AntiVIRmiR: A repository of host antiviral miRNAs and their expression along with experimentally validated viral miRNAs and their targets

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Supplementary information

Supplementary Figure: Data generation flow of the AntiVIRmiR database
Supplementary Figure 2: Data statistics: Bar graph represents number of entries in top 10 viruses for a) ‘VIRmiRNA2’ and d) ‘VIRmiRTar2’. Pie-charts representing statistical distribution of cell lines in (b) ‘VIRmiRNA2’ and (e) ‘VIRmiRTar2’ and experimental methods in (c) ‘VIRmiRNA2’ and (f) ‘VIRmiRTar2’. (EBV, Epstein Barr virus; PRV, Pseudorabies virus; KSHV, Kaposi sarcoma-associated herpesvirus; HCMV, Human cytomegalovirus; RLCV, Rhesus lymphocryptovirus; HSV1, Herpes simplex virus 1; WSSV, White Spot Syndrome virus; MGHV, Mouse gammaherpesvirus 68; MDV1, Marek's disease virus type 1; MDV2, Marek's disease virus type 2 and BLV, Bovine Leukemia Virus)
Supplementary Figure 3: 'DEmiRVIR' statistics: Bar graph depicting the number of miRNAs that upregulate, downregulate or found in both the expression in viruses. Bar graph with purple color represents downregulation, red color represents upregulation and green color represents miRNAs found in both upregulation as well as downregulation. (EBV, Epstein Barr virus; HBV, Hepatitis B virus; HCMV, Human cytomegalovirus; HCV, Hepatitis C virus; HIV-1, Human immunodeficiency virus; HPV, Human papillomavirus; HSV1, Herpes simplex virus 1; KSHV, Kaposi sarcoma-associated herpesvirus; MCV, Merkel cell polyomavirus; SIV, Simian immunodeficiency virus; VZV, Varicella-zoster virus; WNV, West Nile Virus)

Supplementary Figure 4: Network showing human miRNA expression reported in different viruses in 'DEmiRVIR' a) hsa-let-7 and b) hsa-miR-128. (Viruses with hexagon shape (purple
color) represent downregulation, diamond shape (red color) represents upregulation, octagon shape (green color) represent viruses found common in both upregulation as well as downregulation in different studies and miRNA is represented in ellipse shape (pink color)).

**Supplementary Figure** Network interaction analysis showing viral miRNA target interaction analysis for a) HIV and b) BLV. (Virus is represented in ellipse shape (red color), miRNA in octagon shape (pink color) and targets in triangular shape (green color)).

**Supplementary Table** Table showing isomeric miRNA sequences for different viral miRNAs

1. **Bovine foamy virus (BFV)**

| S. No. | miRNA     | miRNA Sequence                | Length | PMID       |
|-------|-----------|--------------------------------|--------|------------|
| 1.    | bfv-miR-bf1-3p | uccugaagccauauccgagggc       | 22     | 24522910   |
|       |           | uccugaagccauauccgaggu        | 22     | 24522910   |
| 2.    | bfv-miR-bf1-5p | uucggaggauggcuaucaagc       | 22     | 24522910   |
| S. No. | miRNA       | miRNA Sequence            | Length | PMID    |
|-------|-------------|---------------------------|--------|---------|
| 1.    | blv-miR-b2-3p | ugcgugucgcucagucauuu    | 21     | 22308400 |
|       |              | ugcgugucacucaguauuu     | 21     | 22308400 |
| 2.    | blv-miR-b4-3p | uagcaccacagucucugccu    | 24     | 22308400 |
|       |              | uagcaccacagucucagcguuu  | 24     | 22308400 |
|       |              | uagcaccacacgcucagccuu   | 24     | 22308400 |
| 3.    | blv-miR-b5-3p | cucgagcccgcacccccuuuu   | 23     | 22308400 |
|       |              | cucagggccgcaaccuucuuucu | 23     | 22308400 |
| 4.    | blv-miR-b5-5p | aggaaggguuggcucagaggu  | 22     | 22308400 |
|       |              | aggaggguuggcucagaggu    | 22     | 22308400 |

2. Bovine leukemia virus (BLV)
3. Duck enteritis virus (DEV)

| S. No. | miRNA   | miRNA Sequence                  | Length | PMID     |
|--------|---------|--------------------------------|--------|----------|
| 1      | dev-miR-d11-3p | gcaaaagggcagccugggcucuau        | 24     | 22492913 |
|        |         | aaaaagggcagccugggcucu         | 18     | 29704894 |
| 2      | dev-miR-d12-3p | cuccgcggugaggucccagaaaa      | 22     | 22492913 |
|        |         | cuccgcggugaggucccagaa         | 21     | 29704894 |
| 3      | dev-miR-d13-5p | cccgugggguagaagcgaau      | 19     | 22492913 |
|        |         | cuguggggguagaacgcaug         | 18     | 29704894 |
| 4      | dev-miR-d14-3p | gcguuaugucugguauauuguuuu     | 26     | 22492913 |
|        |         | guuaugucugguauauuguuuu        | 23     | 29704894 |
| 5      | dev-miR-d15-3p | cgagcgugggcaagguaccag    | 21     | 22492913 |
|        |         | cgagcgugggcaagguacc         | 19     | 29704894 |
| 6      | dev-miR-d17-3p | gaccgcucgcuccuucgaggccacc | 23     | 22492913 |
|        |         | uccgaccgcucgcuccuucgagggc  | 22     | 29704894 |
| 7      | dev-miR-d17-5p | ugcaacgaagggcaacggguug  | 21     | 22492913 |
|        |         | ugcaacgaagggcaacggguuga   | 22     | 29704894 |
| 8      | dev-miR-d19-5p | gaugaaagagcguggccuuuu | 20     | 22492913 |
|        |         | augaaagagcguggccuuu       | 19     | 29704894 |
| 9      | dev-miR-d21-3p | auccaugcuaucucaaacaacc | 23     | 22492913 |
|        |         | auccaugcuaucucaaacaac     | 22     | 29704894 |
| 10     | dev-miR-d21-5p | ugguuugggacagcucguggggg  | 24     | 22492913 |
|        |         | gguuugggaacagcugccgagg    | 22     | 29704894 |
| 11     | dev-miR-d23-3p | cgccaaaccgcucacagucucagcag | 22     | 22492913 |
|        |         | cgaaccgcucacagucucaga     | 21     | 29704894 |
| 12     | dev-miR-d4-3p | uuaauugugggauuggaugcuuuuu | 26     | 22492913 |
|        |         | uugucggauuggguaugcuuu      | 20     | 29704894 |
### 4. Epstein Barr virus (EBV)

| S. No. | miRNA         | miRNA Sequence               | Length | PMID            |
|-------|---------------|------------------------------|--------|-----------------|
| 1.    | ebv-miR-bart7-3p | caucauaguccaguguccaggg       | 22     | 16557291,17604727, 16540699 |
|       |                | aucauaguccaguguccagg         | 20     | 29425228        |
| 2.    | ebv-miR-bart1-5p | ucuuaguggaagugacgugcugug    | 24     | 15118162, 17604727, 20808852 |
|       |                | ebv-miR-bart1-5p cuuaguggaagugacgugcug | 21     | 29425228        |
| 3.    | ebv-miR-bart10-3p | uacauaaccauggagauuggcugu     | 23     | 16557291, 17604727, 16540699 |
|       |                | ebv-miR-bart10-3p uacauaaccauggagauuggcu | 21     | 29425228        |
| 4.    | ebv-miR-bart12-5p | accgcaccacaccaccggaca        | 22     | 24490137        |
| #  | Name                      | Sequence                  | Start | End   |
|----|---------------------------|---------------------------|-------|-------|
| 5. | ebv-mir-bart16-3p         | gacccgcccaucaccaccgga     | 21    | 24490137 |
|    |                           | acccgcccaucaccaccggac     | 21    | 24490137 |
|    |                           | acccgcccaucaccaccggga     | 20    | 24490137 |
|    |                           | acccgcccaucaccaccggacu    | 22    | 24490137 |
|    | uuagauagaguguguugucucu    |                           | 24    | 16540699 |
|    | aucaccacccucuaauccauau    |                           | 21    | 24490137 |
|    | agaucaccaccccucuaauccau   |                           | 22    | 24490137 |
|    | agaucaccaccccucuaauccau   |                           | 21    | 24490137 |
|    | agaucaccaccccucuaauccauau |                           | 23    | 24490137 |
|    | gaucaccaccccucuaauccauau  |                           | 22    | 24490137 |
| 6. | ebv-miR-bart17-5p         | uaagaggacgcaggcauacaag    | 22    | 16540699 |
|    |                           |                           |       | 17604727 |
|    |                           |                           |       | 30615681 |
|    |                           | uaagaggacgcaggcauaca     | 20    | 29425228 |
| 7. | ebv-miR-bart19-3p         | uuuuguugcuugggaugcu       | 21    | 16540699 |
|    |                           |                           |       | 17604727 |
|    |                           |                           |       | 30548946 |
|    |                           | agaggacgcaggcauaca       | 18    | 29425228 |
|    |                           | uuuuguugcuugggaugc        | 20    | 29425228 |
| 8. | ebv-miR-bart2-5p          | uauuuucugcauucgccuuugc    | 22    | 15118162 |
|    |                           |                           |       | 17604727 |
|    |                           |                           |       | 20808852 |
|    |                           | uauuuucugcauucgccuuug     | 21    | 29425228 |
| 9. | ebv-miR-bart22-3p         | uuacaagucaguuggcuaguagu   | 23    | 29425228 |
|    |                           | uuacaagucaguuggcuaguagu   | 22    | 29425228 |
| 10. | ebv-miR-bart22-5p         | ugucaagacccuggaguggaacc   | 22    | 24490137 |
|    |                           | ugucaagacccuggaguggaacc   | 21    | 24490137 |
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|---|---|---|
|11. | ebv-miR-bart7* | ugucauggcuggaguuu 18 24490137 |
|   |   | ugcuaagccuggaguugaaccu 23 24490137 |
|   |   | ugcuaagccuggagguu 17 24490137 |
|   |   | ugcuaagccuggaguagaaca 22 24490137 |
|   |   | cuggacacuucacuaugaaaca 22 16557291 |
|12. | ebv-miR-bart8-3p | gucaacacauaggggguaggu 23 27147748, 30477559, 30548946, 30411781, 27239439, 32714979, 29230817, 31471531, 31938442 |
|   |   | gucaacacauagggcguag 22 29425228 |
|   |   | ucaacacauuggggguag 21 29425228 |
|13. | ebv-miR-bhrf1-1-5p | uaaccugacagccccggaguu 22 24490137, 30615681 |
|   |   | accgacagccccggaguu 21 24490137 |
|14. | ebv-miR-bhrf1-2-3p | uauccuuuggccgccagaaauuga 22 24490137, 32714979, 27239439, 20808852, 15118162 |
|   |   | uauccuuuggccgcagaaauug 21 24490137 |
5. Herpes B virus (HBV)

| S. No. | miRNA          | miRNA Sequence          | Length | PMID         |
|--------|----------------|-------------------------|--------|--------------|
| 1.     | hbv-miR-b14rc-3p | aggaggggucugggagagaagg | 23     | 21543500     |
|        |                | aggaggggucugggagagaagg | 22     | 21543500     |
|        |                | ggaggggucugggagagaaggg | 22     | 21543500     |
|        |                | aggaggggucugggagagaag  | 21     | 21543500     |
|        |                | ggaggggucugggagagaa    | 19     | 21543500     |
| 2.     | hbv-miR-b19-5p  | gugggcgcacucugaucccggcu | 22     | 21543500     |
|        |                | gugggcgcacucugaucccgggc| 24     | 21543500     |
|        |                | gugggcgcacucugaucccggcu| 23     | 21543500     |
|        |                | gugggcgcacucugaucccggc | 21     | 21543500     |
|        |                | gugggggacucugauccguc   | 18     | 21543500     |
| 3.     | hbv-miR-b2-3p   | cggccgggaacgagagaacggcg| 23     | 21543500     |
|        |                | cggccgggaacgagagaacggcg| 19     | 21543500     |
|        |                | cggccgggaacgagagaacggcg| 18     | 21543500     |
| 4.     | hbv-miR-b20-3p  | gugcugguugcccgccgcucucg | 22     | 21543500     |
|        |                |ugcugguugcccgccgcucucg  | 23     | 21543500     |
|        |                | cgugcugguugcccgccgcucucg| 23     | 21543500     |
|        |                | ugcuugguuucgccgcucucucg | 22     | 21543500     |
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|---|---|---|---|
| 5. | **hbv-miR-b20-5p** | ugcugguugcccgccgcucucg | 21 | 21543500 |
|   |   | agagugaggggugggcagcgcgu | 22 | 21543500, 19144716 |
|   |   | agugaggggugcgagcgcgu | 23 | 21543500 |
|   |   | agugaggggugcgagcgcgu | 22 | 21543500 |
|   |   | agagugaggggugcgagcgcgu | 21 | 21543500 |
|   |   | agagugaggggugcgagcgcgu | 20 | 21543500 |
|   |   | agagugaggggugcgagcgcgu | 19 | 21543500 |
| 6. | **hbv-miR-b21rc-5p** | gcgccggggugcgaaccugggg | 22 | 21543500 |
|   |   | gcgccggggugcgaaccugggg | 23 | 21543500 |
|   |   | agcgccggggugcgaaccugggg | 23 | 21543500 |
|   |   | agcgccggggugcgaaccugggg | 22 | 21543500 |
|   |   | cgccggggugcgaaccugggg | 21 | 21543500 |
|   |   | gcgccggggugcgaaccugggg | 20 | 21543500 |
| 7. | **hbv-miR-b22-3p** | uaggggaguccgugagagcgcg | 23 | 21543500 |
|   |   | uaggggaguccgugagagcgcg | 22 | 21543500 |
| 8. | **hbv-miR-b26-5p** | uagauucgggccagcagcgcg | 22 | 21543500 |
|   |   | uagauucgggccagcagcgcg | 21 | 21543500 |
| 9. | **hbv-miR-b3rc-3p** | cgccucucgguuuauuguugga | 23 | 21543500 |
|   |   | ggucucggcucucgguuuauugu | 23 | 21543500 |
|   |   | cucggcucucgguuuauugu | 20 | 21543500 |
|   |   | gucucggcucucguuuua | 18 | 21543500 |
| 10. | **hbv-miR-b7-5p** | uucugggcccucggguucgcuuc | 22 | 21543500 |
|   |   | uucugggcccucggguucgcuuc | 24 | 21543500 |
|   |   | uucugggcccucggguucgcuuc | 24 | 21543500 |
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| 11. | **hbv-miR-b8-5p** | **uguggagggccuaggggagccccg** |
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6. Human cytomegalovirus (HCMV)

| S. No. | miRNA          | miRNA Sequence                  | Length | PMID                      |
|--------|----------------|---------------------------------|--------|---------------------------|
| 1      | hcmv-miR-UL148D | ugcuccucucucucucucaccg          | 21     | 31749099, 15782219, 22013051 |
|        |                | ugcuccucucucucucaccu           | 21     | 31749099                  |
| 2      | hcmv-miR-UL112-3p | aagugacggugagauccaggc          | 22     | 31749099, 25955717, 28589873 |
|        |                | aagugacggugagauccaggc          | 21     | 31749099                  |
| 3      | hcmv-miR-UL112-5p | ccuccggaucacauugguacuca       | 23     | 31749099, 26067606, 27491954 |
|        |                | ccuccggaucacauugguacucag      | 24     | 31749099                  |
| 4      | hcmv-miR-UL22A-5p | uaacuagccuuucccugagaga       | 20     | 31749099                  |
|        |                | cuaacuagccuuucccugagaga      | 21     | 31749099, 24533100         |
| 5      | hcmv-miR-UL36-5p | ucguguaagacaccuggaaaga        | 22     | 31749099, 24533100, 28589873 |
|        |                | ucguguaagacaccuggaaagg       | 21     | 31749099                  |
| 6      | hcmv-miR-UL36-3p | uuuccagguguuucaacgugc         | 22     | 24533100, 28589873         |
|        |                | uuuccagguguuucaacgug         | 21     | 31749099, 26067606         |
|   | miRNA | Target Site | Length | Position | Seed Base |
|---|-------|-------------|--------|----------|-----------|
| 7. | hcmv-miR-UL59 | guucucgcucgucaugccgu | 22 | 27491954, 28592251 | 20 |
|   |       | uucucgcucgucaugccg | 20 | 31749099 | |
|   |       | uucucgcucgucaugcc | 19 | 31749099 | |
| 8. | hcmv-miR-UL70-5p | ugcgucucggccucguccaga | 21 | 16140786, 22715351, 24533100 | |
|   |       | cgucucggccucguccagac | 20 | 31749099 | |
| 9. | hcmv-miR-US25-1-3p | uccgaacgcuaggucggguucu | 21 | 31749099, 24533100, 28589873 | |
|   |       | guccaacgcuaggucggguucu | 22 | 31749099 | |
|   |       | uccgaacgcuaggucggguucuc | 22 | 31749099 | |
| 10. | hcmv-miR-US25-1-5p | aaccgcucaguggcucggacc | 21 | 31749099, 24533100, 28589873 | |
|   |       | aaccgcucaguggcucggaccg | 22 | 31749099 | |
| 11. | hcmv-miR-US25-2-3p | auccacuuggagagcuccgcgg | 24 | 31749099, 25955717, 24533100 | |
|   |       | auccacuuggagagcuccgcgg | 23 | 15782219, 22013051, 22715351 | |
| 12. | hcmv-miR-US25-2-5p | agcggucuguucagguggaug | 22 | 15782219, 22013051, 25955717 | |
|   |       | agcggucuguucagguggaug | 21 | 31749099 | |
| 13. | hcmv-miR-US29-3p | cccacgguccgggcacacauca | 21 | 26067606, | |
| S. No. | miRNA   | miRNA Sequence       | Length | PMID                  |
|-------|---------|----------------------|--------|-----------------------|
| 1     | hsv1-miR-H2-3p | ccugagccaggacagugcgacu | 24     | 21795359, 25535379, 32390978 |
|       |         | cugagccaggacagugcgga | 21     | 19656888               |
|       |         | cugagccaggacagugcgacu | 23     | 19656888               |
|       |         | ugagccaggacagugcgacu  | 22     | 19656888               |
| 2     | hsv1-miR-H3-3p | cugggacugugcguugggac | 21     | 19656888, 25535379, 32390978 |
|       |         | cugggacugugcguuggg   | 18     | 19656888               |
|       |         | cugggacugugcguuggg   | 19     | 19656888               |
|       |         | cugggacugugcguuggga  | 20     | 19656888               |

7. Herpes simplex virus 1 (HSV1)
| ID | miRNA       | miRNA Sequence                      | Length | PMID             |
|----|-------------|-------------------------------------|--------|------------------|
| 1. | kshv-miR-K12-11-3p | uuaaugcuuagccuguguccga             | 22     | 27611973, 30533200 |
|    |             | uuaaugcuuagccuguguccg               | 21     | 29425228         |
|    |             | uaaugcuuagccuguguccga               | 21     | 29425228         |
|    |             | augcuuagccuguguccg                  | 18     | 29425228         |
|    |             | ccuuaaugcuuagccuguguccg             | 23     | 29425228         |
| 2. | kshv-miR-k12-12-3p | ugggggagggggucucuggguuga           | 22     | 27611973, 28600495 |
|    |             | ugggggagggggucucuggguug            | 21     | 29425228         |
|    |             | gggagggugccucugguug               | 20     | 29425228         |
| 3. | kshv-miR-K12-12-5p | aaccaggccaccaauuccucucuc           | 23     | 29425228, 27611973 |
|    |             | cuaaccaggccaccaauuccucuc          | 23     | 29425228         |
|    |             | ugucaaccaggccaccauu              | 19     | 29425228         |

8. Kaposi sarcoma-associated herpesvirus (KSHV)
|   | kshv-miR-K12-2-5p | aacuguaguccgggucgauucug |   |   |
|---|------------------|--------------------------|---|---|
|   | kshv-miR-K12-4-3p | uagaaucagagccccacugcuga |   |   |
|   | kshv-miR-K12-7-5p | aggcggccacgggacggaauuaug |   |   |
|   | kshv-miR- K12-8-3p | cuagggccgacugagagacgcga |   |   |
|   | kshv-miR-K12-8-5p | acucccucauacgcacccccgcu |   |   |
|   | kshv-miR-K12-9-3p | cugggauacgcagcucguuac |   |   |
|   | kshv-miR-K12-9-5p | acccagcugguaacccccgcu |   |   |
| S. No. | miRNA | miRNA Sequence | Length | PMID |
|-------|-------|----------------|--------|------|
| 1.    | mdv1-miR-m1/ mdv1-m1-5p | ugcuguuuccacugugcggca | 20 | 16912324, 18842708, 21645299, 24449754 |
|       |       | ugcuuguuuccacugugcggcauu | 22 | 24449754 |
|       |       | ugcuuguuuccacugugcggcauua | 23 | 24449754 |
| 2.    | mdv1-m11-5p | uuuuccuuacccgugcugcuuaga | 23 | 24449754 |
|       |       | uuuuccuuacccgugcugcuuag | 22 | 24449754 |
| 3.    | mdv1-miR-m12-3p/ mdv1-m12-3p | ugcuaaaacggaggguuc | 20 | 21645299, 24449754, 30184155 |
|       |       | uugcauaauacggagggguucug | 22 | 29423087 |
|       |       | uugcauaauacggagggguucugu | 23 | 24449754 |
|       |       | ugcuaauacggagggguucugu | 22 | 24449754 |

9. Marek’s disease virus 1 (MDV1)
|   |   |   |   |   |
|---|---|---|---|---|
| 4. | mdv1-miR-m2-3p | cggacugccgcagauagcuu | 21 | 16912324, 18256158, 18842708, 24449754 |
|   |   | cagaccccccucucccuccuuu | 22 | 29767614 |
|   |   | acggacugccgcagauagcuu | 23 | 29423087 |
| 5. | mdv1-m2-5p | guugauucucggccgguaguccg | 23 | 24449754 |
|   |   | guugauucugccggguaguccgu | 24 | 24449754 |
|   |   | guugauucugccggguaguccguu | 25 | 24449754 |
| 6. | mdv1-m3-5p/ mdv1-miR-m3-5p | augaaaaugugaaaccucuccccgc | 24 | 24449754 |
|   |   | ugaahuggaaaccucuccgc | 23 | 24449754 |
|   |   | caugaaaaugugaaaccucuccgc | 26 | 29423087 |
| 7. | mdv1-m31-3p | ugcuacagucgagcagaucaaa | 23 | 24449754 |
|   |   | ugcuacagucgagcagaucaac | 21 | 24449754 |
|   |   | ugcuacagucgagcagaucaacu | 22 | 24449754 |
| 8. | mdv1-m4-5p | uuaaugcuguaucggaaccuuuc | 23 | 24449754 |
|   |   | uuaaugcuguaucggaaccuuucgu | 25 | 24449754 |
|   |   | uuaaugcuguaucggaaccuuucg | 24 | 24449754 |
| 9. | mdv1-miR-m5-3p | uguguaucguggucgucuacugu | 23 | 21645299, 24449754, 30184155 |
|   |   | uguguaucguggucgucuacuguu | 24 | 29423087 |
| 9. | mdv1-miR-m6-5p/ mdv1-m6-5p | ucuguuguucguagugucuc | 22 | 16912324, 18256158, 18842708, 21645299 |
| S. No. | miRNA          | miRNA Sequence                  | Length | PMID          |
|-------|----------------|---------------------------------|--------|---------------|
| 10.   | mdv1-miR-m7/ mdv1-m7-5p | uguuacucgggggalauccgau         | 23     | 16912324     |
|       |                 | guauacucgggggalauccgau         | 22     | 24449754     |
|       |                 | guauacucgggggalauccgga         | 22     | 24449754     |
|       |                 | guauacucgggggalauccgga         | 22     | 24449754     |
|       |                 | guauacucgggggalauccgga         | 22     | 24449754     |
| 11.   | mdv1-m8-3p      | gugaccucuacggaaacauagu         | 22     | 16912324     |
|       |                 | ugaccucuacgaacaaauagu         | 21     | 24449754     |
|       |                 | ugaccucuacgaacaaauagc         | 21     | 24449754     |
| 12.   | mdv1-miR-m9-5p  | uuuucuccuuccccccggaguu         | 22     | 18256158,    |
|       |                 |                                 |        | 18842708,    |
|       |                 |                                 |        | 21645299,    |
|       |                 |                                 |        | 24449754,    |
|       |                 |                                 |        | 30184155     |
|       |                 | uuuucuccuuccccccggaguuca       | 24     | 29423087     |

10. Marek’s disease virus 2 (MDV2)

| S. No. | miRNA          | miRNA Sequence                  | Length | PMID          |
|-------|----------------|---------------------------------|--------|---------------|
| 1.    | mdv2-m14-5p    | uguuacggugacccugaga            | 22     | 24449754     |
|       |                | gugguacggugacccugaga           | 23     | 24449754     |
| 2.    | mdv2-m18-5p    | uguuucucucucagggcuggcaauug    | 23     | 174599191    |
|       |                | guuuucucucucagggcuggcaauugc   | 23     | 24449754     |
|       |                | guuuucucucucucucucucuuggcaugg| 24     | 24449754     |
|       |                | guuuucucucucucucucucucucuugc | 24     | 24449754     |
| 3.    | mdv2-m19-5p    | cccucggcggugucacgg             | 20     | 24449754     |
|       |                | cccucggcggugucacgg             | 21     | 24449754     |
|   |   |   |
|---|---|---|
| 4. | mdv2-m20-5p | ccccucgaggugugcacgggu  |
|   |   | 22 | 24449754 |
|   |   | ccccucgaggugugcacggga | 22 | 24449754 |
|   |   | uccuuagcggugugccugaga | 21 | 24449754 |
|   |   | uccuuagcggugugccugag | 20 | 24449754 |
| 5. | mdv2-m22-5p | ucuuacacgcacgucacucuggu | 23 | 24449754 |
|   |   | ucuuacacgcacgucacucugguc | 24 | 24449754 |
| 6. | mdv2-m24-3p | uugaugccccugcagggaaagau | 22 | 24449754 |
|   |   | uugaugccccucagggaaagau | 22 | 24449754 |
| 7. | mdv2-m25-5p | cccuuacccgacgagcuggc | 23 | 24449754 |
|   |   | cccuuacccgacgagcuggc | 22 | 24449754 |
|   |   | cccuuacccgacgagcuggccg | 24 | 24449754 |
|   |   | cccuuacccgacgagcuggc | 22 | 24449754 |
| 8. | mdv2-m26-3p | ucgccacacgacccgaaagau | 22 | 24449754 |
|   |   | ucgccacacgacccgaaagau | 23 | 24449754 |
|   |   | ucgccacacgacccgaaagau | 21 | 24449754 |
|   |   | ucgccacacgacccgaaagauu | 22 | 24449754 |
| 9. | mdv2-miR-m27-3p/mdv2-m27-3p | gcgucgcacccgagcugcagggaa | 23 | 17459919 |
|   |   | gcgucgcacccgagcugcagggaa | 22 | 24449754 |
|   |   | gcgucgcacccgagcugcagggaa | 23 | 24449754 |
| 10. | mdv2-m27-5p | cuucguccggugucgaggccg | 21 | 24449754 |
|   |   | cuucguccggugucgaggccg | 22 | 24449754 |
| 11. | mdv2-m28-5p | uuuuucacgcacccuaccucgc | 22 | 24449754 |
|   |   | uuuuucacgcacccuaccucgc | 21 | 24449754 |
|   |   | uuuuucacgcacccuaccucgc | 23 | 24449754 |
|   |   | uuuuucacgcacccuaccucgc | 22 | 24449754 |
| 12. | mdv2-m30-5p | caacacuccuccggacgcagca | 22 | 24449754 |
|   |   | caacacuccuccggacgcagc | 21 | 24449754 |
### 11. Pseudorabies virus (PRV)

| S. No. | miRNA   | miRNA Sequence                      | Length | PMID     |
|--------|---------|------------------------------------|--------|----------|
| 1.     | prv-miR-1-3p | ucucaccucggguccgucgc               | 21     | 22292087 |
|        |         | ucucaccucggguccgucgcc              | 22     | 22292087 |
|        |         | cccucaccucggguccgucgc              | 22     | 22292087 |
|        |         | ccucaccucggguccgucgc              | 21     | 22292087 |
|        |         | ucucaccucggguccgucgc              | 20     | 22292087 |
|        |         | ucucaccucggguccgucgc              | 19     | 22292087 |
| 2.     | prv-miR-1-5p | gacggcuccugggcugaaagcggcgc        | 27     | 22292087 |
|        |         | gacggcuccugggcugaaagcg            | 24     | 22292087 |
|        |         | gacggcuccugggcugaaagcg            | 23     | 22292087 |
|        |         | ccgccuccugggcugaaagc              | 23     | 22292087 |
|        |         | gcgcgccuccugggcugaaagc            | 22     | 22292087 |
|        |         | gcgcgccuccugggcugaaagc            | 21     | 22292087 |
|        |         | ggcgcgccuccugggcugaaagc           | 23     | 26998839 |
| 3.     | prv-miR-10-1 | cccagccugcccccucuccgucgc         | 23     | 22292087 |
|        |         | cccagccugcccccucuccgucgcac        | 24     | 22292087 |
|        |         | ccgccucccccucuccgucgcac           | 23     | 22292087 |
|        |         | ccgccucccccucuccgucgcac           | 23     | 22292087 |
|        |         | cccagccugcccucuccgugcgc           | 22     | 22292087 |
|        |         | cccagccugcccucuccgugcga           | 22     | 22292087 |
|        |         | cccagccugcccucuccgugcgac          | 22     | 22292087 |
|        |         | cccagccugcccucuccgugcg            | 21     | 22292087 |
|        |         | cccagccugcccucuccgucgc            | 21     | 22292087 |
|        |         | cccagccugcccucuccgucgc            | 20     | 22292087 |
|   | Sequence                  | Length | Accession   |
|---|--------------------------|--------|-------------|
|   | cgagccugccccuuccgucg     | 20     | 22292087    |
|   | agccugccccuuccgucgca     | 20     | 22292087    |
|   | ccgagccugccccuuccggu     | 19     | 22292087    |
|   | cgagccugccccuuccgucg     | 19     | 22292087    |
|   | gagccugccccuuccgucg      | 19     | 22292087    |
|   | ccgagccugccccuuccggu     | 18     | 22292087    |
|   | gagccugccccuuccgucg      | 18     | 22292087    |
|   | agccugccccuuccgucg      | 18     | 22292087    |
|   | gagcuggaguggggagcgaaga   | 23     | 22292087    |
|   | aggcuggaguggggacggaagcgg | 26     | 22292087    |
|   | guggggacggaagcgaagcagaug | 26     | 22292087    |
|   | uuccgccccgucuccaccgccuuuc| 26     | 22292087    |
|   | aggcuggaguggggacggaagcgg | 25     | 22292087    |
|   | gcugggaguggggacggaagcgg  | 25     | 22292087    |
|   | ggggacggaagcgaagccagaug  | 25     | 22292087    |
|   | uuccgccccgucuccaccgccuuu | 25     | 22292087    |
|   | aaccguuuccgcgcucuccccacc| 25     | 22292087    |
|   | gagcuggaguggggacggaaga   | 24     | 22292087    |
|   | aggcuggaguggggacggaagac | 24     | 22292087    |
|   | gugggacggaagcgaagccag   | 24      | 22292087    |
|   | cugggaguggggacggaagcgg  | 23      | 22292087    |
|   | gggacggaagcgaagccagau   | 23      | 22292087    |
|   | ggcacgaagacggaagccagaug | 23      | 22292087    |
|   | guuccggccgcucuccaccgcc   | 23      | 22292087    |
|   | agauggauguucgcggcgcuc   | 23      | 22292087    |
|   | ugaacuguuccgccccgucucc  | 23      | 22292087    |
|   | aggccuggaguggggacggaag  | 22      | 22292087    |
| 5. prv-miR-2-3p | ucaggacgggcgcgggcaac | 22 | 22292087 |
|                | gcggggcaacggaggagagag | 22 | 22292087 |
|                | gcggggcaacggaggagagag | 21 | 22292087 |
|                | gcggggcaacggaggagagag | 20 | 22292087 |
|                | gcggggcaacggaggagagag | 19 | 22292087 |
|                | cggggcaacggaggagagag | 19 | 22292087 |
|                | cggggcaacggaggagagag | 18 | 22292087 |
|                | cggggcaacggaggagagag | 18 | 22292087 |

| 4. | ggcuggagugggacggaaga | 22 | 22292087 |
|    | gcugggagugggacggaagac | 22 | 22292087 |
|    | cugggagugggacggaagacg | 22 | 22292087 |
|    | gggacggaagacggaagccaga | 22 | 22292087 |
|    | gacggaagacggaagccagaug | 22 | 22292087 |
|    | cgaagacggaagccagaugaa | 22 | 22292087 |
|    | agaugaaccuguuccgccgcuc | 22 | 22292087 |
|    | aggcuuggugugggacgga | 21 | 22292087 |
|    | ggcugggaugggacggaag | 21 | 22292087 |
|    | gcuugggagugggacggaagt | 21 | 22292087 |
|    | gcugggagugggacggaaga | 21 | 22292087 |
|    | gggacggaagacggaagccag | 21 | 22292087 |
|    | cgaagacggaagccagauga | 21 | 22292087 |
|    | gggaggcuugggagugggga | 20 | 22292087 |
|    | aggcuugggaugggacgga | 20 | 22292087 |
|    | gcugggagugggacggaagt | 20 | 22292087 |
|    | gggagugggacggaagacg | 20 | 22292087 |
|    | accuguuccgccgcucucc | 20 | 22292087 |
|    | aggcuugggagugggacgg | 19 | 22292087 |
|    | cguuugggagugggacggaag | 19 | 22292087 |
|    | acggaagacggaagccaga | 19 | 22292087 |
|    | aggcuugggagugggacgcg | 18 | 22292087 |
|    | aagacggaagccagauga | 18 | 22292087 |

| 3. | gggaggcugggagugggga | 22 | 22292087 |
|    | aggccugggagugggcaac | 22 | 22292087 |
|    | cgcggggcaacggaggagag | 22 | 22292087 |
|    | cgcggggcaacggaggagag | 21 | 22292087 |
|    | cgcggggcaacggaggagag | 20 | 22292087 |
|    | cgcggggcaacggaggagag | 19 | 22292087 |

| 2. | gggcugggaguggggacggaaga | 22 | 22292087 |
|    | gcugggagugggacggaagac | 22 | 22292087 |
|    | cugggagugggacggaagacg | 22 | 22292087 |
|    | gggacggaagacggaagccaga | 22 | 22292087 |
|    | gacggaagacggaagccagaug | 22 | 22292087 |
|    | cgaagacggaagccagaugaa | 22 | 22292087 |
|    | agaugaaccuguuccgccgcuc | 22 | 22292087 |
|    | aggcuugggagugggacgga | 21 | 22292087 |
|    | ggcugggaugggacggaag | 21 | 22292087 |
|    | gcuugggagugggacggaagt | 21 | 22292087 |
|    | gcugggagugggacggaaga | 21 | 22292087 |
|    | gggacggaagacggaagccag | 21 | 22292087 |
|    | cgaagacggaagccagauga | 21 | 22292087 |
|    | gggaggcuugggagugggga | 20 | 22292087 |
|    | aggcuugggaugggacgga | 20 | 22292087 |
|    | gcugggagugggacggaagt | 20 | 22292087 |
|    | gggagugggacggaagacg | 20 | 22292087 |
|    | accuguuccgccgcucucc | 20 | 22292087 |
|    | aggcuugggagugggacgg | 19 | 22292087 |
|    | cguuugggagugggacggaag | 19 | 22292087 |
|    | acggaagacggaagccaga | 19 | 22292087 |
|    | aggcuugggagugggacgcg | 18 | 22292087 |
|    | aagacggaagccagauga | 18 | 22292087 |
| 6. | prv-miR-2-5p | cgaggcaacgguggugag | 18 | 22292087 |
|    |            | caugcaccguauaccucucgg | 20 | 26998839 |
|    |            | cuauccgucagaccugcg | 20 | 22292087 |
|    |            | cuauccgcucagaccgccaucg | 24 | 22292087 |
|    |            | gcuucuauccgucagaccugcg | 24 | 22292087 |
|    |            | uucuauccgucagaccugcgcc | 24 | 22292087 |
|    |            | cgcucucucugacaccugcgc | 23 | 22292087 |
|    |            | cgcucucucugacaccugcgc | 22 | 22292087 |
|    |            | ucauccgucagaccugcgc | 21 | 22292087 |
|    |            | cgcucucucugacaccugcgc | 21 | 22292087 |
|    |            | cgcucucucugacaccugcgc | 20 | 22292087 |
|    |            | cauucgcucucucucucucucucucu | 20 | 22292087 |
|    |            | cuauccgucagaccugcgc | 19 | 22292087 |
|    |            | cuauccgucagaccugcgc | 18 | 22292087 |
|    |            | cgcucucucugacaccugcgc | 18 | 22292087 |
| 7. | prv-miR-3-3p | cgcacagccccccccgcuucgcgc | 22 | 22292087 |
|    |            | cgcacagccccccccgcuucgcgc | 21 | 22292087 |
|    |            | gacacgccccccccgcuucgcgc | 21 | 22292087 |
|    |            | gacacgccccccccgcuucgcgc | 20 | 22292087 |
|    |            | cggccacgcccccgccccgccgccccg | 22 | 26998839 |
| 8. | prv-miR-4-3p | aaaaggccacgcugaugcgcucc | 21 | 22292087 |
|    |            | cgacgacuggggggcgcgcgcgc | 21 | 26998839 |
| 9. | prv-miR-4-5p | agagauacagcguggcuuuuuu | 22 | 22292087 |
|    |            | cuuuuuuguuggugcuugaguggaaag | 28 | 22292087 |
|    |            | aagagauacagcguggcuuuuuu | 24 | 22292087 |
|   |   |   |
|---|---|---|
| caagagauca| cgagucggcuuuuuu  | 23  | 22292087 |
| aagauca| cgagucggcuuuuuu  | 23  | 22292087 |
| agauca| cgagucggcuuuuuug  | 23  | 22292087 |
| caagauca| cgagucggcuuuuu  | 22  | 22292087 |
| aagauca| cgagucggcuuuuuu  | 22  | 22292087 |
| ucagcugcguuuuuuguggu  | 22  | 22292087 |
| caagauca| cgagucggcuuuu  | 21  | 22292087 |
| aagauca| cgagucggcuuuuuu  | 21  | 22292087 |
| agauca| cgagucggcuuuuuu  | 21  | 22292087 |
| gauacagcguuuuuuuu  | 21  | 22292087 |
| aagauca| cgagucggcuuuu  | 20  | 22292087 |
| agauca| cgagucggcuuuuuu  | 20  | 22292087 |
| gauacagcguuuuuuuu  | 20  | 22292087 |
| agauca| cgagucggcuuuuuu  | 20  | 22292087 |
| caagauca| cgagucguuu  | 19  | 22292087 |
| aagauca| cgagucguuuuuu  | 19  | 22292087 |
| agauca| cgagucguuuuuu  | 19  | 22292087 |
| gauacagcguuuuuu  | 19  | 22292087 |
| aagauca| cgagucguuuu  | 18  | 22292087 |
| agauca| cgagucguuuuuu  | 18  | 22292087 |

| 10. | prv-miR-5-3p |   |
|---|---|---|
| auucauccugcgggugggggau  | 24  | 22292087 |
| cuguucccaauccuuccacccau  | 23  | 22292087 |
| cgacucugcggaccggcgcg  | 20  | 26998839 |

| 11. | prv-miR-5-5p |   |
|---|---|---|
| uccgugcggguggggggaugagug  | 24  | 22292087 |
| gggaugagggagauggaggcccg  | 24  | 22292087 |
| augaguggagggaggccgag  | 23  | 22292087 |
| ugaguggagggaggccgagg  | 23  | 22292087 |
|   |   |   |   |
|---|---|---|---|
|   | prv-miR-6-3p | cuuggcagcggguggguaccca | 22 | 22292087 |
|   |   | cuuggcagcggguggguacc | 22 | 22292087 |
|   |   | cuuggcagcggguggguacc | 20 | 22292087 |
|   |   | cuuggcagcggguggguac | 19 | 22292087 |
|   |   | cuuggcagcgggugggua | 18 | 22292087 |
|   | prv-miR-6-5p | cgaucccgaccccuccuaccagg | 21 | 22292087 |
| Gene  | Sequence                      | Length | ID       |
|-------|-------------------------------|--------|----------|
|       | cguaccgacctccuaccaggca       | 23     | 22292087 |
|       | cguaccgacctccuaccaggc        | 22     | 22292087 |
|       | cguaccgacctccuaccag          | 20     | 22292087 |
|       | cguaccgacctccuaccacca       | 19     | 22292087 |
|       | cguaccgacctccuaccacc        | 18     | 22292087 |
|       | cgacggcgcgggcaugggaggu       | 22     | 26998839 |
| 14.   | prv-miR-7-3p                 |        |          |
|       | accaccguccccucuguccu         | 20     | 22292087 |
|       | uguccuccauccacucucgacggcccgc | 29     | 22292087 |
|       | accaccguccccucuucccuc       | 21     | 22292087 |
|       | uccacucucucgcgggcu          | 21     | 22292087 |
|       | accaccgucccccugucccc       | 19     | 22292087 |
|       | accaccgucccccugucc        | 18     | 22292087 |
| 15.   | prv-miR-7-5p                 |        |          |
|       | ggggguuggcgcucggggugga      | 21     | 22292087 |
|       | gcucggggggugugcucugcuacc   | 25     | 22292087 |
|       | gcucggggggugugcucugcuac    | 24     | 22292087 |
|       | ccgggggggguugugaggagg       | 23     | 22292087 |
|       | gcucggggggugugcucugcua     | 23     | 22292087 |
|       | ccgggggggguugugaggagg       | 22     | 22292087 |
|       | ccgggggggguugugaggagg       | 22     | 22292087 |
|       | ccgggggggguugugaggagg       | 22     | 22292087 |
|       | ccgggggggguugugaggagg       | 20     | 22292087 |
|       | ccgggggggguugugaggagg       | 20     | 22292087 |
|       | ccgggggggguugugaggagg       | 20     | 22292087 |
|       | ggggguuggcgcgggggggug       | 20     | 22292087 |
| 16. | prv-miR-8-3p |
|---|---|
| **19** | cccggggguugauaggggau |
| **19** | cccggggguugauagggga |
| **19** | cgggggguugauggggaug |
| **19** | gggauuggcgcucgggggu |
| **18** | cccggggguugauaggggg |
| **18** | cgggggguugauagggga |
| **18** | cgggggguugauaggggau |

| 17. | prv-miR-8-5p |
|---|---|
| **20** | gugggggcgaagauuggguu |
| **20** | uggggggcgaagauuggguuggugaga |
| **27** | gggugguggagagacuagaaccggug |
| **27** | gugggggcgaagauuggguugggu |
| **24** | ggugagagacuagaaccgguguuc |
| **23** | gugggggcgaagauuggguuggg |
| 18. | prv-miR-8-loop |
|-----|----------------|
|     | ugagagacuagaacccguguucu | 23 | 22292087 |
|     | ugagagacuagaacccguguuc  | 22 | 22292087 |
|     | gagagacuagaacccguguucu  | 22 | 22292087 |
|     | uagaacccguguucucaacc  | 22 | 22292087 |
|   |            |          |          |
|---|-----------|----------|----------|
| 19. | prv-miR-9-3p | ugagagacuagaacccggu | 21 | 22292087 |
|    |            | ugagagacuagaacccggu | 20 | 22292087 |
|    |            | ugagagacuagaacccggug | 19 | 22292087 |
|    |            | ugagagacuagaacccgggu | 18 | 22292087 |
|    | ccuccccccgcuccucucuccucuc | 22 | 22292087 |
|    |            | ccuccccccgcuccucucuccuc | 21 | 22292087 |
|    |            | ccuccccccgcuccucucucucucuc | 21 | 22292087 |
|    |            | ccuccccccgcuccucucuc | 20 | 22292087 |
|    |            | ccuccccccgcuccucucucuc | 20 | 22292087 |
|    |            | ccuccccccgcuccucucucuc | 20 | 22292087 |
|    |            | ccuccccccgcuccucucucucucucucucuc | 19 | 22292087 |
|    |            | ccuccccccgcuccucucucucucucucucucuc | 18 | 22292087 |
| 20. | prv-miR-9-5p | aucgaggagauggagggg | 20 | 22292087 |
|    |            | gaggagauggaggggugccagcgc | 27 | 22292087 |
|    |            | gaggagauggaggggugccagc | 26 | 22292087 |
|    |            | aucgaggagauggaggggugcca | 25 | 22292087 |
|    |            | ucgaggagauggaggggugccaa | 25 | 22292087 |
|    |            | gaggagauggaggggugccaagcc | 25 | 22292087 |
|    |            | aucgaggagauggaggggugcc | 24 | 22292087 |
|    |            | ucgaggagauggaggggugccaa | 24 | 22292087 |
|    |            | gaggagauggaggggugccagc | 24 | 22292087 |
|    |            | aucgaggagauggaggggugcc | 23 | 22292087 |
|   |   |   |
|---|---|---|
| ucgaggagauguggaggggugcc | 23 | 22292087 |
| gaggagauguggaggggugccaa | 23 | 22292087 |
| aucgaggagauguggaggggug | 22 | 22292087 |
| ucgaggagauguggaggggugc | 22 | 22292087 |
| cgaggagaugugaggggugcc | 22 | 22292087 |
| gaggagaugugaggggugccaa | 22 | 22292087 |
| aucgaggagauguggaggggu | 21 | 22292087 |
| ucgaggagauguggaggggug | 21 | 22292087 |
| cgaggagaugugaggggugc | 21 | 22292087 |
| gaggagaugugaggggugcc | 21 | 22292087 |
| ucgaggagauguggaggggu | 20 | 22292087 |
| cgaggagaugugaggggug | 20 | 22292087 |
| gaggagaugugaggggugc | 20 | 22292087 |
| aggagaugugaggggugcc | 20 | 22292087 |
| aucgaggagauguggaggg | 19 | 22292087 |
| ucgaggagauguggaggg | 19 | 22292087 |
| cgaggagaugugaggggu | 19 | 22292087 |
| gaggagaugugaggggug | 19 | 22292087 |
| aucgaggagaugugaggg | 18 | 22292087 |
| ucgaggagaugugaggg | 18 | 22292087 |
| cgaggagaugugagggg | 18 | 22292087 |
| gaggagaugugagggggu | 18 | 22292087 |
| uacgcggcgcgcucgcggcagcgcgacg | 22 | 26998839 |
| 21. | prv-miR-LLT2-5p |   |
|   | cucaucccgucagaccucucg | 20 | 26998839, 25320324 |
|   | cucaucccgucagaccugcc | 22 | 26998839 |
| 22. | prv-miR-LLT5-3p |   |
|   | uagaguggaugguagggcgag | 22 | 26998839, |
| S. No. | miRNA         | miRNA Sequence               | Length | PMID          |
|-------|---------------|------------------------------|--------|---------------|
| 1.    | rcnv-miR-orilyt-1 | gacggggucucgggucuccga        | 21     | 20980502      |
|       |                | cccggagucucgaaccggggucgb     | 24     | 20980502      |
|       |                | gacggggucucgggucucgac        | 22     | 20980502      |
| 2.    | rcnv-miR-orilyt-2 | uggcucgcgucgccauugagac       | 22     | 20980502      |
|       |                | uggcucgcgucgcccagggagaca     | 23     | 20980502      |
|       |                | gcucgcgucgcccagggagaca       | 21     | 20980502      |
| 3.    | rcnv-miR-r1-1  | guaaguggaaucccgagg           | 21     | 20980502      |
|       |                | guaaguggaaucccgaggca         | 23     | 20980502      |
|       |                | guaaguggaaucccgaggcgu        | 23     | 20980502      |

12. Rat cytomegalovirus (RCMV)
|   |   |   |
|---|---|---|
| 4. | rcmv-miR-r1-2 | guaagauggaauccaccggaggc 22 20980502 |
|   |   | guaagauggaauccaccggag 20 20980502 |
| 5. | rcmv-miR-r1-3 | uuucucucugucucaccgugucgc 22 20980502 |
|   |   | uuucucucugucucaccgugucg 21 20980502 |
| 6. | rcmv-miR-r111.1-1 | ugaugaugggauggggagugag 22 20980502 |
|   |   | ugaugaugggauggggagugaga 23 20980502 |
| 7. | rcmv-miR-r111.1-2 | gcacccggcgcgacgcaguac 22 20980502 |
|   |   | gcacccggcgcgacgcaguacu 23 20980502 |
|   |   | uaugugcucgcucgcggagggub 23 20980502 |
|   |   | gcacccggcgcgacgcaguac 20 20980502 |
| 8. | rcmv-miR-r111.1-3 | ugggggcccgucggaaggucc 21 20980502 |
|   |   | ugggggcccgucggaaggu 19 20980502 |
| 9. | rcmv-miR-r111.2-1 | uacgugcucgcacgcccggugcga 23 20980502 |
|   |   | uacgugcucgcacgcccggucg 22 20980502 |
| 10. | rcmv-miR-r111.2-2 | cuucgagucgcgucgcgaugac 22 20980502 |
|   |   | cuucgagucgcgucgcgaug 21 20980502 |
| 11. | rcmv-miR-r111.2-3 | aauccgacacccgcucgcgaagg 23 20980502 |
|   |   | aauccgacacccgcucgcgaagg 23 20980502 |
|   |   | aauccgacacccgcucgcgaag 22 20980502 |
|   |   | ggacacccgcucgcgaagga 20 20980502 |
| 12. | rcmv-miR-r111.2-4 | cccgaaacuccgucgaacgcgc 22 20980502 |
|   |   | cccgaaacuccgucgaacgcgc 21 20980502 |
| 13. | rcmv-miR-r111.2-5 | uuccacguuguuuccaggccu 21 20980502 |
| S. No. | miRNA          | miRNA Sequence                  | Length | PMID          |
|-------|----------------|---------------------------------|--------|---------------|
| 1.    | rlcv-miR-rl1-1-3p | **cuccggccccuagaagguugac**      | 22     | 16557291, 20219930 |
|       |                 | **cuccggccccuagaagguuga**       | 21     | 20219930      |
|       |                 | **cuccggccccuagaagguug**        | 20     | 20219930      |
| 2.    | rlcv-miR-rl1-10-5p | **aucggguuucgcugauaguca**       | 23     | 16557291, 20219930 |

13. Rhesus lymphocryptovirus (RLCV)
|   |   |   |   |
|---|---|---|---|
| 3. | rlcv-miR-rl1-13-5p | cuguuggcaugggcعاuggaaaca | 22 | 20219930 |
|   |   | cuguuggcaugggcعاuggaaa | 20 | 20219930 |
|   |   | cuguuggcaugggcعاuggaa | 19 | 20219930 |
| 4. | rlcv-miR-rl1-15-5p | acccacc uuucucgcaggggca | 22 | 20219930 |
|   |   | acccacc uuucucgcagggg | 19 | 20219930 |
| 5. | rlcv-miR-rl1-16 | aagcagg cauggcعاuggcuuc | 20 | 24257599 |
|   |   | caugaaaca cauggcعاuggcعاuggcuu | 23 | 24257599 |
| 6. | rlcv-miR-rl1-17-5p | ugaugg cacagggggaagugcacu | 24 | 19889779, 20219930 |
|   |   | ugaugg cacagggggaagugca | 22 | 20219930 |
| 7. | rlcv-miR-rl1-18-5p | uagaugauugggggggccguauc | 23 | 20219930 |
|   |   | uagaugauuggggggccguaucu | 24 | 20219930 |
|   |   | uagaugauugggggggcggcguau | 22 | 19889779, 20219930 |
| 8. | rlcv-miR-rl1-19-3p | aucacc accccccugucugcu | 20 | 20219930 |
|   |   | gaucacc accccccugucugcuu | 22 | 20219930 |
|   |   | aucacc accccccugucugcuu | 21 | 20219930 |
|   |   | gaucacc accccccugucugcu | 21 | 19889779, 20219930 |
| 9. | rlcv-miR-rl1-2-3p | uaucuuu ugcgggggaauuuc | 21 | 20219930 |
|   |   | uaucuuu ugcgggggaauuucca | 23 | 16557291, 20219930 |
|    | Gene          | Sequence                          | Length | Start | End          | matures | Transcript mature |
|----|---------------|-----------------------------------|--------|-------|--------------|---------|------------------|
| 10.| rlcv-miR-rl1-2-5p | aaauucugccacagaagauagc           | 22     | 16557291 | 20219930     |         |                  |
|    |               | aaauucugccacagaagauag            | 21     | 20219930 |               |         |                  |
| 11.| rlcv-miR-rl1-21-5p | uugauugugggggaggggcucu         | 22     | 19889779, 20219930 |         |         |                  |
|    |               | uugauugugggggaggggcuc           | 20     | 20219930 |               |         |                  |
| 12.| rlcv-miR-rl1-22-5p | ucguggggggaacgguggau           | 21     | 20219930 |               |         |                  |
|    |               | cguugggggaacgguggau             | 20     | 20219930 |               |         |                  |
|    |               | ucguggggggaacggugga            | 20     | 20219930 |               |         |                  |
|    |               | cguugggggaacggugga             | 19     | 19889779, 20219930 |         |         |                  |
| 13.| rlcv-miR-rl1-25-5p | ugcuaagaccuuaauuggaaac       | 22     | 19889779, 20219930 |         |         |                  |
|    |               | ugcuaagaccuuaauuggaaa         | 21     | 20219930 |               |         |                  |
|    |               | ugcuaagaccuuaauuggaa          | 20     | 20219930 |               |         |                  |
| 14.| rlcv-miR-rl1-27-5p | gccgccuccuugguucuguc         | 20     | 20219930 |               |         |                  |
|    |               | gccgccuccuugguucugucc         | 21     | 20219930 |               |         |                  |
|    |               | gccgccuccuugguucugucca        | 22     | 19889779, 20219930 |         |         |                  |
| 15.| rlcv-miR-rl1-28-5p | ugggaaggcguugcuuucagcug     | 22     | 19889779, 20219930 |         |         |                  |
|    |               | ugggaaggcguugcuuucag          | 19     | 20219930 |               |         |                  |
| 16.| rlcv-miR-rl1-29-5p | ccagucccagcagacaaaaac       | 20     | 20219930 |               |         |                  |
|    |               | ccagucccagcagacaaaaa         | 21     | 19889779, 20219930 |         |         |                  |
|   |   |   |   |   |
|---|---|---|---|---|
| 17. | rlcv-miR-rl1-3 | ucgcaccucgcgcgucucuacugc | 23 | 24257599 |
|   |   | ucgcaccucgcgcgucucuacugc | 24 | 16557291, 20219930 |
|   |   | cgguggagaccgcggguggguggug | 23 | 24257599 |
| 18. | rlcv-miR-rl1-30-5p | accgguccuuugagguacgaaac | 23 | 20219930 |
|   |   | accgguccuuugagguacgaaac | 24 | 19889779, 20219930 |
|   |   | accgguccuuugagguacgaaac | 22 | 20219930 |
| 19. | rlcv-miR-rl1-33-3p | aaagagcacaauugggggaauagc | 23 | 20219930 |
|   |   | aaagagcacaauugggggaauagc | 22 | 19889779, 20219930 |
| 20. | rlcv-miR-rl1-34-3p | uuagcccgaaccgcuauccaua | 22 | 20219930 |
|   |   | uuagcccgaaccgcuauccaua | 23 | 20219930 |
|   |   | uuagcccgaaccgcuauccaua | 21 | 20219930 |
| 21. | rlcv-miR-rl1-34-5p | uagauggcuaacagcagcaauu | 21 | 20219930 |
|   |   | uagauggcuaacagcagcaauu | 22 | 20219930 |
| 22. | rlcv-miR-rl1-35-3p | uguauaugggugggagacggg | 21 | 20219930 |
|   |   | uguauaugggugggagacggg | 23 | 20219930 |
|   |   | uguauaugggugggagacggg | 22 | 20219930 |
|   |   | uguauaugggugggagacggg | 22 | 20219930 |
|   |   | uguauaugggugggagacggg | 20 | 20219930 |
|   |   | uguauaugggugggagacggg | 20 | 20219930 |
|   |   | uguauaugggugggagacggg | 19 | 20219930 |
|   |   | uguauaugggugggagacggg | 24 | 20219930 |
| 23. | rlcv-miR-rl1-35-5p | cacccgcucacaguagacggg | 22 | 20219930 |
|   |   | cacccgcucacaguagacggg | 21 | 20219930 |
| 24. | rlcv-miR-rl1-7-3p | agugggcuguuuucccucaca | 21 | 16557291, 20219930 |
| S. No. | miRNA      | miRNA Sequence                  | Length | PMID              |
|--------|------------|---------------------------------|--------|------------------|
| 1.     | rrv-miR-rr1-1-3p | gccaccgaggaugcgguaau           | 21     | 20655562         |
|        |            | ggccacccaggaugcggggu           | 18     | 20655562, 17451774 |
| 2.     | rrv-miR-rr1-1-5p | caucgcaccuuuggccggc           | 20     | 20655562, 17451774 |
|        |            | gaucgcaccuuuggccggc           | 19     | 20655562         |
| 3.     | rrv-miR-rr1-11-3p | agugggucucgggguuugggga        | 21     | 20655562         |
|        |            | agugggucucgguuugggggaa        | 22     | 20655562         |
|        |            | agugggucucgguuugggggaau       | 23     | 20655562         |
| 4.     | rrv-miR-rr1-12-3p | auuucguuuuuagauucccuuu       | 22     | 20655562         |
|        |            | auuucguuuuuagauucccuau        | 23     | 20655562         |
|        |            | auuucguuuuuagauuccua         | 21     | 20655562         |
|        |            | auuucguuuuuagauucccu         | 20     | 20655562         |
| 5.     | rrv-miR-rr1-12-5p | uagggaacuaaagacaaauuu        | 20     | 20655562         |
|        |            | uagggaacuaaagacaaauu        | 19     | 20655562         |
|        |            | uagggaacuaaagacaaauuc        | 21     | 20655562         |
| 6.     | rrv-miR-rr1-13-3p | uaguaaccugacagcaguuaag        | 21     | 20655562         |
|        |            | uaguaaccugacagcaguagu        | 22     | 20655562         |
|        |            | uaguaaccugacagcaguua        | 20     | 20655562         |
|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 7. | rrv-miR-rr1-13-5p | uaguaaccugacagcaguu | 19 | 20655562 |
|   |   |     |     |     |     |
|   | rrv-miR-rr1-13-5p | uauuuugcaguugguaugcuac | 22 | 20655562 |
|   |   | uauuuugcaguugguaugcuac | 21 | 20655562 |
|   | rrv-miR-rr1-13-5p | aauugcaguugguaugcuac | 20 | 20655562 |
|   | rrv-miR-rr1-13-5p | auuugcaguugguaugcuac | 19 | 20655562 |
|   | rrv-miR-rr1-13-5p | uauuugcaguugguaugcuac | 18 | 20655562 |
| 8. | rrv-miR-rr1-14 | aagggacccaaagacacagu | 20 | 20655562 |
|   |   | aagggacccaaagacacaguc | 21 | 20655562 |
|   | rrv-miR-rr1-14 | aagggacccaaagacacacag | 19 | 20655562 |
|   | rrv-miR-rr1-14 | aagggacccaaagacacaaca | 18 | 20655562 |
| 9. | rrv-miR-rr1-15-3p | caguguuguugcugaacguaga | 22 | 20655562 |
|   |   | caguguuguugcugaacguag | 21 | 20655562 |
| 10. | rrv-miR-rr1-15-5p | ugcggucaccaacaacacau | 22 | 20655562 |
|   |   | ugcggucaccaacaacaca | 21 | 20655562 |
|   | rrv-miR-rr1-15-5p | ugcggucaccaacaacacua | 20 | 20655562 |
|   | rrv-miR-rr1-15-5p | ugcggucaccaacaacacuc | 19 | 20655562 |
|   | rrv-miR-rr1-15-5p | gcggucaccaacaacacu | 18 | 20655562 |
| 11. | rrv-miR-rr1-2 | auacgggcgcugcagcguugga | 21 | 17451774 |
|   |   | uauacgggcgcugcagcguugga | 22 | 20655562 |
|   | rrv-miR-rr1-2 | uauacgggcgcugcagcguugg | 21 | 20655562 |
|   | rrv-miR-rr1-2 | uauacgggcgcugcagcguu | 19 | 20655562 |
| 12. | rrv-miR-rr1-3-3p | gaggguuugcagacagac | 19 | 20655562 |
|   |   | aggguuugcagacagac | 18 | 20655562 |
| 13. | rrv-miR-rr1-3/ rrv-miR-rr1-3-5p | cccgaugacgaguuagucc | 19 | 17451774 |
|   |   | guguuuugacgcgcucucug | 22 | 20655562 |
|   | rrv-miR-rr1-3/ rrv-miR-rr1-3-5p | guguuuugacgcgcucuccu | 21 | 20655562 |
| 14. | rrv-miR-rr1-4*/ rrv-miR-rr1- | cucguuaaccgcucccugaga | 22 | 17451774 |
|   |   |   |   |   |
|---|---|---|---|---|
| 4-3p | cucguuaaccgccuccugaga | 22 | 20655562 |
|   | cucguuaaccgccuccugag | 21 | 20655562 |
|   | cucguuaacccgccuccuga | 20 | 20655562 |
| 15. | rrv-miR-rr1-4-5p | uggggaggggccggucacgcgcg | 22 | 20655562 |
|   | cucguuaaccgccucccgaga | 22 | 20655562 |
|   | cucguuaacccgccucccgga | 20 | 20655562 |
|   | guuaaccgccucccgaga | 19 | 20655562 |
|   | uggggaggggccaucgcgc | 19 | 206556562 |
| 16. | rrv-miR-rr1-5-3p | gccguguucuuuggauucc | 19 | 20655562 |
|   | gccguguucuuuggauuc | 18 | 20655562 |
| 17. | rrv-miR-rr1-5/ rrv-miR-rr1-5-5p | ccgggaaccccaagacacgugcccgg | 24 | 17451774 |
|   | ccgggaaccccaagacacgugcc | 23 | 20655562 |
|   | ccgggaaccccaagacacgugc | 22 | 20655562 |
|   | ccgggaaccccaagacac | 18 | 20655562 |
| 18. | rrv-miR-rr1-6-3p | cgauguacgccccuuucgcagu | 21 | 20655562 |
|   | gauguacgccccuuucgcagu | 20 | 20655562 |
|   | cgauguacgccccuuucgcag | 20 | 20655562 |
| 19. | rrv-miR-rr1-6/ rrv-miR-rr1-6-5p | cgcggaaagggugucacacgcau | 23 | 17451774 |
|   | cgcggaaagggugucacacgcu | 21 | 20655562 |
|   | cgcggaaagggugucacac | 18 | 20655562 |
| 20. | rrv-miR-rr1-7-3p | cgcacgugcguugcuucucuag | 21 | 17451774 |
|   | cgcacgugcguugcuucuagg | 22 | 20655562 |
|   | cgcacgugcguugcuucucu | 19 | 20655562 |
|   | cgcacgugcguugcuucu | 18 | 20655562 |
| 21. | rrv-miR-rr1-7-5p | uggagagcaguuaacgugcguuc | 23 | 17451774 |
|   | uggagagcaguuaacgugcguu | 22 | 20655562 |
|   | gggagagcaguuaacgugcguu | 21 | 20655562 |
|   |       | Found Sequence                      | Start Position | End Position |
|---|-------|-------------------------------------|----------------|--------------|
| 22 | rrv-miR-rr1-8-3p | gagagcaguuaacgugcguu                | 20             | 20655562     |
|    |       | uggagacaguuaacgugc                 | 19             | 20655562     |
|    |       | uggagacaguuaacgug                  | 18             | 20655562     |
| 23 | rrv-miR-rr1-8-5p | aaagugcucaacaagacaucc             | 21             | 20655562     |
|    |       | aaagugcucaacaagacaucc              | 20             | 20655562     |
|    |       | aaagugcucaacaagacauc              | 19             | 20655562     |
| 24 | rrv-miR-rr1-9-3p | gaugucuugcgggcagcucuc          | 21             | 20655562     |
|    |       | gaugucuugcgggcagcucuc            | 20             | 20655562     |
|    |       | gaugucuugcgggcagcuc              | 18             | 20655562     |
| 25 | rrv-miR-rr1-9-5p | gcgggucaucagaaacauacacc         | 22             | 20655562     |
|    |       | gcgggucaucagaaacauacac          | 21             | 20655562     |
|    |       | gcgggucaucagaaacauauc          | 19             | 20655562     |
|    |       | gcgggucaucagaaacauau          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |
|    |       | gcgggucaucagaaacaua          | 18             | 20655562     |