**Supplementary Information**

**Altered microRNA expression in COVID-19 patients enables identification of SARS-CoV-2 infection**

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**Supplementary Figure 1:** After adaptor trimming, reads that fell outside the expected size range for miRNAs (18-26 nt) were filtered out, as were reads that failed to map to a miRNA precursor.

**Supplementary Table 1.** Differentially expressed miRNAs in V1 COVID-19 patients

|  |  |  |  |
| --- | --- | --- | --- |
| MicroRNA | Log2 Fold Change | P-value | Adjusted P-value |
| hsa-miR-766-3p | -3.21286 | 6.44E-10 | 2.95E-07 |
| hsa-miR-651-5p | -4.21545 | 2.75E-06 | 0.000631 |
| hsa-miR-1275 | -5.48443 | 8.11E-06 | 0.001241 |
| hsa-let-7e-5p | 1.377425 | 2.34E-05 | 0.002687 |
| hsa-miR-3198 | -3.78907 | 3.12E-05 | 0.002869 |
| hsa-miR-195-5p | 2.358879 | 4.38E-05 | 0.003354 |
| hsa-miR-627-5p | -4.48848 | 6.23E-05 | 0.003576 |
| hsa-miR-4662a-5p | -2.50778 | 5.95E-05 | 0.003576 |
| hsa-miR-3684 | -4.76149 | 0.000173 | 0.007946 |
| hsa-let-7a-5p | 1.0124 | 0.000169 | 0.007946 |
| hsa-miR-483-5p | 2.550091 | 0.000205 | 0.008575 |
| hsa-miR-3125 | 6.252678 | 0.000229 | 0.00876 |
| hsa-miR-3617-5p | -5.45059 | 0.00035 | 0.010311 |
| hsa-miR-500b-3p | -4.96428 | 0.000494 | 0.010311 |
| hsa-miR-664b-3p | -4.05027 | 0.000298 | 0.010311 |
| hsa-miR-5189-3p | -3.84697 | 0.000485 | 0.010311 |
| hsa-miR-6772-3p | -3.63046 | 0.000421 | 0.010311 |
| hsa-miR-145-3p | -3.58149 | 0.000462 | 0.010311 |
| hsa-miR-30a-5p | 1.134764 | 0.00039 | 0.010311 |
| hsa-miR-27a-5p | 4.318811 | 0.000442 | 0.010311 |
| hsa-miR-2116-3p | 4.390754 | 0.000432 | 0.010311 |
| hsa-miR-31-5p | 6.509967 | 0.000316 | 0.010311 |
| hsa-miR-4772-3p | -3.69055 | 0.000521 | 0.010403 |
| hsa-miR-1290 | 2.351267 | 0.00059 | 0.011278 |
| hsa-miR-1226-3p | -3.93577 | 0.000726 | 0.013326 |
| hsa-miR-589-3p | -4.13788 | 0.000789 | 0.013412 |
| hsa-miR-210-3p | -3.42172 | 0.000776 | 0.013412 |
| hsa-miR-103a-3p | 0.759379 | 0.00082 | 0.013436 |
| hsa-miR-3115 | -4.1628 | 0.000968 | 0.015325 |
| hsa-miR-769-3p | -3.94101 | 0.001136 | 0.015806 |
| hsa-miR-320b | 1.367456 | 0.001052 | 0.015806 |
| hsa-miR-193a-5p | 2.618751 | 0.00112 | 0.015806 |
| hsa-miR-206 | 3.499758 | 0.001136 | 0.015806 |
| hsa-miR-873-5p | -3.89657 | 0.001308 | 0.017152 |
| hsa-miR-148a-3p | 1.076395 | 0.001274 | 0.017152 |
| hsa-miR-3913-5p | -3.46608 | 0.00142 | 0.017672 |
| hsa-miR-320a-3p | 0.881589 | 0.001425 | 0.017672 |
| hsa-miR-576-5p | 1.606005 | 0.00148 | 0.017882 |
| hsa-miR-197-3p | 1.427729 | 0.001568 | 0.018452 |
| hsa-miR-4742-3p | 5.005176 | 0.001674 | 0.019211 |
| hsa-miR-423-5p | 0.869915 | 0.00177 | 0.019812 |
| hsa-miR-28-5p | -2.90744 | 0.001873 | 0.020377 |
| hsa-miR-320c | 1.316571 | 0.001909 | 0.020377 |
| hsa-miR-551b-3p | -2.99277 | 0.002173 | 0.022674 |
| hsa-miR-142-3p | 1.127168 | 0.00223 | 0.022748 |
| hsa-let-7i-3p | -2.711 | 0.00251 | 0.025046 |
| hsa-miR-92a-3p | 0.995885 | 0.002748 | 0.026838 |
| hsa-miR-548k | -4.01054 | 0.002948 | 0.02819 |
| hsa-miR-18a-3p | -4.18347 | 0.00305 | 0.028575 |
| hsa-miR-491-5p | -2.72341 | 0.003523 | 0.032344 |
| hsa-miR-6721-5p | 2.649822 | 0.003784 | 0.034055 |
| hsa-miR-6503-3p | -3.44108 | 0.004569 | 0.040326 |
| hsa-miR-3065-3p | -3.16935 | 0.005048 | 0.043718 |
| hsa-miR-150-5p | -1.06201 | 0.005553 | 0.046345 |
| hsa-let-7f-5p | 0.824654 | 0.005516 | 0.046345 |



**Supplementary Figure 2.** Application of the V1 COVID-19 miRNA signature to subsequent time points. Decision boundary graph showing the logistic regression decision point (solid black line) and the probability a person is infected with SARS-CoV-2 (blue to red shading). Datapoints are COVID-19 patients at V2 (circles, n=5), V3 (crosses, n=4), and V4 (squares, n=3).

**Supplementary Table 2:** Human cytokine data

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sample ID | Condition | Visit | IL-1β | IFNα2 | IFNγ | TNFα | MCP1 | IL-6 | IL-8 | IL-10 | IL-12 | IL-17a | IL-18 | IL-23 | IL-33 |
| PP-001 | COVID | 2 | 15.46 | 14.94 | 119.9 | 13.09 | 571.2 | 1.62 | 14.06 | 1.14 | 1.56 | <1.98 | 355.65 | 132.43 | <6.57 |
| PP-002 | COVID | 2 | 2.14 | <1.46 | 5.21 | <2.25 | 1185 | 10.98 | 18.36 | 337.96 | 1.6 | 3.32 | 262.69 | 6.16 | <6.57 |
| PP-003 | HEALTHY | 1 | 1.9 | 5.84 | 6.6 | 3.03 | 1559 | 5.97 | 8.41 | 1.17 | 2.02 | 15.99 | 186.72 | 3.68 | 964.37 |
| PP-004 | COVID | 1 | 5.09 | 17.01 | 29.48 | 42.68 | 730.19 | 35.52 | 13.81 | 8.44 | 6.02 | 24.87 | 183.12 | 9.17 | 89.38 |
| PP-005 | COVID | 3 | <1.21 | <1.46 | <1.11 | <2.25 | 459.94 | <1.24 | 39.84 | 1.17 | <1.44 | 2.13 | 8.17 | 6.16 | <6.57 |
| PP-006 | HEALTHY | 1 | <3.22 | <3.04 | <3.01 | 4.08 | 269.44 | 10.32 | 14.32 | 4.93 | 4.26 | 3.46 | 97.31 | <5.32 | <68.00 |
| PP-007 | COVID | 1 | 7.79 | 10.17 | 2.89 | 3.7 | 363.32 | <1.24 | 14.81 | <1.12 | 2.53 | 7.79 | 106.51 | 5.7 | <6.57 |
| PP-008 | COVID | 1 | <1.21 | 20.8 | 74.34 | 15.82 | 3493 | 32.54 | 14.56 | 7.56 | 2.1 | <1.98 | 718.84 | 4.43 | <6.57 |
| PP-009 | COVID | 3 | <3.75 | <4.55 | 39.97 | 6.81 | 1198 | 59.51 | 26.15 | 9.54 | <2.51 | 4.64 | 6967 | 20.7 | 31.29 |
| PP-010 | COVID | 2 | 4.52 | 10.1 | 36.35 | 46.68 | 2256 | 314.71 | 72.38 | 10.76 | 6.65 | 20.36 | 287.41 | 19.69 | 70.54 |
| PP-011 | HEALTHY | 1 | <1.21 | <1.46 | 2.7 | <2.25 | 1156 | <1.24 | 129.98 | <1.12 | <1.44 | <1.98 | 42.13 | 2.1 | <6.57 |
| PP-012 | HEALTHY | 1 | 24.38 | 7.29 | 75.08 | 11 | 528.48 | 7.85 | 35.95 | 11.25 | 7.71 | 22.64 | 144.68 | 147.71 | 97.97 |
| PP-013 | COVID | 4 | 4.93 | <1.46 | <1.11 | <2.25 | 1101 | 1.33 | 56.25 | <1.12 | 1.75 | 22.9 | 440.39 | 5.26 | <6.57 |
| PP-014 | HEALTHY | 1 | 5.7 | 4.09 | 6.85 | 71.12 | 496.84 | 3.23 | 12.35 | 5.23 | 7.57 | <2.25 | 126.32 | <5.32 | <68.00 |
| PP-015 | COVID | 1 | 20.22 | 20.67 | 140.57 | 20.73 | 223.86 | 13.53 | 23.28 | <1.12 | 4.17 | <1.98 | 920.08 | 325 | <6.57 |
| PP-016 | COVID | 3 | 16.54 | 15.91 | 97.65 | 9.44 | 509.95 | <1.24 | 8.9 | <1.12 | <1.44 | <1.98 | 142.27 | 224.55 | <6.57 |
| PP-017 | COVID | 3 | 4.71 | 14.55 | 20.23 | 33.33 | 733.33 | 7.62 | 13.81 | 7.7 | 6.12 | 17.09 | 76.38 | 11.5 | 56.93 |
| PP-018 | COVID | 2 | <3.75 | <4.55 | 53.14 | <4.91 | 1276 | 22.82 | 15.81 | 19.8 | <2.51 | <3.75 | 413.19 | <6.87 | <24.64 |
| PP-019 | HEALTHY | 1 | 9.66 | 14.93 | <3.01 | 5.28 | 328.32 | 6.57 | 10.15 | 4.35 | 5.51 | 72.63 | 148.95 | 19.75 | 70.92 |
| PP-020 | HEALTHY | 1 | 5.28 | 11.61 | 31.48 | 8.27 | 1764 | 10.41 | 160.89 | 11.38 | 3.74 | 37.12 | 745.01 | 8.45 | 677.62 |
| PP-021 | COVID | 4 | 1.26 | 2.96 | 4.95 | 21.54 | 290.29 | <1.24 | 3.43 | 1.32 | 1.63 | 3.44 | 32.16 | 4.05 | <6.57 |
| PP-022 | COVID | 1 | 2.06 | 1.64 | 7.51 | <2.25 | 889.54 | 29.2 | 22.38 | 658.39 | <1.44 | <1.98 | 64.81 | 8.73 | <6.57 |
| PP-023 | HEALTHY | 1 | 20.35 | 16.6 | 68.93 | 13.45 | 495.84 | 6.08 | 30.03 | 18.79 | 12.3 | 4.02 | 155.21 | 29.3 | 1523 |
| PP-024 | COVID | 2 | 9.23 | 12.71 | 6.02 | 7.08 | 281.32 | 2.29 | 21.49 | 1.46 | 2.88 | 11.18 | 147.81 | 9.88 | <6.57 |
| PP-025 | HEALTHY | 1 | 3.09 | 5.25 | 4.44 | 5.04 | 209.42 | 11.74 | 11.13 | <1.12 | 3.73 | 3.69 | 68.93 | 3.33 | <6.57 |
| PP-026 | COVID | 1 | <3.75 | <4.55 | 8.2 | <4.91 | 1276 | 23.93 | 12.28 | 7.14 | 2.58 | <3.75 | 538.86 | 10.7 | <24.64 |
| PP-027 | HEALTHY | 1 | 9.2 | <3.04 | <3.01 | 51.79 | 291.04 | <2.52 | 16.36 | 4.16 | 4.14 | <2.25 | 66.21 | <5.32 | <68.00 |
| PP-028 | COVID | 1 | <1.21 | <1.46 | 1.98 | <2.25 | 507.64 | 1.33 | 81.96 | 1.6 | <1.44 | 2.64 | 35.52 | 4.05 | 13.09 |

All data presented as pg/ml. < indicates that the sample was below the limit of detection for the assay. Results for PP-028 were unavailable.

**Supplementary Table 3.** Differentially expressed miRNAs in COVID patients with and without oxygen therapy compared to healthy controls.

|  |  |  |  |
| --- | --- | --- | --- |
| COVID | Log2 Fold Change | P-value | Adjusted P-value |
| hsa-miR-766-3p | -4.19225 | 5.21E-12 | 2.07E-09 |
| hsa-miR-106b-5p | -5.75169 | 1.18E-08 | 2.35E-06 |
| hsa-miR-99b-3p | -3.52661 | 1.94E-08 | 2.58E-06 |
| hsa-miR-1273h-3p | -3.47899 | 1.88E-06 | 0.000187 |
| hsa-let-7a-3p | -3.64017 | 7.23E-06 | 0.000575 |
| hsa-miR-6741-5p | -4.66624 | 6.12E-05 | 0.004057 |
| hsa-miR-21-3p | -3.44342 | 0.00011 | 0.00625 |
| hsa-miR-301b-3p | -6.45426 | 0.000371 | 0.015198 |
| hsa-miR-7-1-3p | -3.99909 | 0.000385 | 0.015198 |
| hsa-miR-148b-5p | -3.87087 | 0.00042 | 0.015198 |
| hsa-miR-576-5p | 2.354226 | 0.000358 | 0.015198 |
| hsa-miR-3198 | -4.41744 | 0.000482 | 0.015548 |
| hsa-miR-4662a-5p | -2.83107 | 0.000508 | 0.015548 |
| hsa-miR-6772-3p | -4.9359 | 0.00062 | 0.017631 |
| hsa-miR-197-3p | 2.047464 | 0.000746 | 0.019795 |
| hsa-miR-874-3p | -3.19538 | 0.000812 | 0.020193 |
| hsa-miR-889-3p | -2.89213 | 0.00092 | 0.02035 |
| hsa-miR-92a-3p | 1.44452 | 0.000909 | 0.02035 |
| hsa-miR-651-5p | -3.9583 | 0.001144 | 0.023966 |
| hsa-miR-500b-3p | -6.2643 | 0.001854 | 0.027356 |
| hsa-miR-769-3p | -5.6131 | 0.001856 | 0.027356 |
| hsa-miR-1468-5p | -3.69357 | 0.001529 | 0.027356 |
| hsa-miR-431-3p | -3.52784 | 0.001375 | 0.027356 |
| hsa-miR-345-5p | -2.60138 | 0.001803 | 0.027356 |
| hsa-miR-339-3p | -2.42465 | 0.001467 | 0.027356 |
| hsa-miR-103a-3p | 1.002187 | 0.001654 | 0.027356 |
| hsa-miR-30a-5p | 1.310467 | 0.001608 | 0.027356 |
| hsa-miR-6503-3p | -5.32504 | 0.001956 | 0.027809 |
| hsa-miR-4433b-5p | 1.183644 | 0.002065 | 0.028344 |
| hsa-miR-542-5p | -4.36027 | 0.002429 | 0.03222 |
| hsa-miR-627-5p | -4.89716 | 0.002562 | 0.032613 |
| hsa-miR-4750-5p | -3.32802 | 0.002786 | 0.032613 |
| hsa-miR-132-3p | -3.32335 | 0.002759 | 0.032613 |
| hsa-miR-877-5p | -1.82536 | 0.002731 | 0.032613 |
| hsa-miR-1255b-5p | -4.41336 | 0.003407 | 0.036653 |
| hsa-miR-1290 | 2.61842 | 0.003234 | 0.036653 |
| hsa-miR-450b-5p | 3.457641 | 0.003395 | 0.036653 |
| hsa-let-7f-2-3p | -4.81708 | 0.004022 | 0.041125 |
| hsa-let-7e-5p | 1.368144 | 0.00403 | 0.041125 |
| hsa-miR-30a-3p | 2.784327 | 0.004248 | 0.042272 |
| hsa-miR-23a-5p | -3.65232 | 0.005123 | 0.048547 |
| hsa-miR-215-5p | 2.852478 | 0.005076 | 0.048547 |
| COVID + Supplementary Oxygen | Log2 Fold Change | P-value | Adjusted P-value |
| hsa-miR-10a-3p | -4.14081 | 8.17E-07 | 0.000337 |
| hsa-miR-766-3p | -2.78001 | 2.36E-06 | 0.000487 |
| hsa-miR-651-5p | -4.34509 | 6.84E-05 | 0.008552 |
| hsa-miR-150-5p | -1.66873 | 8.30E-05 | 0.008552 |
| hsa-miR-4433b-5p | -1.15971 | 0.000176 | 0.012731 |
| hsa-miR-206 | 4.319059 | 0.000185 | 0.012731 |
| hsa-miR-195-5p | 2.532532 | 0.000281 | 0.016549 |
| hsa-let-7e-5p | 1.403158 | 0.000423 | 0.021765 |
| hsa-miR-320a-3p | 1.116713 | 0.000485 | 0.022202 |
| hsa-miR-483-5p | 2.778292 | 0.000685 | 0.028224 |
| hsa-miR-5189-3p | -4.60876 | 0.000869 | 0.032109 |
| hsa-miR-98-5p | 1.053429 | 0.000935 | 0.032109 |
| hsa-miR-200c-3p | 1.127342 | 0.001488 | 0.047153 |
| hsa-miR-664b-3p | -4.41473 | 0.001729 | 0.047479 |
| hsa-miR-96-5p | -3.88486 | 0.001725 | 0.047479 |

Green shading indicates DE miRNAs common to both comparisons.



**Supplementary Figure 3.** Detection of influenza (H1N1) genomic RNA in lung tissue (blue), nasal swab (orange), nasal wash (green) and serum (red) of infected ferrets (2-4 ferrets per time point). Data is presented as normalized CT on a reverse y-axis. Undetectable results are plotted as CT=40.

**Supplementary Table 4.** Differentially expressed miRNAs in ferrets infected with SARS-CoV-2 compared to uninfected ferrets.

|  |  |  |  |
| --- | --- | --- | --- |
| MicroRNA | Log2 Fold Change | P-value | Adjusted P-value |
| hsa-miR-92a-3p | -3.40243 | 2.77E-51 | 8.32E-49 |
| hsa-miR-486-5p | -4.56453 | 4.00E-50 | 6.00E-48 |
| hsa-miR-30e-5p | 2.220567 | 9.42E-31 | 9.42E-29 |
| hsa-miR-423-5p | -2.49659 | 2.47E-30 | 1.86E-28 |
| hsa-miR-141-3p | 4.102239 | 2.60E-23 | 1.56E-21 |
| hsa-miR-128-3p | -1.81219 | 2.07E-14 | 1.03E-12 |
| hsa-miR-210-3p | 4.141206 | 2.84E-14 | 1.22E-12 |
| hsa-miR-1-3p | 4.035272 | 1.15E-13 | 4.33E-12 |
| hsa-miR-500a-3p | 2.387716 | 2.64E-11 | 8.80E-10 |
| hsa-let-7b-5p | -1.33777 | 1.59E-10 | 4.35E-09 |
| hsa-miR-22-3p | 2.434372 | 1.50E-10 | 4.35E-09 |
| hsa-miR-3661 | 18.47553 | 2.10E-10 | 5.25E-09 |
| hsa-miR-24-3p | 1.736326 | 3.73E-10 | 8.61E-09 |
| hsa-miR-340-5p | 3.633067 | 7.96E-10 | 1.71E-08 |
| hsa-miR-574-5p | 3.125416 | 2.53E-09 | 5.06E-08 |
| hsa-let-7e-5p | 2.636013 | 4.96E-09 | 9.29E-08 |
| hsa-miR-378c | 3.648634 | 5.47E-09 | 9.65E-08 |
| hsa-miR-221-3p | 1.592029 | 7.81E-09 | 1.30E-07 |
| hsa-miR-181c-3p | 4.132007 | 8.35E-09 | 1.32E-07 |
| hsa-miR-30a-5p | 2.007322 | 1.96E-08 | 2.94E-07 |
| hsa-miR-130a-3p | 4.152037 | 2.72E-08 | 3.89E-07 |
| hsa-miR-1306-3p | -1.94074 | 5.95E-08 | 8.11E-07 |
| hsa-miR-95-3p | 2.570983 | 7.48E-08 | 9.76E-07 |
| hsa-miR-146a-5p | 1.378139 | 1.09E-07 | 1.36E-06 |
| hsa-miR-195-5p | 3.626193 | 1.23E-07 | 1.48E-06 |
| hsa-miR-27b-3p | 1.188622 | 1.82E-07 | 2.10E-06 |
| hsa-miR-425-5p | -1.38106 | 2.67E-07 | 2.97E-06 |
| hsa-miR-9-5p | -7.20819 | 2.97E-07 | 3.18E-06 |
| hsa-miR-30a-3p | 4.165755 | 6.49E-07 | 6.71E-06 |
| hsa-miR-4454 | 2.633807 | 9.61E-07 | 9.61E-06 |
| hsa-miR-148b-3p | -1.48248 | 1.18E-06 | 1.14E-05 |
| hsa-miR-599 | 4.236388 | 1.50E-06 | 1.40E-05 |
| hsa-miR-379-5p | 4.442619 | 2.48E-06 | 2.25E-05 |
| hsa-miR-142-5p | 1.209372 | 2.78E-06 | 2.45E-05 |
| hsa-miR-451a | -1.97605 | 4.74E-06 | 3.95E-05 |
| hsa-miR-191-3p | 2.163531 | 4.70E-06 | 3.95E-05 |
| hsa-miR-223-5p | 2.236282 | 6.54E-06 | 5.30E-05 |
| hsa-miR-196b-5p | 2.122202 | 1.08E-05 | 8.54E-05 |
| hsa-miR-194-5p | 1.517522 | 1.13E-05 | 8.69E-05 |
| hsa-let-7d-5p | 1.566595 | 2.20E-05 | 0.000165 |
| hsa-miR-324-3p | -1.88195 | 3.07E-05 | 0.000219 |
| hsa-miR-186-5p | -1.12431 | 3.00E-05 | 0.000219 |
| hsa-miR-502-3p | 1.625416 | 3.37E-05 | 0.000235 |
| hsa-miR-423-3p | -1.28775 | 6.88E-05 | 0.000463 |
| hsa-miR-151b | 3.246396 | 6.94E-05 | 0.000463 |
| hsa-miR-760 | 1.672519 | 8.44E-05 | 0.00055 |
| hsa-miR-93-3p | -2.0878 | 8.93E-05 | 0.00057 |
| hsa-miR-382-5p | 4.329109 | 0.000131 | 0.000818 |
| hsa-miR-25-3p | -1.17445 | 0.000143 | 0.000877 |
| hsa-miR-331-3p | 3.140441 | 0.000175 | 0.001048 |
| hsa-miR-29c-3p | -1.31867 | 0.000212 | 0.001247 |
| hsa-miR-320a-3p | 0.83899 | 0.00023 | 0.001328 |
| hsa-miR-1277-5p | 3.844184 | 0.000264 | 0.001494 |
| hsa-miR-320d | 1.458544 | 0.000344 | 0.001913 |
| hsa-miR-769-5p | -1.67987 | 0.000359 | 0.001961 |
| hsa-miR-320c | 1.215624 | 0.000399 | 0.002136 |
| hsa-miR-3064-5p | 3.447122 | 0.000416 | 0.00219 |
| hsa-miR-197-3p | -1.90611 | 0.000436 | 0.002258 |
| hsa-miR-6529-5p | 1.035497 | 0.00052 | 0.002644 |
| hsa-miR-146b-5p | 1.779472 | 0.000568 | 0.002841 |
| hsa-miR-151a-3p | 0.94682 | 0.000617 | 0.003035 |
| hsa-miR-378a-5p | 2.322497 | 0.00063 | 0.00305 |
| hsa-miR-18a-3p | -3.53688 | 0.000659 | 0.003137 |
| hsa-miR-27a-3p | 1.292027 | 0.000791 | 0.003709 |
| hsa-miR-503-5p | -1.58755 | 0.000911 | 0.004206 |
| hsa-miR-192-5p | 1.624728 | 0.000982 | 0.004465 |
| hsa-miR-10a-3p | 3.552578 | 0.001061 | 0.00475 |
| hsa-miR-147b-3p | 2.605864 | 0.001262 | 0.005566 |
| hsa-miR-182-5p | 2.355723 | 0.00142 | 0.006173 |
| hsa-miR-409-3p | 3.702095 | 0.00147 | 0.0063 |
| hsa-miR-885-3p | 3.28422 | 0.001508 | 0.006372 |
| hsa-miR-450b-5p | -3.14202 | 0.001579 | 0.006487 |
| hsa-miR-106b-3p | -1.19454 | 0.001564 | 0.006487 |
| hsa-miR-215-5p | 1.118426 | 0.001663 | 0.006744 |
| hsa-miR-125a-3p | 3.884957 | 0.001698 | 0.006794 |
| hsa-miR-542-3p | 2.479661 | 0.001726 | 0.006812 |
| hsa-miR-30d-5p | 0.556115 | 0.001796 | 0.006997 |
| hsa-miR-432-5p | 2.872645 | 0.001856 | 0.007137 |
| hsa-miR-342-3p | -1.13623 | 0.001999 | 0.007592 |
| hsa-let-7f-5p | 0.705477 | 0.00208 | 0.0078 |
| hsa-miR-200a-3p | 1.697966 | 0.002144 | 0.007942 |
| hsa-miR-30e-3p | 2.553678 | 0.002823 | 0.010328 |
| hsa-miR-21-3p | 3.818532 | 0.003966 | 0.014335 |
| hsa-miR-1843 | 2.786565 | 0.004319 | 0.015426 |
| hsa-miR-150-5p | -1.59146 | 0.005053 | 0.017835 |
| hsa-miR-320b | 0.883137 | 0.00622 | 0.021696 |
| hsa-miR-26b-3p | 2.499836 | 0.006974 | 0.024047 |
| hsa-miR-26b-5p | 0.892899 | 0.007316 | 0.02494 |
| hsa-miR-499a-5p | 2.118508 | 0.007585 | 0.025566 |
| hsa-miR-200b-5p | 3.430621 | 0.008099 | 0.026997 |
| hsa-miR-125b-1-3p | 3.56792 | 0.008649 | 0.028515 |
| hsa-miR-10b-5p | -1.33314 | 0.00912 | 0.029738 |
| hsa-miR-219a-1-3p | 3.594186 | 0.010575 | 0.034112 |
| hsa-miR-885-5p | 3.723072 | 0.011075 | 0.035346 |
| hsa-miR-574-3p | 1.958175 | 0.011467 | 0.036212 |
| hsa-miR-15b-3p | -1.17185 | 0.012126 | 0.037894 |
| hsa-miR-449a | -7.85645 | 0.012722 | 0.038944 |
| hsa-let-7b-3p | 3.199181 | 0.012693 | 0.038944 |
| hsa-miR-32-5p | 2.424765 | 0.013387 | 0.040567 |
| hsa-miR-339-5p | 0.562952 | 0.014345 | 0.042639 |
| hsa-miR-130b-3p | 0.975159 | 0.014355 | 0.042639 |
| hsa-miR-2114-5p | -4.79594 | 0.016771 | 0.048848 |
| hsa-miR-19a-3p | 1.142888 | 0.016749 | 0.048848 |

Green shading indicates DE miRNAs that were also found in human patient plasma samples.

**Supplementary Table 5. Other statistical comparisons**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Table or Figure | Comparison | Test | Statistic | P-value |
| Table 1 | HEALTHY vs COVID-19 gender frequency | Chi-square | 0 | 1 |
| Table 1 | HEALTHY vs COVID-19 age distribution | Normal distribution | 3.7193 | 0.1557 |
| Table 1 | HEALTHY vs COVID-19 age distribution | Two-sided t-test | 0.0642 | 0.9495 |
| Figure 1 | HEALTHY vs COVID-19 miR-4662a abundance | One-sided Mann-Whitney U | 68 | 0.0073 |
| Figure 1 | HEALTHY vs COVID-19 miR-766-3p abundance | One-sided Mann-Whitney U | 66 | 0.0117 |
| Figure 1 | HEALTHY vs COVID-19 IL-6 abundance | Normal distribution | 3.3598 | 0.1864 |
| Figure 1 | HEALTHY vs COVID-19 IL-6 abundance | One-sided t-test | -3.3245 | 0.0021 |