-28574 | 81 | 8.934 | 4.36 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b054R | 28584-28988 | 135 | 14.622 | 4.51 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b056R | 29612-29983 | 124 | 13.368 | 3.94 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b057R | 30320-30517 | 66 | 7.111 | 3.78 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b058R | 31124-31525 | 134 | 15.086 | 6.88 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b060L | 32920-32651 | 90 | 10.946 | 9.40 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b062L | 33873-33604 | 90 | 10.316 | 10.95 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b063L | 34102-33851 | 84 | 9.875 | 10.94 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b064L | 34235-34002 | 78 | 8.999 | 9.54 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b065R | 34224-34457 | 78 | 9.097 | 11.13 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b066L | 34551-34315 | 79 | 8.906 | 11.19 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b067L | 34994-34638 | 119 | 14.573 | 10.54 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b069L | 35893-35486 | 136 | 12.300 | 4.42 | | No Hit Found | | | | | | | | | 1 | NP_048385 | A37L | 177.95 | 7.36E-44 | 77% | 92% | 18-119 | 4-105 |
| b071R | 36206-36430 | 75 | 9.127 | 8.06 | | No Hit Found | | | | | | | | | 1 | NP_048391 | a43R | 161.38 | 7.24E-39 | 93% | 96% | 1-75 | 1-75 |
| b072L | 36671-36417 | 85 | 9.942 | 8.06 | | No Hit Found | | | | | | | | | 1 | NP_048520 | a172L | 88.58 | 5.98E-17 | 50% | 71% | 4-85 | 4-86 |
| b079R | 40524-40886 | 121 | 14.746 | 8.63 | | No Hit Found | | | | | | | | | 1 | NP_048400 | a52R | 138.66 | 4.91E-32 | 74% | 77% | 39-121 | 1-83 |
| b081R | 41058-41315 | 86 | 9.916 | 10.96 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |
| b082L | 41518-41318 | 67 | 8.187 | 11.43 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | | |

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|---|-----------|----------|------------|------------|---------------|-------------|-------------------|-----------------|---|-----------|-----------|------------|------------|---------------|-------------|
| b084R | 42395-42673 | 93 | 10,237 | 11.20 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b085R | 42643-42984 | 114 | 13,326 | 7.05 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b089R | 45133-45387 | 85 | 9,619 | 10.52 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b090R | 45616-45858 | 81 | 8,612 | 11.27 | | No Hit Found | | | | | | | | 1 | NP_048874 a518R | | 81.65 | 7.14E-15 | 61% | 65% | 1-74 | 1-75 |
| b092R | 46155-46457 | 101 | 11,907 | 4.80 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b093R | 46342-46542 | 67 | 7,428 | 11.66 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b095L | 46999-46781 | 73 | 8,199 | 10.86 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b096L | 47248-47033 | 72 | 7,961 | 11.22 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b097L | 47417-47109 | 103 | 12,209 | 5.28 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b098R | 47125-47394 | 90 | 10,283 | 12.37 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b100L | 47933-47526 | 136 | 15,468 | 5.10 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b101L | 48129-47833 | 99 | 11,743 | 10.52 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b102L | 48497-48024 | 158 | 18,278 | 6.91 | | No Hit Found | | | | | | | | 1 | NP_048417 | contains Gly-rich Gx motif LGGGLG (GX); contains type I hydrophobic transmembrane sequence; contains protein splicing signature; similar to Arabidopsis Gly-rich protein, corresponds to Swiss-Prot Accession Number P27483 | 106.30 | 2.89E-22 | 60% | 78% | 77-158 | 1-82 |
| b105L | 50272-49586 | 229 | 26,576 | 6.29 | | No Hit Found | | | | | | | | 1 | NP_048503 a155R | | 88.97 | 1.20E-16 | 58% | 76% | 6-83 | 14-94 |
| b106R | 49716-49982 | 89 | 10,581 | 12.10 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b107L | 51327-50464 | 288 | 34,170 | 6.02 | 1 | pfam03016 | Exostosin, Exostosin family. The EXT family is a family of tumour suppressor genes. Mutations of EXT1 on 8q24.1, EXT2 on 11p11-13, and EXT3 on 15q have been associated with the autosomal dominant disorder known as hereditary multiple exostoses (HME). This is the most common known skeletal dysplasia. The chromosomal locations of other EXT genes suggest association with other forms of neoplasia. EXT1 and EXT2 have both been shown to encode a heparan sulphate polymerase with both D-glucuronyl (GlcA) and N-acetyl-D-glucosaminoglycan (GlcNAc) transferase activities. The nature of the defect in heparan sulphate biosynthesis in HMF is unclear | 35.80 | 8.04E-03 | 19% | 46% | 164-229 | 206-275 | 1 | NP_048423 A75L | | 520.39 | 2.45E-146 | 87% | 96% | 9-288 | 1-280 |
| b111R | 51462-51686 | 75 | 9,216 | 7.34 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b112R | 51647-51868 | 74 | 8,973 | 11.96 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b114L | 52130-51936 | 65 | 7,804 | 11.98 | | No Hit Found | | | | | | | | 1 | NP_048424 a76L | | 63.16 | 2.67E-09 | 63% | 75% | 28-65 | 55-103 |
| b119L | 55073-54867 | 69 | 7,758 | 7.69 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b121L | 55797-55411 | 129 | 15,078 | 9.57 | | No Hit Found | | | | | | | | 1 | NP_048428 a80L | | 83.19 | 2.45E-15 | 56% | 73% | 4-78 | 59-133 |
| | | | | | | | | | | | | | | 2 | NP_048808 | similar to PBCV-1 ORF a80L, encoded by GenBank Accession Number U17055 | 52.37 | 4.64E-06 | 55% | 77% | 1-45 | 56-100 |
| b123R | 56388-56660 | 101 | 11,832 | 4.77 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b125R | 56984-57238 | 85 | 9,982 | 10.33 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b127L | 57923-57681 | 81 | 9,810 | 10.44 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b128L | 58104-57910 | 65 | 7,040 | 11.12 | | No Hit Found | | | | | | | | 1 | NP_048434 a86L | | 107.46 | 1.23E-22 | 83% | 86% | 1-64 | 1-66 |
| b129L | 58339-58139 | 67 | 8,131 | 12.07 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b131R | 58365-58580 | 72 | 8,257 | 12.41 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b132L | 58974-58741 | 78 | 8,912 | 11.90 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b134L | 59114-58806 | 103 | 12,582 | 7.81 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b135L | 59214-59017 | 66 | 7,496 | 6.31 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b138R | 61694-61936 | 81 | 9,887 | 12.34 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b140L | 62904-62710 | 65 | 6,945 | 11.08 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b141L | 63313-62990 | 108 | 12,676 | 7.21 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b142L | 64323-63958 | 122 | 14,435 | 6.88 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b144L | 64525-64286 | 80 | 9,314 | 11.01 | | No Hit Found | | | | | | | | 1 | NP_048449 a101L | | 80.49 | 1.60E-14 | 65% | 87% | 1-55 | 33-87 |
| b145L | 65092-64772 | 107 | 13,059 | 7.97 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b146L | 65688-65348 | 107 | 12,914 | 10.36 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b147L | 66322-65981 | 114 | 12,774 | 9.71 | | No Hit Found | | | | | | | | 1 | NP_048450 a102L | | 145.98 | 3.16E-34 | 64% | 72% | 1-114 | 1-114 |
| b149L | 66692-66306 | 129 | 15,406 | 6.16 | | No Hit Found | | | | | | | | 1 | NP_048452 a104L | | 87.81 | 9.96E-17 | 43% | 65% | 1-96 | 1-96 |
| b151R | 67201-67521 | 107 | 12,414 | 6.23 | | No Hit Found | | | | | | | | 1 | NP_048454 a106R | | 97.06 | 1.67E-19 | 48% | 67% | 1-107 | 15-121 |
| b152R | 67392-67622 | 77 | 9,392 | 9.18 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b153R | 67662-67856 | 65 | 8,103 | 10.69 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b155R | 68327-68539 | 71 | 8,476 | 8.22 | | No Hit Found | | | | | | | | 1 | NP_048456 a108R | | 62.39 | 4.46E-09 | 42% | 67% | 1-71 | 1-71 |
| b156R | 68717-68917 | 67 | 8,208 | 4.17 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b158R | 69009-69377 | 123 | 14,530 | 7.98 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b160L | 70413-70195 | 73 | 8,003 | 8.94 | | No Hit Found | | | | | | | | 1 | NP_048460 a112L | | 142.12 | 4.58E-33 | 97% | 97% | 1-73 | 1-73 |
| b161R | 70743-71039 | 99 | 11,535 | 8.53 | | No Hit Found | | | | | | | | 1 | NP_048464 a116R | | 114.01 | 1.31E-24 | 74% | 79% | 1-81 | 1-81 |
| b162L | 71629-71201 | 143 | 16,697 | 6.14 | | No Hit Found | | | | | | | | 1 | NP_048465 a117L | | 177.95 | 7.38E-44 | 63% | 80% | 7-136 | 1-130 |
| b164L | 72869-72432 | 146 | 17,221 | 7.77 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b166L | 73854-73651 | 68 | 7,204 | 7.15 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b167R | 73818-74012 | 65 | 7,455 | 11.31 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|----------------|-----------|---------|------------|------------|---------------|-------------|-------------------|------------------|-------------------|-----------|----------|------------|------------|---------------|-------------|
| b257R | 112119-112529 | 137 | 16.216 | 11.53 | | No Hit Found | | | | | | | | | | | | | | | | |
| b259L | 113388-113164 | 75 | 8.878 | 10.94 | | No Hit Found | | | | | | | | | | | | | | | | |
| b260R | 113323-113523 | 67 | 8.127 | 11.41 | | No Hit Found | | | | | | | | | | | | | | | | |
| b262R | 117035-117439 | 135 | 16.277 | 6.23 | | No Hit Found | | | | | | | | | | | | | | | | |
| b263R | 117285-117485 | 67 | 7.828 | 10.53 | | No Hit Found | | | | | | | | | | | | | | | | |
| b265R | 117803-118018 | 72 | 8.315 | 7.94 | | No Hit Found | | | | | | | | 1 | NP_048541 a194R | | 117.09 | 1.55E-25 | 80% | 83% | 1-67 | 1-67 |
| b266R | 117834-118028 | 65 | 7.213 | 6.52 | | No Hit Found | | | | | | | | 1 | NP_048545 a198R | | 78.95 | 4.59E-14 | 47% | 72% | 1-72 | 1-72 |
| b266R | 117834-118028 | 65 | 7.213 | 6.52 | | No Hit Found | | | | | | | | 1 | NP_048544 a197R | | 93.59 | 1.84E-18 | 77% | 83% | 1-62 | 31-92 |
| b269R | 118429-118767 | 113 | 13.193 | 9.76 | | No Hit Found | | | | | | | | | | | | | | | | |
| b270L | 119236-118970 | 89 | 10.827 | 10.28 | | No Hit Found | | | | | | | | | | | | | | | | |
| b275L | 120539-120330 | 70 | 7.143 | 9.46 | | No Hit Found | | | | | | | | 1 | NP_048551 a204L | | 124.02 | 1.25E-27 | 91% | 92% | 1-70 | 1-70 |
| b276L | 121069-120797 | 91 | 10.102 | 4.78 | | No Hit Found | | | | | | | | | | | | | | | | |
| b279L | 121992-121729 | 88 | 10.438 | 5.13 | | No Hit Found | | | | | | | | | | | | | | | | |
| b280L | 122077-121781 | 99 | 12.015 | 10.24 | | No Hit Found | | | | | | | | | | | | | | | | |
| b281L | 122298-122041 | 86 | 9.877 | 5.90 | | No Hit Found | | | | | | | | | | | | | | | | |
| b282L | 122941-122702 | 80 | 8.645 | 9.12 | | No Hit Found | | | | | | | | | | | | | | | | |
| b287L | 124767-124498 | 90 | 10.697 | 11.24 | | No Hit Found | | | | | | | | | | | | | | | | |
| b290R | 127120-127383 | 88 | 10.012 | 9.40 | | No Hit Found | | | | | | | | | | | | | | | | |
| b293R | 128201-128839 | 213 | 24.250 | 9.78 | | No Hit Found | | | | | | | | 1 | NP_048578 A230R | | 310.07 | 2.85E-83 | 79% | 91% | 19-211 | 3-196 |
| b294R | 128500-128799 | 100 | 11.742 | 8.53 | | No Hit Found | | | | | | | | | | | | | | | | |
| b295L | 128706-128512 | 65 | 7.395 | 9.43 | | No Hit Found | | | | | | | | | | | | | | | | |
| b299R | 130109-130351 | 81 | 9.106 | 6.50 | | No Hit Found | | | | | | | | | | | | | | | | |
| b300R | 130765-130971 | 69 | 8.280 | 10.25 | | No Hit Found | | | | | | | | 1 | NP_048580 a232R | | 73.17 | 2.55E-12 | 58% | 73% | 6-65 | 6-65 |
| b301L | 131445-131212 | 78 | 9.722 | 10.37 | | No Hit Found | | | | | | | | | | | | | | | | |
| b304R | 131655-131891 | 79 | 9.397 | 5.59 | | No Hit Found | | | | | | | | 1 | NP_048583 a235R | | 70.09 | 2.17E-11 | 46% | 64% | 1-75 | 1-75 |
| b306L | 132505-132089 | 139 | 16.463 | 6.10 | | No Hit Found | | | | | | | | | | | | | | | | |
| b307R | 132274-132567 | 98 | 11.648 | 11.76 | | No Hit Found | | | | | | | | | | | | | | | | |
| b308L | 132988-132749 | 80 | 9.422 | 9.59 | | No Hit Found | | | | | | | | | | | | | | | | |
| b309L | 133471-133082 | 130 | 16.215 | 8.42 | | No Hit Found | | | | | | | | | | | | | | | | |
| b311L | 134132-133839 | 98 | 11.592 | 8.01 | | No Hit Found | | | | | | | | | | | | | | | | |
| b312L | 134378-134160 | 73 | 8.907 | 10.68 | | No Hit Found | | | | | | | | | | | | | | | | |
| b313L | 134482-134234 | 83 | 9.384 | 4.25 | | No Hit Found | | | | | | | | 1 | NP_048503 a155R | | 81.26 | 9.27E-15 | 52% | 77% | 11-82 | 22-93 |
| b315R | 134867-135145 | 93 | 11.173 | 8.70 | | No Hit Found | | | | | | | | | | | | | | | | |
| b317L | 136156-135806 | 117 | 13.667 | 5.15 | | No Hit Found | | | | | | | | 1 | NP_048590 a242L | | 174.48 | 8.20E-43 | 74% | 79% | 1-117 | 1-117 |
| b318L | 136446-136159 | 96 | 10.473 | 10.81 | | No Hit Found | | | | | | | | | | | | | | | | |
| b319L | 136869-136612 | 86 | 9.936 | 8.09 | | No Hit Found | | | | | | | | | | | | | | | | |
| b320L | 136906-136649 | 86 | 9.952 | 9.45 | | No Hit Found | | | | | | | | | | | | | | | | |
| b321L | 137268-136969 | 100 | 11.250 | 10.05 | | No Hit Found | | | | | | | | | | | | | | | | |
| b325R | 139886-140236 | 117 | 13.791 | 6.49 | | No Hit Found | | | | | | | | | | | | | | | | |
| b326R | 140005-140223 | 73 | 8.789 | 10.24 | | No Hit Found | | | | | | | | | | | | | | | | |
| b327L | 140436-140149 | 96 | 11.149 | 11.95 | | No Hit Found | | | | | | | | | | | | | | | | |
| b328R | 140472-140714 | 81 | 8.953 | 8.07 | | No Hit Found | | | | | | | | | | | | | | | | |
| b329R | 140783-141151 | 123 | 14.325 | 10.43 | | No Hit Found | | | | | | | | | | | | | | | | |
| b330R | 140919-141173 | 85 | 9.507 | 6.49 | | No Hit Found | | | | | | | | | | | | | | | | |
| b332L | 142200-141823 | 126 | 15.612 | 10.02 | | No Hit Found | | | | | | | | | | | | | | | | |
| b333L | 142088-141870 | 73 | 8.030 | 11.07 | | No Hit Found | | | | | | | | | | | | | | | | |
| b335R | 142847-143104 | 86 | 10.131 | 10.16 | | No Hit Found | | | | | | | | | | | | | | | | |
| b337L | 144046-143831 | 72 | 7.897 | 8.66 | | No Hit Found | | | | | | | | | | | | | | | | |
| b338R | 143894-144286 | 131 | 15.935 | 11.93 | | No Hit Found | | | | | | | | | | | | | | | | |
| b340R | 144567-144782 | 72 | 8.568 | 8.19 | | No Hit Found | | | | | | | | 1 | NP_049004 a648L | | 55.84 | 4.16E-07 | 45% | 55% | 1-69 | 1-66 |
| b343L | 145670-145419 | 84 | 10.506 | 9.57 | | No Hit Found | | | | | | | | 1 | NP_048603 a252aL | | 90.51 | 1.58E-17 | 66% | 80% | 25-84 | 25-84 |
| b345R | 146532-146744 | 71 | 8.555 | 7.43 | | No Hit Found | | | | | | | | | | | | | | | | |
| b347R | 147171-147377 | 69 | 7.951 | 9.15 | | No Hit Found | | | | | | | | | | | | | | | | |
| b351R | 148536-148856 | 107 | 11.855 | 8.82 | | No Hit Found | | | | | | | | | | | | | | | | |
| b352R | 148738-148965 | 76 | 8.919 | 8.38 | | No Hit Found | | | | | | | | 1 | NP_048620 a266R | | 56.23 | 3.27E-07 | 47% | 60% | 1-69 | 15-83 |
| b353R | 148965-149192 | 76 | 8.794 | 7.69 | | No Hit Found | | | | | | | | | | | | | | | | |
| b355R | 149131-149382 | 84 | 9.507 | 11.57 | | No Hit Found | | | | | | | | 1 | NP_048624 a270R | | 85.11 | 6.64E-16 | 64% | 69% | 1-68 | 1-68 |
| b356R | 149313-149915 | 201 | 23.988 | 6.34 | | No Hit Found | | | | | | | | 1 | NP_048626 a272R | | 71.63 | 1.50E-11 | 52% | 74% | 28-90 | 5-67 |
| b360L | 151701-151483 | 73 | 7.955 | 7.90 | | No Hit Found | | | | | | | | | | | | | | | | |

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|---|-----------|----------|------------|------------|---------------|-------------|-------------------|-----------------|--|-----------|----------|------------|------------|---------------|-------------|
| b362L | 152549-152340 | 70 | 7.769 | 7.30 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b363L | 153719-153282 | 146 | 15.325 | 3.75 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b364R | 153945-154202 | 86 | 9.586 | 7.34 | | No Hit Found | | | | | | | | 1 | NP_048635 a281R | | 130.18 | 1.79E-29 | 78% | 83% | 7-86 | 6-85 |
| b366R | 154349-154564 | 72 | 8.863 | 10.19 | | No Hit Found | | | | | | | | 1 | NP_048633 a279R | | 161.77 | 5.39E-39 | 97% | 97% | 1-72 | 1-72 |
| b367R | 155445-155723 | 93 | 10.257 | 3.62 | | No Hit Found | | | | | | | | 1 | NP_048634 a280R | | 176.02 | 2.77E-43 | 94% | 94% | 1-93 | 1-93 |
| b369L | 156439-156239 | 67 | 7.696 | 11.51 | | No Hit Found | | | | | | | | 1 | NP_048637 a283L | | 134.81 | 7.17E-31 | 92% | 95% | 1-67 | 1-67 |
| b372R | 158851-159141 | 97 | 10.279 | 8.07 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b373R | 159166-159447 | 94 | 10.984 | 10.49 | | No Hit Found | | | | | | | | 1 | NP_048639 a285R | | 110.92 | 1.09E-23 | 91% | 93% | 1-58 | 1-58 |
| b374L | 159688-159353 | 112 | 12.759 | 9.83 | 1 | cd00204 | ANK, ankyrin repeats; ankyrin repeats mediate protein-protein interactions in very diverse families of proteins. The number of ANK repeats in a protein can range from 2 to over 20 (ankyrins, for example). ANK repeats may occur in combinations with other types of domains. The structural repeat unit contains two antiparallel helices and a beta-hairpin, repeats are stacked in a superhelical arrangement; this alignment contains 4 consecutive repeats | 66.64 | 3.55E-12 | 41% | 60% | 2-93 | 21-112 | 1 | 1NOR_A | Chain A. 4ank: A Designed Ankyrin Repeat Protein With Four Identical Consensus Repeats | 71.63 | 7.37E-12 | 39% | 63% | 1-93 | 15-107 |
| | | | | | 2 | COG0666 | Arp, FOG: Ankyrin repeat [General function prediction only]. | 45.65 | 8.05E-06 | 34% | 50% | 2-99 | 87-192 | 2 | AA033811 | ankyrin repeat protein mbp3 5 | 68.84 | 4.78E-11 | 39% | 65% | 5-83 | 31-119 |
| | | | | | | | | | | | | | | 3 | EAL87814 | NAZHT domain protein, putative | 67.78 | 1.06E-10 | 38% | 58% | 2-82 | 100-1190 |
| | | | | | | | | | | | | | | 4 | AAH73370 | MGCC80792 protein | 66.63 | 2.37E-10 | 39% | 60% | 3-91 | 512-600 |
| | | | | | | | | | | | | | | 5 | AA037830 | mind bomb | 65.08 | 6.90E-10 | 38% | 60% | 3-91 | 512-600 |
| | | | | | | | | | | | | | | 6 | NP_065825 | mindbomb homolog 1 | 64.31 | 1.18E-09 | 38% | 59% | 3-91 | 512-600 |
| | | | | | | | | | | | | | | 7 | XP_512056 | PREDICTED: similar to mind bomb | 64.31 | 1.18E-09 | 38% | 59% | 3-91 | 481-549 |
| | | | | | | | | | | | | | | 8 | XP_613236 | PREDICTED: similar to mindbomb homolog 1 | 64.31 | 1.18E-09 | 38% | 59% | 3-91 | 582-670 |
| | | | | | | | | | | | | | | 9 | XP_419157 | PREDICTED: similar to mindbomb homolog 1; ubiquitin ligase mind bomb; DAPK-interacting protein 1 | 64.31 | 1.18E-09 | 38% | 59% | 3-91 | 601-689 |
| | | | | | | | | | | | | | | 10 | AAN18023 | MINDBOMB: ubiquitin E3 ligase | 64.31 | 1.18E-09 | 38% | 59% | 3-91 | 503-591 |
| b375L | 160259-159723 | 179 | 21.715 | 7.26 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b376L | 160212-159946 | 89 | 11.086 | 12.01 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b379R | 160441-160698 | 86 | 9.916 | 10.96 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b380L | 160901-160701 | 67 | 8.187 | 11.43 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b382R | 161778-162056 | 93 | 10.237 | 11.20 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b383R | 162026-162367 | 114 | 13.310 | 7.05 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b384L | 163226-162792 | 145 | 15.888 | 4.78 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b386L | 163670-163392 | 93 | 10.511 | 8.11 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b387L | 163806-163588 | 73 | 8.842 | 11.23 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b390L | 165197-164808 | 130 | 15.523 | 7.74 | | No Hit Found | | | | | | | | 1 | BAA20344 | ORF245 | 105.92 | 3.52E-22 | 53% | 65% | 9-107 | 145-243 |
| b391L | 165036-164818 | 73 | 8.906 | 8.85 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b392L | 165564-165283 | 94 | 11.411 | 8.02 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b394R | 165839-166252 | 138 | 15.507 | 11.36 | | No Hit Found | | | | | | | | 1 | NP_048647 | a293R | 170.24 | 1.52E-41 | 69% | 77% | 1-123 | 46-168 |
| b396R | 166583-166783 | 67 | 7.924 | 6.08 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b398R | 168014-168238 | 75 | 9.124 | 5.75 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b400L | 169541-169287 | 85 | 9.924 | 7.48 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b405L | 172778-172572 | 69 | 8.130 | 8.95 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b406L | 173638-172895 | 248 | 29.949 | 12.18 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b407R | 172923-173879 | 319 | 36.489 | 11.43 | | No Hit Found | | | | | | | | 1 | NP_048504 | a156L | 62.39 | 2.16E-08 | 45% | 53% | 34-140 | 1-103 |
| b409R | 173722-174117 | 132 | 15.852 | 12.21 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b410L | 174082-173795 | 96 | 10.948 | 5.68 | | No Hit Found | | | | | | | | 1 | NP_048503 | a155R | 113.62 | 1.73E-24 | 62% | 79% | 1-96 | 1-94 |
| b412R | 174400-174627 | 76 | 9.154 | 10.06 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b413R | 174647-174907 | 87 | 9.675 | 10.35 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b414R | 175160-175369 | 70 | 7.340 | 10.81 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b415L | 175647-175372 | 92 | 10.661 | 11.19 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b417L | 176281-176033 | 83 | 9.737 | 9.91 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b420L | 178083-177889 | 65 | 7.724 | 8.65 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b422L | 178819-178424 | 132 | 16.358 | 11.06 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b423R | 178624-178851 | 76 | 8.992 | 5.88 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b425R | 179072-179383 | 104 | 12.436 | 7.29 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b427L | 180756-180469 | 96 | 10.796 | 12.55 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b428L | 181027-180821 | 69 | 7.976 | 10.47 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b436R | 185022-185396 | 125 | 14.356 | 8.56 | | No Hit Found | | | | | | | | 1 | NP_048657 | a303L | 52.37 | 4.65E-06 | 44% | 55% | 1-69 | 1-66 |
| b439R | 185526-185840 | 105 | 12.536 | 10.27 | | No Hit Found | | | | | | | | 1 | NP_048670 | A314R | 120.17 | 1.86E-26 | 71% | 80% | 24-105 | 1-80 |
| b442L | 187558-187112 | 149 | 13.787 | 4.87 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b444R | 187222-187593 | 124 | 14.391 | 11.07 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b447R | 188648-188845 | 66 | 7.615 | 11.29 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b448L | 189490-189179 | 104 | 12.356 | 6.13 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b449L | 189953-189657 | 99 | 11.408 | 6.76 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b452R | 190383-190751 | 123 | 15.640 | 10.35 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b454R | 190762-190980 | 73 | 7.772 | 10.81 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|----------------|-----------|---------|------------|------------|---------------|-------------|-------------------|---------------------------------------|-------------------|-----------|----------|------------|------------|---------------|-------------|
| b456R | 191807-192172 | 122 | 14.530 | 11.17 | | No Hit Found | | | | | | | | | | | | | | | | |
| b459R | 193084-193281 | 66 | 7.742 | 6.23 | | No Hit Found | | | | | | | | | | | | | | | | |
| b464L | 196239-196009 | 77 | 8.847 | 4.55 | | No Hit Found | | | | | | | | | | | | | | | | |
| b466L | 196973-196767 | 69 | 7.669 | 11.30 | | No Hit Found | | | | | | | | | | | | | | | | |
| b467L | 197178-196843 | 112 | 13.300 | 7.99 | | No Hit Found | | | | | | | | | | | | | | | | |
| b470R | 198020-198229 | 70 | 7.691 | 10.25 | | No Hit Found | | | | | | | | | | | | | | | | |
| b471R | 198286-198519 | 78 | 9.537 | 10.82 | | No Hit Found | | | | | | | | | | | | | | | | |
| b473L | 199573-199373 | 67 | 7.293 | 10.23 | | No Hit Found | | | | | | | | | | | | | | | | |
| b474L | 199871-199656 | 72 | 8.469 | 4.76 | | No Hit Found | | | | | | | | | | | | | | | | |
| b475L | 199876-199670 | 69 | 7.834 | 9.63 | | No Hit Found | | | | | | | | | | | | | | | | |
| b476R | 200290-200508 | 73 | 8.106 | 8.19 | | No Hit Found | | | | | | | | | | | | | | | | |
| b478L | 201560-201330 | 77 | 8.676 | 11.20 | | No Hit Found | | | | | | | | | | | | | | | | |
| b479L | 201818-201618 | 67 | 7.608 | 10.07 | | No Hit Found | | | | | | | | 1 | NP_048687 a331L | | 134.04 | 1.22E-30 | 98% | 98% | 1-67 | 1-67 |
| b481L | 202819-202559 | 87 | 10.765 | 12.42 | | No Hit Found | | | | | | | | 1 | NP_048689 PLPRNLLL (4X), SPPPSKP (3X) | | 57.38 | 1.47E-07 | 100% | 100% | 63-87 | 275-299 |
| b482R | 202586-202927 | 114 | 13.269 | 10.71 | | No Hit Found | | | | | | | | | | | | | | | | |
| b483L | 203374-203162 | 71 | 8.016 | 4.77 | | No Hit Found | | | | | | | | | | | | | | | | |
| b484L | 203801-203206 | 132 | 15.909 | 11.80 | | No Hit Found | | | | | | | | | | | | | | | | |
| b486R | 203549-203761 | 71 | 8.603 | 10.24 | | No Hit Found | | | | | | | | | | | | | | | | |
| b489R | 205122-205565 | 148 | 16.753 | 11.47 | | No Hit Found | | | | | | | | 1 | NP_048701 a344R | | 128.26 | 6.77E-29 | 55% | 71% | 34-148 | 1-115 |
| b490L | 205678-205439 | 80 | 9.336 | 11.87 | | No Hit Found | | | | | | | | 1 | NP_048702 a345L | | 80.11 | 2.09E-14 | 64% | 75% | 12-79 | 28-95 |
| b491R | 206097-206432 | 112 | 13.489 | 11.01 | | No Hit Found | | | | | | | | | | | | | | | | |
| b493L | 206785-206546 | 80 | 9.138 | 4.26 | | No Hit Found | | | | | | | | 1 | NP_048435 A87R | | 71.63 | 7.42E-12 | 58% | 77% | 11-72 | 22-81 |
| b495L | 207124-206915 | 70 | 8.187 | 5.47 | | No Hit Found | | | | | | | | 1 | NP_048704 a347L | | 84.34 | 1.10E-15 | 52% | 70% | 1-70 | 1-70 |
| b500R | 209963-210292 | 110 | 12.244 | 10.57 | | No Hit Found | | | | | | | | | | | | | | | | |
| b501R | 210076-210408 | 111 | 13.069 | 11.06 | | No Hit Found | | | | | | | | | | | | | | | | |
| b502R | 210590-210799 | 70 | 7.944 | 8.52 | | No Hit Found | | | | | | | | | | | | | | | | |
| b504L | 211098-210889 | 70 | 7.708 | 12.35 | | No Hit Found | | | | | | | | | | | | | | | | |
| b505R | 210940-211143 | 68 | 8.921 | 12.71 | | No Hit Found | | | | | | | | | | | | | | | | |
| b507R | 211564-212289 | 242 | 26.364 | 4.58 | | No Hit Found | | | | | | | | | | | | | | | | |
| b509L | 212669-212454 | 72 | 8.113 | 9.03 | | No Hit Found | | | | | | | | | | | | | | | | |
| b510L | 212878-212681 | 66 | 8.485 | 8.38 | | No Hit Found | | | | | | | | | | | | | | | | |
| b511L | 213222-212938 | 95 | 10.839 | 6.91 | | No Hit Found | | | | | | | | | | | | | | | | |
| b512L | 214583-214365 | 73 | 8.307 | 8.36 | | No Hit Found | | | | | | | | | | | | | | | | |
| b513L | 214842-214642 | 67 | 7.790 | 7.74 | | No Hit Found | | | | | | | | | | | | | | | | |
| b514L | 215348-214983 | 122 | 13.590 | 8.20 | | No Hit Found | | | | | | | | | | | | | | | | |
| b515L | 215996-215754 | 81 | 8.912 | 4.70 | | No Hit Found | | | | | | | | | | | | | | | | |
| b516L | 216333-215839 | 165 | 19.662 | 10.11 | | No Hit Found | | | | | | | | | | | | | | | | |
| b517L | 216826-216593 | 78 | 9.128 | 7.98 | | No Hit Found | | | | | | | | | | | | | | | | |
| b518L | 217097-216813 | 95 | 10.029 | 3.14 | | No Hit Found | | | | | | | | | | | | | | | | |
| b520R | 217366-217635 | 90 | 10.868 | 10.95 | | No Hit Found | | | | | | | | | | | | | | | | |
| b521R | 217670-217951 | 94 | 10.557 | 7.87 | | No Hit Found | | | | | | | | | | | | | | | | |
| b523R | 218670-218969 | 100 | 11.265 | 12.65 | | No Hit Found | | | | | | | | 1 | NP_048734 a377R | | 84.34 | 1.11E-15 | 54% | 62% | 14-100 | 6-91 |
| b526R | 219582-220112 | 177 | 20.545 | 10.99 | | No Hit Found | | | | | | | | 1 | NP_048737 a380R | | 144.05 | 1.77E-33 | 71% | 82% | 49-149 | 1-101 |
| b527R | 219832-220035 | 68 | 7.734 | 11.11 | | No Hit Found | | | | | | | | 1 | NP_048738 a381R | | 127.49 | 1.14E-28 | 89% | 91% | 1-68 | 9-76 |
| b528L | 220152-219955 | 66 | 8.133 | 11.25 | | No Hit Found | | | | | | | | | | | | | | | | |
| b530L | 220800-220432 | 123 | 14.002 | 10.71 | | No Hit Found | | | | | | | | | | | | | | | | |
| b531L | 221479-221249 | 77 | 9.221 | 8.69 | | No Hit Found | | | | | | | | | | | | | | | | |
| b534R | 222934-223146 | 71 | 8.458 | 11.71 | | No Hit Found | | | | | | | | 1 | NP_048745 a388R | | 48.14 | 8.71E-05 | 75% | 75% | 2-33 | 40-71 |
| b535R | 223332-223583 | 84 | 9.429 | 10.81 | | No Hit Found | | | | | | | | 1 | NP_048748 a391R | | 85.11 | 6.64E-16 | 55% | 60% | 1-84 | 1-95 |
| b538L | 224818-224621 | 66 | 8.079 | 6.08 | | No Hit Found | | | | | | | | | | | | | | | | |
| b544R | 227430-227627 | 66 | 7.352 | 5.69 | | No Hit Found | | | | | | | | | | | | | | | | |
| b545R | 227716-227919 | 68 | 8.180 | 8.38 | | No Hit Found | | | | | | | | | | | | | | | | |
| b551L | 230873-230565 | 103 | 11.190 | 4.98 | | No Hit Found | | | | | | | | | | | | | | | | |
| b555L | 233373-233167 | 69 | 7.186 | 4.54 | | No Hit Found | | | | | | | | | | | | | | | | |
| b557R | 234738-234974 | 79 | 9.001 | 10.44 | | No Hit Found | | | | | | | | | | | | | | | | |
| b558L | 235011-234769 | 81 | 9.631 | 10.72 | | No Hit Found | | | | | | | | | | | | | | | | |
| b561R | 235907-236272 | 122 | 13.676 | 10.97 | | No Hit Found | | | | | | | | 1 | NP_048766 a409R | | 72.79 | 3.30E-12 | 80% | 86% | 1-46 | 37-82 |
| b563L | 236923-236720 | 68 | 7.929 | 11.79 | | No Hit Found | | | | | | | | | | | | | | | | |

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|----------------|-----------|---------|------------|------------|---------------|-------------|-------------------|--|-------------------|-----------|----------|------------|------------|---------------|-------------|
| b565R | 236938-237180 | 81 | 9.563 | 11.58 | | No Hit Found | | | | | | | | | | | | | | | | |
| b569L | 240525-240130 | 132 | 15.171 | 10.25 | | No Hit Found | | | | | | | | 1 | NP_048772 a415L | | 110.54 | 1.47E-23 | 80% | 86% | 34-100 | 3-69 |
| b572R | 241059-241328 | 90 | 10.143 | 11.78 | | No Hit Found | | | | | | | | | | | | | | | | |
| b574R | 241925-242155 | 77 | 9.241 | 10.31 | | No Hit Found | | | | | | | | | | | | | | | | |
| b577L | 243362-242958 | 135 | 16.597 | 7.62 | | No Hit Found | | | | | | | | | | | | | | | | |
| b578L | 243175-242978 | 66 | 7.868 | 7.86 | | No Hit Found | | | | | | | | | | | | | | | | |
| b584L | 246026-245799 | 76 | 9.524 | 9.59 | | No Hit Found | | | | | | | | | | | | | | | | |
| b586R | 247244-247477 | 78 | 9.952 | 11.38 | | No Hit Found | | | | | | | | | | | | | | | | |
| b588L | 247502-247308 | 65 | 7.553 | 4.26 | | No Hit Found | | | | | | | | | | | | | | | | |
| b589R | 247529-247726 | 66 | 7.965 | 11.91 | | No Hit Found | | | | | | | | | | | | | | | | |
| b594R | 248630-248881 | 84 | 10.180 | 7.72 | | No Hit Found | | | | | | | | | | | | | | | | |
| b599R | 251031-251231 | 67 | 7.603 | 10.41 | | No Hit Found | | | | | | | | | | | | | | | | |
| b600L | 251379-251143 | 79 | 8.994 | 11.47 | | No Hit Found | | | | | | | | | | | | | | | | |
| b601R | 251179-251382 | 68 | 8.238 | 7.95 | | No Hit Found | | | | | | | | | | | | | | | | |
| b603L | 252727-252494 | 78 | 8.991 | 8.19 | | No Hit Found | | | | | | | | | | | | | | | | |
| b604L | 252864-252643 | 74 | 9.185 | 12.38 | | No Hit Found | | | | | | | | | | | | | | | | |
| b605R | 253105-253410 | 102 | 11.578 | 10.84 | | No Hit Found | | | | | | | | | | | | | | | | |
| b607R | 253570-253773 | 68 | 7.452 | 9.49 | | No Hit Found | | | | | | | | 1 | NP_048803 a446R | | 92.82 | 3.11E-18 | 88% | 90% | 17-68 | 1-52 |
| b608R | 253773-253970 | 66 | 7.868 | 8.84 | | No Hit Found | | | | | | | | | | | | | | | | |
| b609R | 254050-254244 | 65 | 7.222 | 11.63 | | No Hit Found | | | | | | | | 1 | NP_048804 a447R | | 126.72 | 1.97E-28 | 95% | 98% | 1-65 | 35-99 |
| b610R | 254993-254817 | 75 | 8.874 | 10.15 | | No Hit Found | | | | | | | | | | | | | | | | |
| b613L | 255578-255324 | 85 | 9.529 | 9.01 | | No Hit Found | | | | | | | | | | | | | | | | |
| b615L | 256808-256602 | 69 | 8.333 | 8.68 | | No Hit Found | | | | | | | | | | | | | | | | |
| b616L | 257115-256912 | 68 | 8.304 | 8.25 | | No Hit Found | | | | | | | | | | | | | | | | |
| b620R | 259287-259511 | 75 | 8.506 | 5.50 | | No Hit Found | | | | | | | | 1 | NP_048810 a453R | | 88.20 | 7.79E-17 | 64% | 66% | 1-75 | 15-89 |
| b621R | 259760-260128 | 123 | 13.096 | 7.03 | | No Hit Found | | | | | | | | 1 | NP_048812 a455R | | 168.70 | 4.55E-41 | 70% | 79% | 2-123 | 20-143 |
| b622L | 260375-260136 | 80 | 9.626 | 11.37 | | No Hit Found | | | | | | | | | | | | | | | | |
| b624R | 260319-260525 | 69 | 7.794 | 11.15 | | No Hit Found | | | | | | | | 1 | NP_048814 a457R | | 75.87 | 3.93E-13 | 100% | 100% | 32-69 | 1-38 |
| b625R | 260550-260744 | 65 | 7.054 | 12.09 | | No Hit Found | | | | | | | | | | | | | | | | |
| b626R | 260597-260923 | 109 | 13.173 | 5.19 | | No Hit Found | | | | | | | | | | | | | | | | |
| b627L | 260838-260632 | 69 | 8.277 | 10.97 | | No Hit Found | | | | | | | | 1 | NP_048815 a458L | | 92.82 | 3.10E-18 | 60% | 76% | 1-69 | 1-69 |
| b632R | 265053-265292 | 80 | 9.469 | 5.58 | | No Hit Found | | | | | | | | | | | | | | | | |
| b634L | 267000-266803 | 66 | 7.022 | 10.53 | | No Hit Found | | | | | | | | 1 | NP_048825 a469L | | 53.53 | 2.11E-06 | 46% | 53% | 1-66 | 12-76 |
| b635L | 267178-266948 | 77 | 9.378 | 10.64 | | No Hit Found | | | | | | | | | | | | | | | | |
| b637R | 267598-267801 | 68 | 8.113 | 12.45 | | No Hit Found | | | | | | | | | | | | | | | | |
| b639L | 268357-268103 | 85 | 9.811 | 8.83 | | No Hit Found | | | | | | | | 1 | NP_048828 a472L | | 89.35 | 3.51E-17 | 60% | 67% | 5-85 | 10-90 |
| b640L | 268734-268318 | 139 | 16.229 | 8.27 | | No Hit Found | | | | | | | | 1 | NP_048833 contains prokaryotic membrane lipoprotein lipid attachment site: similar to vaccinia virus F-ORF-C 11.6 kD protein, corresponds to Swiss-Prot Accession Number P20561 vsv189 | | 59.31 | 3.76E-08 | 60% | 82% | 1-40 | 33-72 |
| | | | | | | | | | | | | | | 2 | NP_477711 | | 51.99 | 6.01E-06 | 38% | 60% | 23-90 | 23-89 |
| b642L | 269022-268774 | 83 | 9.645 | 5.15 | | No Hit Found | | | | | | | | | | | | | | | | |
| b643R | 268842-269081 | 80 | 9.555 | 12.51 | | No Hit Found | | | | | | | | | | | | | | | | |
| b646R | 270265-270516 | 84 | 10.271 | 9.90 | | No Hit Found | | | | | | | | | | | | | | | | |
| b648L | 271204-270695 | 170 | 20.338 | 4.26 | | No Hit Found | | | | | | | | | | | | | | | | |
| b649R | 271189-271398 | 70 | 8.321 | 9.57 | | No Hit Found | | | | | | | | | | | | | | | | |
| b653L | 273025-272702 | 108 | 12.230 | 11.09 | | No Hit Found | | | | | | | | | | | | | | | | |
| b654L | 273393-273157 | 79 | 8.996 | 10.54 | | No Hit Found | | | | | | | | | | | | | | | | |
| b658L | 274835-274641 | 65 | 7.893 | 9.49 | | No Hit Found | | | | | | | | | | | | | | | | |
| b660R | 274930-275157 | 76 | 8.839 | 10.84 | | No Hit Found | | | | | | | | | | | | | | | | |
| b661L | 275246-275007 | 80 | 9.264 | 5.74 | | No Hit Found | | | | | | | | | | | | | | | | |
| b664L | 276274-276032 | 81 | 9.315 | 7.18 | | No Hit Found | | | | | | | | | | | | | | | | |
| b665L | 277079-276648 | 144 | 16.446 | 12.18 | | No Hit Found | | | | | | | | 1 | NP_048854 Pro-rich, IPPPNMMLPLS (3x) | | 63.93 | 1.55E-09 | 85% | 85% | 2-36 | 8-42 |
| b668R | 277504-277908 | 135 | 12.578 | 7.86 | | No Hit Found | | | | | | | | | | | | | | | | |
| b669L | 277873-277565 | 103 | 12.637 | 12.85 | | No Hit Found | | | | | | | | | | | | | | | | |
| b673R | 279838-280050 | 71 | 8.679 | 7.83 | | No Hit Found | | | | | | | | 1 | NP_048863 a507R | | 83.96 | 1.43E-15 | 55% | 72% | 1-70 | 1-70 |
| b674R | 280183-280389 | 69 | 8.384 | 10.36 | | No Hit Found | | | | | | | | 1 | NP_048863 a507R | | 70.86 | 1.26E-11 | 57% | 71% | 1-67 | 116-184 |
| b675R | 280283-280759 | 159 | 17.661 | 10.62 | | No Hit Found | | | | | | | | 1 | NP_048864 a508R | | 109.00 | 4.57E-23 | 80% | 82% | 84-153 | 1-70 |
| b676R | 280793-281068 | 92 | 10.820 | 11.07 | | No Hit Found | | | | | | | | 1 | NP_048866 a510R | | 90.89 | 1.18E-17 | 87% | 90% | 13-67 | 2-56 |
| b678L | 281578-281279 | 100 | 11.484 | 11.13 | | No Hit Found | | | | | | | | | | | | | | | | |
| b679L | 281763-281494 | 90 | 10.291 | 11.06 | | No Hit Found | | | | | | | | 1 | NP_048875 A519L | | 133.65 | 1.59E-30 | 80% | 83% | 9-89 | 1-81 |

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|----------------|-----------|---------|------------|------------|---------------|-------------|-------------------|---|-------------------|-----------|----------|------------|------------|---------------|-------------|
| b682R | 282509-282754 | 82 | 10,102 | 9.25 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b683R | 283064-283300 | 79 | 8,852 | 7.18 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b686R | 284131-284334 | 68 | 8,388 | 8.68 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b689R | 285314-285586 | 91 | 10,217 | 4.48 | | No Hit Found | | | | | | | | 1 | NP_048503 a155R | | 83.57 | 1.88E-15 | 61% | 79% | 16-82 | 27-93 |
| b690R | 285433-285651 | 73 | 8,924 | 12.36 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b691R | 285722-286018 | 99 | 12,307 | 11.85 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b693R | 286618-286869 | 84 | 9,950 | 6.00 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b695L | 287587-287015 | 191 | 20,832 | 8.61 | | No Hit Found | | | | | | | | 1 | NP_048874 a518R | | 115.16 | 1.05E-24 | 62% | 71% | 30-125 | 4-100 |
| | | | | | | | | | | | | | | 2 | NP_048885 a529L | | 102.83 | 5.41E-21 | 80% | 83% | 59-124 | 1-67 |
| | | | | | | | | | | | | | | 3 | NP_049041 a685R | | 52.76 | 6.42E-06 | 50% | 56% | 61-124 | 8-66 |
| b698L | 288061-287840 | 74 | 8,350 | 7.46 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b703R | 290057-290284 | 76 | 9,000 | 8.21 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b706L | 292254-292054 | 67 | 7,436 | 11.01 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b707R | 292215-292505 | 97 | 11,405 | 11.85 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b708R | 292258-292650 | 131 | 15,251 | 10.26 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b709L | 292505-292275 | 77 | 8,527 | 7.25 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b713L | 293503-293303 | 67 | 8,187 | 11.43 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b716R | 294379-294657 | 93 | 10,237 | 11.20 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b717R | 294627-294968 | 114 | 13,310 | 7.05 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b721R | 296554-296793 | 80 | 8,610 | 11.46 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b722R | 297145-297351 | 69 | 8,054 | 10.67 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b726R | 298958-299224 | 89 | 10,443 | 11.53 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b727R | 299509-299772 | 88 | 9,960 | 9.37 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b728R | 300382-300609 | 76 | 8,530 | 4.88 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b729L | 300654-300427 | 76 | 9,356 | 8.93 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b730R | 300703-300972 | 90 | 9,784 | 4.27 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b731L | 301192-300995 | 66 | 7,724 | 11.79 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b732L | 301942-301715 | 76 | 9,239 | 11.76 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b733R | 302090-302287 | 66 | 7,668 | 6.75 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b735L | 303135-302809 | 109 | 13,000 | 9.64 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b737R | 304424-304690 | 89 | 10,170 | 4.38 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b739R | 304868-305146 | 93 | 10,973 | 6.62 | | No Hit Found | | | | | | | | 1 | NP_048905 a549R | | 72.79 | 3.30E-12 | 41% | 62% | 1-79 | 1-79 |
| b740R | 305522-305755 | 78 | 9,198 | 7.09 | | No Hit Found | | | | | | | | 1 | NP_048906 a550R | | 77.80 | 1.04E-13 | 44% | 73% | 1-78 | 55-132 |
| b742L | 306626-306414 | 71 | 8,897 | 9.48 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b745R | 307583-307795 | 71 | 7,778 | 11.33 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b746R | 308440-308664 | 75 | 8,597 | 9.41 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b749L | 310397-310173 | 75 | 8,706 | 10.82 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b750R | 310396-310731 | 112 | 14,021 | 10.89 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b752R | 311491-311916 | 142 | 15,792 | 8.34 | | No Hit Found | | | | | | | | 1 | NP_048916 a560R | | 72.79 | 3.36E-12 | 65% | 75% | 3-62 | 45-104 |
| b754R | 311928-312416 | 163 | 18,551 | 10.29 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b755R | 312549-312839 | 97 | 10,795 | 7.25 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b757R | 313468-313770 | 101 | 12,258 | 9.53 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b758L | 314268-314020 | 83 | 9,614 | 12.35 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b760L | 316659-316252 | 136 | 15,665 | 7.64 | | No Hit Found | | | | | | | | 1 | NP_048922 a566L | | 164.08 | 1.10E-39 | 87% | 87% | 1-89 | 1-90 |
| b764L | 319044-318475 | 190 | 21,975 | 10.58 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b768R | 319808-320029 | 74 | 8,008 | 6.65 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b770L | 320661-320425 | 79 | 8,679 | 10.91 | | No Hit Found | | | | | | | | 1 | NP_048874 a518R | | 64.31 | 1.19E-09 | 53% | 66% | 17-78 | 1-62 |
| b773R | 321985-322182 | 66 | 7,959 | 8.96 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b775R | 322472-322714 | 81 | 10,045 | 12.26 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b776R | 323143-323376 | 78 | 9,173 | 11.50 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b778R | 323613-323951 | 113 | 12,462 | 10.12 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b779L | 324315-323848 | 156 | 18,062 | 11.00 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b780R | 323873-324247 | 125 | 14,864 | 8.73 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b782R | 324577-324658 | 94 | 11,087 | 11.00 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b783R | 324644-324937 | 98 | 11,189 | 11.60 | | No Hit Found | | | | | | | | 1 | NP_048940 contains prenyl group binding site (CAAX) box | | 179.10 | 3.33E-44 | 91% | 93% | 1-98 | 1-98 |
| b784R | 324877-325542 | 222 | 25,862 | 7.86 | | No Hit Found | | | | | | | | 1 | NP_048941 a585R | | 147.52 | 2.70E-34 | 82% | 92% | 23-101 | 1-79 |
| b785R | 325757-326056 | 100 | 11,570 | 11.19 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b786R | 326026-326220 | 65 | 7,512 | 7.53 | | No Hit Found | | | | | | | | 1 | NP_048943 a587R | | 112.46 | 3.84E-24 | 81% | 89% | 1-65 | 1-65 |
| b787R | 326189-326428 | 80 | 8,692 | 12.12 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |

| Gene Name | Genome Position | A.A. length | Peptide Mw | pI | CDD Hit Number | COGs | COG Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to | BLASTp Hit Number | Hit Accession | BLASTp Definition | Bit Score | E-value | % Identity | % Positive | Query from-to | Hit from-to |
|-----------|-----------------|-------------|------------|-------|----------------|--------------|----------------|-----------|---------|------------|------------|---------------|-------------|-------------------|---|-------------------|-----------|----------|------------|------------|---------------|-------------|
| b788R | 326701-327336 | 212 | 24,494 | 6.10 | | No Hit Found | | | | | | | | 1 | NP_048944 a588R | | 109.38 | 7.31E-23 | 50% | 68% | 1-116 | 1-116 |
| b789R | 326918-327241 | 108 | 12,116 | 10.65 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b790L | 327290-327063 | 76 | 8,810 | 11.20 | | No Hit Found | | | | | | | | 1 | NP_048945 a589L | | 67.78 | 1.09E-10 | 52% | 57% | 1-76 | 1-76 |
| b793L | 328864-328547 | 106 | 10,790 | 7.30 | | No Hit Found | | | | | | | | 1 | NP_048951 a595L | | 65.86 | 4.14E-10 | 62% | 68% | 1-59 | 19-82 |
| b794R | 328771-328989 | 73 | 8,487 | 11.74 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b797R | 329840-330391 | 184 | 21,832 | 5.31 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b799R | 331312-331542 | 77 | 8,587 | 10.80 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b804L | 333525-333319 | 69 | 8,639 | 9.60 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b806L | 333814-333374 | 147 | 17,496 | 6.47 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b807R | 333596-333799 | 68 | 7,964 | 10.78 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b808L | 334041-333769 | 91 | 10,550 | 5.17 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b809L | 334305-334063 | 81 | 9,347 | 7.85 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b810L | 335041-334361 | 227 | 25,362 | 10.85 | | No Hit Found | | | | | | | | 1 | NP_048961 a605L | | 244.20 | 2.19E-63 | 77% | 84% | 70-227 | 1-158 |
| | | | | | | | | | | | | | | 2 | NP_048962 a609L | | 83.19 | 6.47E-15 | 63% | 71% | 1-74 | 1-74 |
| b814L | 336462-336259 | 68 | 8,087 | 10.04 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b815R | 336290-336529 | 77 | 9,427 | 10.54 | | No Hit Found | | | | | | | | 1 | NP_048969 a613R | | 92.82 | 3.14E-18 | 52% | 77% | 1-74 | 9-82 |
| b817R | 337681-337953 | 91 | 9,911 | 8.36 | | No Hit Found | | | | | | | | 1 | NP_048972 a616R | | 119.78 | 2.37E-26 | 63% | 68% | 2-91 | 4-93 |
| b821R | 339599-339850 | 84 | 10,006 | 9.75 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b822R | 339622-339861 | 80 | 9,858 | 11.23 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b827R | 342463-342705 | 81 | 9,985 | 11.15 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b830L | 343739-343518 | 74 | 8,396 | 10.19 | | No Hit Found | | | | | | | | 1 | NP_048982 a626L | | 164.85 | 6.57E-40 | 100% | 100% | 1-74 | 1-74 |
| b833R | 346107-346328 | 74 | 8,495 | 11.36 | | No Hit Found | | | | | | | | 1 | NP_048986 a630R | | 95.13 | 6.39E-19 | 67% | 67% | 1-74 | 1-74 |
| b834R | 346425-346676 | 84 | 9,368 | 10.23 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b835L | 346759-346532 | 76 | 8,645 | 9.54 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b836R | 347103-347369 | 89 | 10,548 | 11.40 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b837L | 348868-348416 | 151 | 17,573 | 4.91 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b838R | 348998-349290 | 131 | 15,301 | 8.35 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b845R | 351293-351529 | 79 | 8,874 | 12.12 | | No Hit Found | | | | | | | | 1 | NP_048996 a640R | | 153.68 | 1.49E-36 | 96% | 97% | 1-79 | 1-79 |
| b846L | 351821-351600 | 74 | 8,317 | 10.74 | | No Hit Found | | | | | | | | 1 | NP_048997 a641L | | 144.82 | 7.04E-34 | 95% | 98% | 1-74 | 12-85 |
| b848L | 352899-352660 | 80 | 9,155 | 11.33 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b851R | 355248-355451 | 68 | 8,215 | 10.22 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b854R | 355888-356205 | 106 | 12,117 | 7.92 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b855L | 356272-356060 | 71 | 8,137 | 10.71 | | No Hit Found | | | | | | | | 1 | NP_049011 a655L | | 62.39 | 4.46E-09 | 54% | 65% | 1-70 | 1-70 |
| b856R | 356289-356531 | 81 | 9,958 | 10.96 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b861L | 358591-358397 | 65 | 7,677 | 8.67 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b863R | 358777-358998 | 74 | 8,275 | 6.35 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b864R | 359998-359285 | 96 | 11,535 | 8.06 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b866R | 360033-360350 | 106 | 12,385 | 11.46 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b868R | 360109-360750 | 214 | 25,351 | 8.65 | | No Hit Found | | | | | | | | 1 | NP_048428 a80L | | 131.34 | 1.84E-29 | 49% | 69% | 47-175 | 1-129 |
| | | | | | | | | | | | | | | 2 | NP_048808 similar to PBCV-1 ORF a80L, encoded by GenBank Accession Number U17055 | | 101.29 | 2.04E-20 | 53% | 71% | 50-146 | 4-100 |
| | | | | | | | | | | | | | | 3 | NP_048630 similar to PBCV-1 ORF a80L, corresponds to GenBank Accession Number U17055 | | 97.06 | 3.84E-19 | 57% | 71% | 50-140 | 4-94 |
| b870L | 361566-361168 | 133 | 14,344 | 5.96 | | No Hit Found | | | | | | | | 1 | NP_049033 a677L | | 111.31 | 8.56E-24 | 77% | 82% | 1-69 | 1-75 |
| b872L | 363026-362796 | 77 | 9,058 | 10.26 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b873R | 362956-363204 | 83 | 9,941 | 7.92 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b875R | 363278-363748 | 157 | 17,695 | 6.56 | | No Hit Found | | | | | | | | 1 | NP_048354 a6L | | 63.93 | 1.60E-09 | 47% | 66% | 74-143 | 1-71 |
| b876R | 363453-363680 | 76 | 8,273 | 11.42 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b877R | 364224-364448 | 75 | 8,723 | 4.38 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b879R | 364671-365129 | 153 | 18,134 | 9.66 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |
| b881R | 365789-366214 | 142 | 15,912 | 5.88 | | No Hit Found | | | | | | | | 1 | NP_048354 a6L | | 51.99 | 6.13E-06 | 48% | 68% | 66-112 | 1-47 |
| b882R | 366333-366578 | 82 | 8,912 | 5.03 | | No Hit Found | | | | | | | | 1 | NP_049046 identical to PBCV-1 terminal repeat ORF, corresponds to GenBank Accession Number M55319 | | 99.37 | 3.30E-20 | 67% | 75% | 6-82 | 2-77 |
| b885L | 367548-367327 | 74 | 8,633 | 7.51 | | No Hit Found | | | | | | | | | No Hit Found | | | | | | | |