**Supplemental Table 1.** Shown are median expression levels (IQR) of microRNAs for women with and without preterm birth <37 and <34 weeks’ gestation.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **miR** | **Preterm Birth <34 weeks** | | **Preterm Birth <37 weeks** | | **Term birth**  **N=68** |
| **Preterm birth <34 weeks**  **N=52** | **p-value vs. term birth** | **Preterm birth <37 weeks**  **N=68** | **p-value vs. term birth** |
| **miR-106b-5p** | 83.2  (52.3, 114.0) | 0.480 | 92.7  (61.1, 124.3) | 0.917 | 100.6  (61.1-140.2) |
| **miR-140-5p** | 27.3  (18.8, 35.8) | 0.041 | 31.0  (21.3, 40.7) | 0.069 | 32.8  (25, 40.6) |
| **miR-150-5p** | 11749  (4057, 19441) | 0.011 | 11958  (5949,17966) | 0.012 | 15659  (10661-20657) |
| **miR-181a-5p** | 260  (133, 387) | 0.101 | 282  (161, 403) | 0.151 | 330  (241, 419) |
| **miR-21-5p** | 22.3  (17.4, 27.1) | 0.104 | 23.8  (16.3, 31.3) | 0.439 | 27.6  (18.8, 36.4) |
| **miR-29b-3p** | 7.8  (5.1, 10.5) | 0.030 | 8.2  (5.6, 10.9) | 0.010 | 6.1  (4.2, 8.0) |
| **miR-32-5p** | 49.6  (41.3, 57.9) | 6.43e-5 | 47.4  (39.1, 55.7) | 2.9e-5 | 32.3  (22.7, 41.9) |
| **miR-340-5p** | 6.9  (1.7, 12.1) | 0.027 | 6.8  (3.3, 10.4) | 0.059 | 5.2  (3.8, 6.6) |
| **miR-495-3p** | 18.4  (11.5, 25.3) | 0.196 | 18.2  (11.4, 25.0) | 0.195 | 17.2  (12.7, 21.8) |
| **miR-92a-3p** | 3414  (2442, 4386) | 0.332 | 3200  (2405, 3994) | 0.222 | 3494  (2504, 4484) |
| **miR-423-5p** | 723  (512, 934) | 0.153 | 691  (500, 881) | 0.503 | 640  (513, 768) |
| **let-7c-5p** | 154  (95.8, 212) | 0.320 | 154.2  (98.1, 210.4) | 0.274 | 131.5  (87.0, 176.0) |
| **miR-15a-5p** | 241  (70.8, 411) | 0.010 | 291  (35, 548) | 0.051 | 417  (215, 619) |
| **miR-148b-3p** | 114  (88, 140) | 0.424 | 121.7  (96.9, 146.5) | 0.193 | 115.8  (95.0, 136.7) |
| **miR-301a-3p** | 15.2  (11.3, 19.1) | 0.003 | 15.2  (11.3, 19.1) | 0.003 | 20.6  (15.3, 26.0) |
| **miR-671-3p** | 3.5  (2.1, 4.9) | 0.491 | 3.1  (1.7, 5.6) | 0.216 | 3.6  (1.6, 5.6) |
| **miR-200a-3p** | 16.6  (11.7, 21.5) | 0.390 | 16.6  (11.8, 21.5) | 0.270 | 15.4  (10.6, 20.2) |
| **miR-342-3p** | 424  (187, 661) | 0.014 | 496  (297, 696) | 0.027 | 605  (478, 732) |
| **miR-34c-5p** | - | - | 2  (0.6, 3.4) | 0.388 | 2.4  (1.3, 3.6) |
| **miR-145-5p** | - | - | 116  (81, 151) | 0.576 | 121  (90, 152) |
| **miR-539-5p** | - | - | 8.5  (3.8, 13.3) | 0.503 | 8.3  (5.4, 11.2) |
| **miR-146b-5p** | - | - | 18.4  (12.3, 24.5) | 0.027 | 15.4  (12.4, 18.5) |
| **miR-143-3p** | 1.0  (0.5, 1.6) | 0.330 | - | - | 1.0  (0.6, 1.4) |
| **miR-876-5p** | 3.2  (1.8, 4.6) | 0.892 | - | - | 3.2  (1.7, 4.6) |
| **miR-214-3p** | 4.8  (3.1, 6.5) | 0.491 | - | - | 4.1  (2.5, 6.6) |
| **miR-494-3p** | 1.0  (0.5, 1.6) | 0.330 | - | - | 1.0  (0.6, 1.4) |

**Supplemental Table 2.** Test statistics for regression models in the prediction of preterm birth prior to 37 and 34 weeks’ gestation. All models containing single genes controlled for maternal Black race and gestational age at blood draw. The displayed p-values reflect comparison between model containing individual gene expression data with the non-genomic model.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | **Preterm birth <37 weeks’ gestation** | | | | | | **Preterm birth <34 weeks’ gestation** | | | | | |
| **AUC\***  **(95% CI)** | **Sens-itivity** | **Specif-icity** | **PPV\*\*** | **NPV§** | **p-value** | **AUC\***  **(95% CI)** | **Sens-itivity** | **Specif-icity** | **PPV\*\*** | **NPV§** | **p-value** |
| **‘Clinical’**  (shortest cervical length, prior preterm birth, nulliparity) | 0.65  (0.55-0.75) | 46.4% | 70.6% | 56.4% | 61.5% | - | 0.73  (0.64-0.83) | 39.0% | 89.2% | 64.0% | 74.6% | - |
| **‘Non-genomic'**  (Black race, gestational age at blood draw) | 0.69  (0.60-0.78) | 61.8% | 63.2% | 62.7% | 62.3% | - | 0.72  (0.63-0.82) | 63.5% | 73.5% | 64.7% | 72.5% | - |
| ***TLR2*** | 0.75  (0.67-0.83) | 54.4% | 76.5% | 69.8% | 62.7% | 0.053 | 0.79  (0.70-0.88) | 57.7% | 91.2% | 83.3% | 73.8% | 0.045 |
| ***DUSP1*** | 0.73  (0.64-0.81) | 63.2% | 76.5% | 72.9% | 67.5% | 0.120 | 0.78  (0.69-0.86) | 63.5% | 83.8% | 75.0% | 75.0% | 0.051 |
| ***RUNX3*** | 0.77  (0.69-0.85) | 69.1% | 75.0% | 73.4% | 70.8% | 0.019 | 0.81  (0.72-0.89) | 71.2% | 83.8% | 77.1% | 79.2% | 0.020 |
| ***PPP3CA*** | 0.75  (0.66-0.83) | 66.2% | 73.5% | 71.4% | 68.5% | 0.075 | 0.77  (0.67-0.86) | 63.5% | 80.9% | 71.4% | 74.3% | 0.159 |
| ***B2M*** | 0.75  (0.67-0.83) | 63.3% | 76.5% | 72.9% | 67.5% | 0.026 | 0.79  (0.71-0.88) | 57.7% | 86.8% | 76.9% | 72.8% | 0.017 |
| ***IL10RA*** | 0.75  (0.66-0.83) | 61.8% | 67.7% | 65.6% | 63.9% | 0.090 | 0.76  (0.67-0.85) | 65.4% | 83.8% | 75.6% | 76.0% | 0.223 |
| ***PREX1*** | 0.72  (0.63-0.80) | 61.8% | 73.5% | 70.0% | 65.8% | 0.275 | 0.77  (0.68-0.86) | 57.7% | 83.8% | 73.2% | 72.2% | 0.145 |
| ***CHL1*** | 0.70  (0.61-0.79) | 63.2% | 61.8% | 63.3% | 62.7% | 0.487 | 0.74  (0.65-0.83) | 67.3% | 73.5% | 66.0% | 74.6% | 0.525 |
| ***CXCR3*** | 0.75  (0.67-0.83) | 66.2% | 69.1% | 68.2% | 67.1% | 0.068 | 0.80  (0.71-0.88) | 63.5% | 86.8% | 78.6% | 75.6% | 0.042 |
| ***IL10RB*** | 0.72  (0.63-0.81) | 61.8% | 72.1% | 68.9% | 65.3% | 0.217 | 0.77  (0.68-0.86) | 59.6% | 83.8% | 73.8% | 73.1% | 0.124 |
| ***DDAH2*** | 0.71  (0.62-0.80) | 60.3% | 67.7% | 65.1% | 63.0% | 0.222 | 0.76  (0.67-0.85) | 65.4% | 82.4% | 73.9% | 75.7% | 0.139 |
| ***RNF7*** | 0.72  (0.63-0.81) | 64.7% | 66.2% | 65.7% | 65.2% | 0.165 | 0.76  (0.67-0.85) | 61.5% | 83.8% | 74.4% | 75.8% | 0.095 |
| ***TLR4*** | 0.73  (0.64-0.81) | 52.9% | 75.0% | 67.9% | 67.9% | 0.176 | 0.79  (0.70-0.87) | 63.5% | 80.9% | 71.7% | 74.3% | 0.040 |
| ***CYC1*** | 0.75  (0.67-0.83) | 66.2% | 75.0% | 72.6% | 68.9% | 0.075 | - | - | - | - | - | - |
| ***HSP90AB1*** | - | - | - | - | - | - | 0.77  (0.68-0.85) | 61.5% | 86.8% | 78.1% | 74.7% | 0.240 |
| ***NCF1*** | - | - | - | - | - | - | 0.78  (0.70-0.87) | 67.3% | 79.4% | 71.4% | 76.1% | 0.063 |
| ***MSRA*** | - | - | - | - | - | - | 0.76  (0.68-0.85) | 67.3% | 77.9% | 70.0% | 75.7% | 0.090 |
| ***SDHA*** | - | - | - | - | - | - | 0.79  (0.70-0.87) | 65.4% | 80.9% | 72.3% | 75.3% | 0.080 |
| ***GLA*** | - | - | - | - | - | - | 0.76  (0.67-0.85) | 69.2% | 73.5% | 66.7% | 75.8% | 0.124 |
| ***NCOA2*** | - | - | - | - | - | - | 0.76  (0.63-0.82) | 61.5% | 77.9% | 68.1% | 72.6% | 0.151 |

\*Area under the receiver operating characteristics (ROC) curve

\*\*Positive predictive value

§Negative predictive value