Supplementary Material

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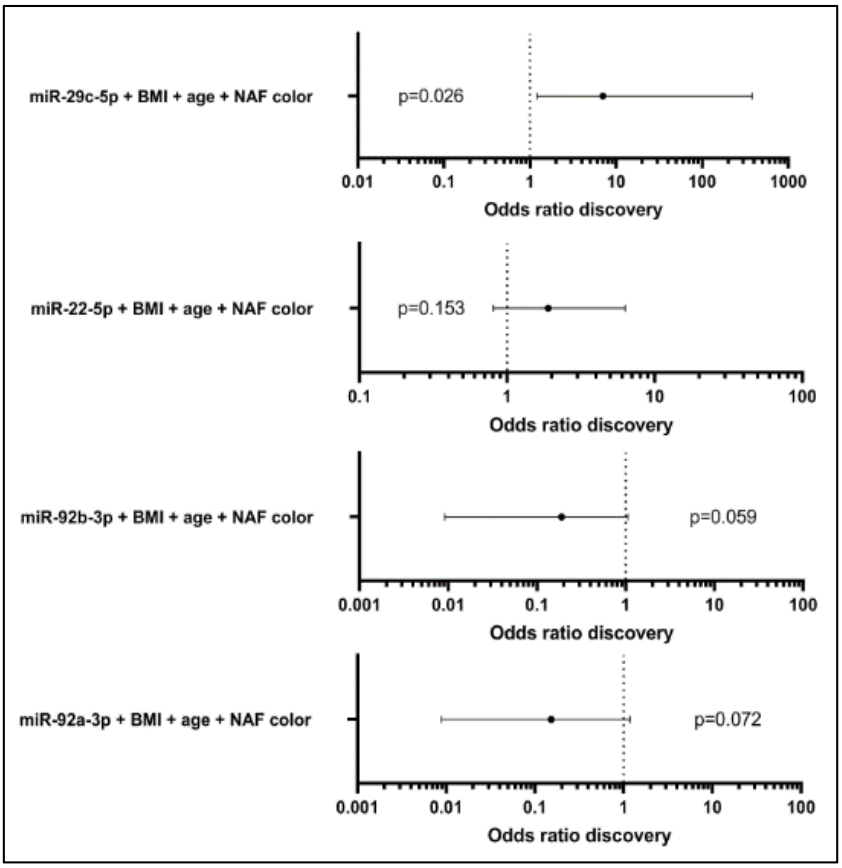

Figure S1. Logistic regression analysis with the four candidates differentially expressed human mature miRNAs in the discovery cohort. Odds ratios (OR) from the logistic regression analysis including the four human miRNAs are depicted. MiRNAs with P-values < 0.2 were considered of interest for subsequent validation. MiR-92a-3p (OR=0.153 (95% CI 0.01-1.18); p=0.072) and miR-92b-3p (OR=0.19 (95% CI 0.01-1.06); p=0.059) were negative predictors for extremely high MD (down-regulated versus very low MD), whereas miR-22-5p (OR=1.90 (95% CI 0.80-6.31); p=0.153) and miR-29c-5p (OR=7.02 (95% CI 1.21-380.67); p=0.026) were positive predictors for extremely high MD (up-regulated versus very low MD).

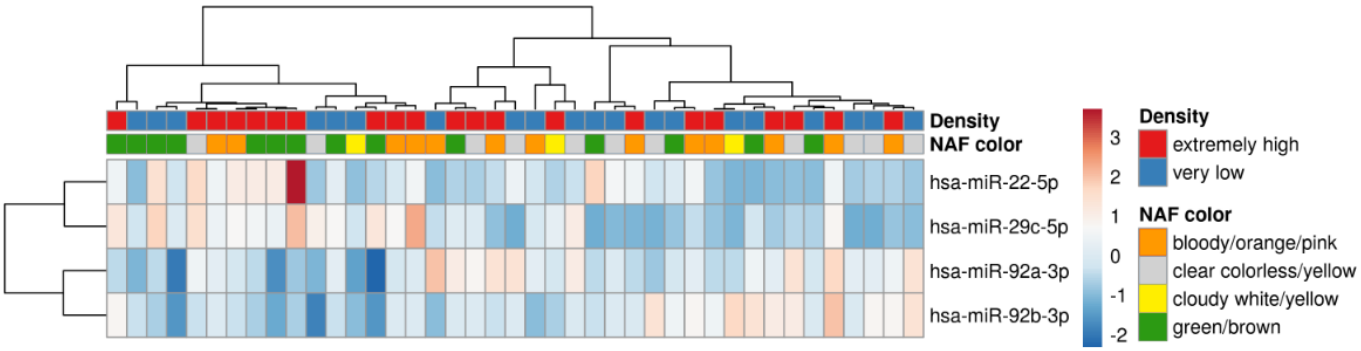

Figure S2. Unsupervised hierarchical clustering of 41 nipple aspirate fluid samples based on the expression pattern (delta CT) of four miRNAs differentially expressed between extremely high mammographic density (MD) and very low MD categories in the discovery cohort. Rows are centred; unit variance scaling is applied to rows. Imputation was used for missing value estimation. Both rows and columns are clustered using correlation distance and average linkage. The heatmap scale represents 2^ -delta CT values with low DCT (red) indicating high miRNA expression and high DCT (blue) indicating low miRNA expression.

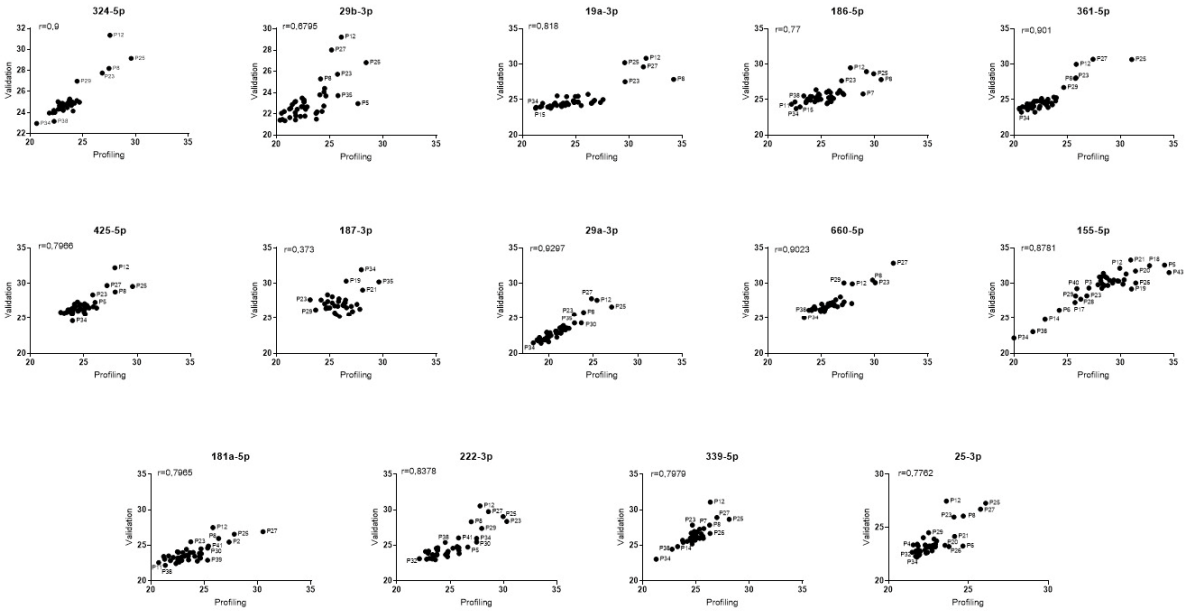

Figure S3. Pearson correlation analysis between microfluidics-based RT-qPCR profiling results (X axis; CRT value) and regular-volume RT-qPCR individual assay results (Y axis; CT value) (quality control for profiling) for 14 selected miRNAs showing acceptable concordance. Each dot represents a measurement of a NAF sample (N=41) by both methods.

Table S1. List of Taqman Advanced assays present in the 754-miRNA panel used for NAF sample profiling. Excel file available on the website of Thermo Fisher, titled "TaqMan OpenArray Human Advanced MicroRNA Panel Assay List" - version 1 layout.

OA position	Advanced AssayID	Advanced Assay Name
A1a2	478872_mir	hsa-miR-409-5p
A1a3	478092_mir	hsa-miR-424-5p
A1a4	478007_mir	hsa-miR-30b-5p
A1a5	478587_mir	hsa-miR-29a-3p
A1a6	478125_mir	hsa-miR-485-3p
A1a7	478308_mir	hsa-miR-484
A1a8	477854_mir	hsa-miR-380-3p
A1b1	478826_mir	hsa-miR-323b-5p
A1b2	478126_mir	hsa-miR-485-5p
A1b3	478293_mir	cel-miR-39-3p
A1b4	478561_mir	hsa-miR-449a
A1b5	478591_mir	hsa-miR-302b-3p
A1b6	478086_mir	hsa-miR-411-5p
A1b7	478024_mir	hsa-miR-324-5p
A1b8	478008_mir	hsa-miR-30c-5p
A1c1	477816_mir	hsa-miR-381-3p
A1c2	478860_mir	hsa-miR-376b-3p
A1c3	478790_mir	hsa-miR-296-3p
A1c4	478087_mir	hsa-miR-412-3p
A1c5	477849_mir	hsa-miR-429
A1c6	478106_mir	hsa-miR-450a-5p
A1c7	478113_mir	hsa-miR-455-5p
A1c8	478509_mir	hsa-miR-302c-3p
A1d1	478491_mir	hsa-miR-204-5p
A1d2	478411_mir	ath-miR159a
A1d3	477916_mir	hsa-miR-145-5p
A1d4	477925_mir	hsa-miR-154-5p
A1d5	477900_mir	hsa-miR-132-3p
A1d6	477908_mir	hsa-miR-140-3p
A1d7	478789_mir	hsa-miR-27b-5p
A1d8	477858_mir	hsa-miR-15a-5p
A1e1	478399_mir	hsa-miR-146a-5p
A1e2	477824_mir	hsa-miR-148b-3p
A1e3	477889_mir	hsa-miR-127-3p
A1e4	477857_mir	hsa-miR-181a-5p
A1e5	478312_mir	hsa-miR-139-5p
A1e6	477911_mir	hsa-miR-142-5p
A1e7	477891_mir	hsa-miR-127-5p
A1e8	477840_mir	hsa-miR-130b-3p
A1f1	477935_mir	hsa-miR-182-5p
A1f2	477918_mir	hsa-miR-150-5p
A1f3	477896_mir	hsa-miR-129-5p
A1f4	478624_mir	hsa-miR-10a-3p
A1f5	478584_mir	hsa-miR-18b-5p
A1f6	478313_mir	hsa-miR-15b-5p
A1f7	477938_mir	hsa-miR-184
A1f8	478551_mir	hsa-miR-18a-5p

A1g3	479537_mir	hsa-miR-548c-3p
A1g4	478166_mir	hsa-miR-582-5p
A1g5	478164_mir	hsa-miR-576-3p
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A3h3	477860_mir	hsa-miR-16-5p
A4a2	477843_mir	hsa-let-7f-2-3p
A4a3	477866_mir	hsa-miR-106b-3p
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A4b3	478293_mir	cel-miR-39-3p
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A4d3	478187_mir	hsa-miR-638
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B1b2	477986_mir	hsa-miR-224-5p
B1b3	478293_mir	cel-miR-39-3p
B1b4	478056_mir	hsa-miR-361-5p
B1b5	478318_mir	hsa-miR-212-3p
B1b6	478262_mir	hsa-miR-192-5p
B1b7	478577_mir	hsa-let-7c-5p
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B1d1	478576_mir	hsa-let-7b-5p
B1d2	478411_mir	ath-miR159a
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B1d4	478135_mir	hsa-miR-494-3p
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B1e3	478143_mir	hsa-miR-503-5p
B1e4	477909_mir	hsa-miR-140-5p
B1e5	478963_mir	hsa-miR-509-3-5p
B1e6	478954_mir	hsa-miR-502-5p
B1e7	478978_mir	hsa-miR-516a-5p
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B1f6	478176_mir	hsa-miR-615-5p
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B1f8	479112_mir	hsa-miR-628-5p
B1g3	478160_mir	hsa-miR-561-3p
B1g4	478023_mir	hsa-miR-324-3p
B1g5	478213_mir	hsa-miR-95-3p
B1g6	478335_mir	hsa-miR-496
B1h3	477860_mir	hsa-miR-16-5p
B2a2	478326_mir	hsa-miR-370-3p
B2a3	478028_mir	hsa-miR-328-3p

B2a4	477959_mir	hsa-miR-197-3p
B2a5	478037_mir	hsa-miR-338-3p
B2a6	478043_mir	hsa-miR-342-3p
B2a7	478314_mir	hsa-miR-193b-3p
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B2b2	478032_mir	hsa-miR-331-5p
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B2b7	477819_mir	hsa-miR-208a-3p
B2b8	478337_mir	hsa-miR-542-5p
B2c1	478962_mir	hsa-miR-508-5p
B2c2	477906_mir	hsa-miR-139-3p
B2c3	479485_mir	hsa-miR-517a-3p_hsa-miR-517b-3p
B2c4	478989_mir	hsa-miR-520a-3p
B2c5	478231_mir	hsa-miR-199a-5p
B2c6	478997_mir	hsa-miR-526b-5p
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B2c8	479340_mir	hsa-miR-519e-3p
B2d1	478995_mir	hsa-miR-525-3p
B2d2	478411_mir	ath-miR159a
B2d3	478984_mir	hsa-miR-518f-3p
B2d4	478153_mir	hsa-miR-542-3p
B2d5	479393_mir	hsa-miR-518d-3p
B2d6	478112_mir	hsa-miR-455-3p
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B2e3	479285_mir	hsa-miR-524-5p
B2e4	478210_mir	hsa-miR-93-5p
B2e5	478991_mir	hsa-miR-520g-3p
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B2g6	478139_mir	hsa-miR-499a-5p
B2h3	477860_mir	hsa-miR-16-5p
B3a2	478744_mir	hsa-miR-195-3p

B3a3	478049_mir	hsa-miR-34b-3p
B3a4	478035_mir	hsa-miR-337-3p
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B3a6	478831_mir	hsa-miR-33a-3p
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B3b1	478317_mir	hsa-miR-20a-3p
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B3d2	478411_mir	ath-miR159a
B3d3	479205_mir	hsa-miR-92a-1-5p
B3d4	479175_mir	hsa-miR-767-3p
B3d5	478681_mir	hsa-miR-1278
B3d6	479191_mir	hsa-miR-888-3p
B3d7	478650_mir	hsa-miR-1243
B3d8	478209_mir	hsa-miR-93-3p
B3e1	479217_mir	hsa-miR-941
B3e2	479071_mir	hsa-miR-588
B3e3	479349_mir	hsa-miR-513c-5p
B3e4	479084_mir	hsa-miR-603
B3e5	479212_mir	hsa-miR-937-3p
B3e6	479100_mir	hsa-miR-617
B3e7	479117_mir	hsa-miR-635
B3e8	479098_mir	hsa-miR-614
B3f1	479113_mir	hsa-miR-630
B3f2	479069_mir	hsa-miR-586
B3f3	478168_mir	hsa-miR-590-3p
B3f4	479085_mir	hsa-miR-604
B3f5	477868_mir	hsa-miR-10b-3p
B3f6	478980_mir	hsa-miR-517-5p
B3f7	479075_mir	hsa-miR-592
B3f8	479097_mir	hsa-miR-613
B3g3	479043_mir	hsa-miR-557
B3g4	479025_mir	hsa-miR-548p
B3g5	478173_mir	hsa-miR-601
B3g6	479038_mir	hsa-miR-553
B3h3	477860_mir	hsa-miR-16-5p

B4a2	478727_mir	hsa-miR-16-1-3p
B4a3	478711_mir	hsa-miR-138-2-3p
B4a4	478719_mir	hsa-miR-148b-5p
B4a5	479051_mir	hsa-miR-569
B4a6	477914_mir	hsa-miR-144-5p
B4b1	478758_mir	hsa-miR-203b-5p
B4b2	478680_mir	hsa-miR-1276
B4b3	478293_mir	cel-miR-39-3p
B4b4	477943_mir	hsa-miR-188-5p
B4b5	478699_mir	hsa-miR-1304-5p
B4b6	477811_mir	hsa-miR-151b
B4b7	478147_mir	hsa-miR-515-5p
B4c1	477890_mir	hsa-miR-1275
B4c2	477936_mir	hsa-miR-183-3p
B4c3	478673_mir	hsa-miR-1270
B4c4	478647_mir	hsa-miR-1236-3p
B4c5	477933_mir	hsa-miR-181c-3p
B4c6	479078_mir	hsa-miR-595
B4c7	477944_mir	hsa-miR-18a-3p
B4d1	479091_mir	hsa-miR-609
B4d2	478411_mir	ath-miR159a
B4d3	479104_mir	hsa-miR-620
B4d4	479067_mir	hsa-miR-585-3p
B4d5	478691_mir	hsa-miR-1292-5p
B4d6	478362_mir	hsa-miR-548e-3p
B4d7	479024_mir	hsa-miR-548n
B4e1	479512_mir	hsa-miR-623
B4e2	479532_mir	hsa-miR-518f-5p
B4e3	478349_mir	hsa-miR-378a-3p
B4e4	479338_mir	hsa-miR-524-3p
B4e5	479110_mir	hsa-miR-626
B4e6	479020_mir	hsa-miR-548g-3p
B4e7	479297_mir	hsa-miR-513b-5p
B4f1	479082_mir	hsa-miR-600
B4f2	480874_mir	hsa-miR-548i
B4f3	479391_mir	hsa-miR-548l
B4f4	477852_mir	hsa-miR-550a-5p
B4f5	478990_mir	hsa-miR-520d-3p
B4f6	478951_mir	hsa-miR-500a-3p
B4f7	478988_mir	hsa-miR-519e-5p
B4g3	479054_mir	hsa-miR-571
B4g4	477848_mir	hsa-let-7d-3p
B4g5	479491_mir	hsa-miR-518e-5p_hsa-miR-519a-5p_hsa-miR-519b-5p_hsa-miR-519c-5p_hsa-miR-522-5p_hsa-miR-523-5p
B4g6	478198_mir	hsa-miR-7-1-3p
B4h3	477860_mir	hsa-miR-16-5p
C1a2	477887_mir	hsa-miR-126-3p
C1a3	478102_mir	hsa-miR-433-3p
C1a4	478109_mir	hsa-miR-452-5p
C1a5	478094_mir	hsa-miR-425-5p
C1a6	478006_mir	hsa-miR-302a-3p

C1a7	478074_mir	hsa-miR-375
C1a8	477853_mir	hsa-miR-323a-3p
C1b1	478105_mir	hsa-miR-448
C1b2	478240_mir	hsa-miR-376a-3p
C1b3	478293_mir	cel-miR-39-3p
C1b4	478889_mir	hsa-miR-431-5p
C1b5	478369_mir	hsa-miR-29b-3p
C1b6	478329_mir	hsa-miR-454-3p
C1b7	478015_mir	hsa-miR-31-5p
C1b8	478128_mir	hsa-miR-486-5p
C1c1	479483_mir	hsa-miR-513a-5p
C1c2	478078_mir	hsa-miR-382-5p
C1c3	479528_mir	hsa-miR-449b-5p
C1c4	478501_mir	hsa-miR-141-3p
C1c5	478026_mir	hsa-miR-32-5p
C1c6	478430_mir	hsa-miR-298
C1c7	478422_mir	hsa-miR-486-3p
C1c8	479229_mir	hsa-miR-29c-3p
C1d1	478581_mir	hsa-miR-135a-5p
C1d2	478411_mir	ath-miR159a
C1d3	478715_mir	hsa-miR-146b-3p
C1d4	478717_mir	hsa-miR-147b
C1d5	477892_mir	hsa-miR-128-3p
C1d6	477851_mir	hsa-miR-130a-3p
C1d7	478779_mir	hsa-miR-222-5p
C1d8	477912_mir	hsa-miR-143-3p
C1e1	477910_mir	hsa-miR-142-3p
C1e2	477905_mir	hsa-miR-138-5p
C1e3	478670_mir	hsa-miR-1264
C1e4	478589_mir	hsa-miR-548b-5p
C1e5	478514_mir	hsa-miR-147a
C1e6	478582_mir	hsa-miR-135b-5p
C1e7	477937_mir	hsa-miR-183-5p
C1e8	477942_mir	hsa-miR-188-3p
C1f1	478511_mir	hsa-miR-133a-3p
C1f2	477921_mir	hsa-miR-152-3p
C1f3	478159_mir	hsa-miR-551b-3p
C1f4	478721_mir	hsa-miR-150-3p
C1f5	477939_mir	hsa-miR-185-5p
C1f6	477952_mir	hsa-miR-191-5p
C1f7	480871_mir	hsa-miR-133b
C1f8	478358_mir	hsa-miR-190a-5p
C1g3	478575_mir	hsa-let-7a-5p
C1g4	478507_mir	hsa-miR-211-5p
C1g5	479059_mir	hsa-miR-579-3p
C1g6	479042_mir	hsa-miR-556-5p
C1h3	477860_mir	hsa-miR-16-5p
C2a2	478085_mir	hsa-miR-410-3p
C2a3	477826_mir	hsa-miR-487a-3p
C2a4	477999_mir	hsa-miR-28-3p
C2a5	478079_mir	hsa-miR-383-5p

C2a6	478254_mir	hsa-miR-107
C2a7	478080_mir	hsa-miR-384
C2a8	478913_mir	hsa-miR-450b-3p
C2b1	477995_mir	hsa-miR-26a-5p
C2b2	478327_mir	hsa-miR-423-3p
C2b3	478293_mir	cel-miR-39-3p
C2b4	479241_mir	hsa-miR-10a-5p
C2b5	478130_mir	hsa-miR-489-3p
C2b6	477982_mir	hsa-miR-222-3p
C2b7	477865_mir	hsa-miR-105-5p
C2b8	477981_mir	hsa-miR-221-3p
C2c1	477884_mir	hsa-miR-125a-5p
C2c2	478494_mir	hsa-miR-10b-5p
C2c3	477815_mir	hsa-miR-301a-3p
C2c4	477934_mir	hsa-miR-181c-5p
C2c5	478942_mir	hsa-miR-491-3p
C2c6	477979_mir	hsa-miR-219a-2-3p
C2c7	478516_mir	hsa-miR-215-5p
C2c8	478270_mir	hsa-miR-27b-3p
C2d1	478368_mir	hsa-miR-654-5p
C2d2	478411_mir	ath-miR159a
C2d3	478412_mir	hsa-miR-106b-5p
C2d4	477864_mir	hsa-miR-103a-2-5p
C2d5	477885_mir	hsa-miR-125b-5p
C2d6	478192_mir	hsa-miR-660-5p
C2d7	478038_mir	hsa-miR-338-5p
C2d8	478197_mir	hsa-miR-708-5p
C2e1	478194_mir	hsa-miR-671-3p
C2e2	477922_mir	hsa-miR-153-3p
C2e3	477975_mir	hsa-miR-21-5p
C2e4	479135_mir	hsa-miR-654-3p
C2e5	478048_mir	hsa-miR-34a-5p
C2e6	479192_mir	hsa-miR-888-5p
C2e7	478189_mir	hsa-miR-652-3p
C2e8	477823_mir	hsa-miR-92b-3p
C2f1	479188_mir	hsa-miR-885-3p
C2f2	478204_mir	hsa-miR-873-5p
C2f3	477855_mir	hsa-miR-122-5p
C2f4	479123_mir	hsa-miR-643
C2f5	479187_mir	hsa-miR-876-5p
C2f6	478583_mir	hsa-miR-181b-5p
C2f7	478208_mir	hsa-miR-889-3p
C2f8	477827_mir	hsa-miR-92a-3p
C2g3	479166_mir	hsa-miR-758-3p
C2g4	479194_mir	hsa-miR-890
C2g5	477967_mir	hsa-miR-205-5p
C2g6	477941_mir	hsa-miR-187-3p
C2h3	477860_mir	hsa-miR-16-5p
C3a2	479421_mir	hsa-miR-374b-3p
C3a3	478863_mir	hsa-miR-377-5p
C3a4	478917_mir	hsa-miR-452-3p

C3a5	479049_mir	hsa-miR-567
C3a6	478798_mir	hsa-miR-302a-5p
C3a7	478804_mir	hsa-miR-30b-3p
C3a8	478093_mir	hsa-miR-425-3p
C3b1	479178_mir	hsa-miR-770-5p
C3b2	478003_mir	hsa-miR-29b-2-5p
C3b3	478293_mir	cel-miR-39-3p
C3b4	479412_mir	hsa-miR-30c-1-3p
C3b5	478892_mir	hsa-miR-432-3p
C3b6	478827_mir	hsa-miR-32-3p
C3b7	478919_mir	hsa-miR-454-5p
C3b8	478606_mir	hsa-miR-30d-5p
C3c1	478865_mir	hsa-miR-380-5p
C3c2	478786_mir	hsa-miR-25-5p
C3c3	478588_mir	hsa-miR-320b
C3c4	478623_mir	hsa-miR-106a-3p
C3c5	478794_mir	hsa-miR-29b-1-5p
C3c6	478768_mir	hsa-miR-214-5p
C3c7	478629_mir	hsa-miR-1184
C3c8	477801_mir	hsa-let-7f-1-3p
C3d1	478122_mir	hsa-miR-483-3p
C3d2	478411_mir	ath-miR159a
C3d3	478734_mir	hsa-miR-18b-3p
C3d4	478665_mir	hsa-miR-125b-1-3p
C3d5	478653_mir	hsa-miR-1248
C3d6	477926_mir	hsa-miR-155-3p
C3d7	479185_mir	hsa-miR-875-5p
C3d8	478658_mir	hsa-miR-1252-5p
C3e1	478660_mir	hsa-miR-1254
C3e2	478662_mir	hsa-miR-1255b-5p
C3e3	477929_mir	hsa-miR-15b-3p
C3e4	478641_mir	hsa-miR-1226-5p
C3e5	477880_mir	hsa-miR-124-5p
C3e6	477875_mir	hsa-miR-1225-3p
C3e7	478644_mir	hsa-miR-1228-5p
C3e8	478657_mir	hsa-miR-1251-5p
C3f1	477874_mir	hsa-miR-122-3p
C3f2	478730_mir	hsa-miR-1825
C3f3	479120_mir	hsa-miR-641
C3f4	479176_mir	hsa-miR-767-5p
C3f5	478661_mir	hsa-miR-1255a
C3f6	479128_mir	hsa-miR-649
C3f7	478638_mir	hsa-miR-1224-3p
C3f8	478340_mir	hsa-miR-631
C3g3	478637_mir	hsa-miR-1208
C3g4	478161_mir	hsa-miR-564
C3g5	479063_mir	hsa-miR-581
C3g6	479040_mir	hsa-miR-555
C3h3	477860_mir	hsa-miR-16-5p
C4a2	477973_mir	hsa-miR-21-3p
C4a3	478631_mir	hsa-miR-1200

C4a4	478788_mir	hsa-miR-26a-2-3p
C4a5	479058_mir	hsa-miR-578
C4a6	477862_mir	hsa-let-7i-3p
C4a7	477850_mir	hsa-let-7g-3p
C4b1	477869_mir	hsa-miR-1180-3p
C4b2	478341_mir	hsa-miR-7-5p
C4b3	478293_mir	cel-miR-39-3p
C4b4	478221_mir	hsa-let-7b-3p
C4b5	478787_mir	hsa-miR-26a-1-3p
C4b6	477984_mir	hsa-miR-223-5p
C4b7	478784_mir	hsa-miR-24-1-5p
C4c1	478630_mir	hsa-miR-1197
C4c2	478755_mir	hsa-miR-202-5p
C4c3	478774_mir	hsa-miR-218-1-3p
C4c4	478745_mir	hsa-miR-196a-3p
C4c5	478625_mir	hsa-miR-1178-3p
C4c6	478713_mir	hsa-miR-143-5p
C4c7	478846_mir	hsa-miR-367-5p
C4d1	479115_mir	hsa-miR-633
C4d2	478411_mir	ath-miR159a
C4d3	479125_mir	hsa-miR-646
C4d4	479150_mir	hsa-miR-665
C4d5	479139_mir	hsa-miR-657
C4d6	479116_mir	hsa-miR-634
C4d7	477899_mir	hsa-miR-130b-5p
C4e1	479140_mir	hsa-miR-658
C4e2	479127_mir	hsa-miR-648
C4e3	479151_mir	hsa-miR-668-3p
C4e4	479146_mir	hsa-miR-663b
C4e5	477958_mir	hsa-miR-196b-3p
C4e6	478342_mir	hsa-miR-766-3p
C4e7	479119_mir	hsa-miR-640
C4f1	479204_mir	hsa-miR-924
C4f2	479206_mir	hsa-miR-92a-2-5p
C4f3	479210_mir	hsa-miR-935
C4f4	479452_mir	hsa-miR-1298-5p
C4f5	479220_mir	hsa-miR-944
C4f6	479214_mir	hsa-miR-938
C4f7	479198_mir	hsa-miR-892b
C4g3	479048_mir	hsa-miR-563
C4g4	479065_mir	hsa-miR-583
C4g5	479055_mir	hsa-miR-573
C4g6	479039_mir	hsa-miR-554
C4h3	477860_mir	hsa-miR-16-5p
D1a2	477836_mir	hsa-miR-296-5p
D1a3	477820_mir	hsa-miR-1-3p
D1a4	479456_mir	hsa-miR-216b-5p
D1a5	477983_mir	hsa-miR-223-3p
D1a6	478029_mir	hsa-miR-329-3p
D1a7	477992_mir	hsa-miR-24-3p
D1a8	477863_mir	hsa-miR-101-3p

D1b1	477977_mir	hsa-miR-218-5p
D1b2	477994_mir	hsa-miR-25-3p
D1b3	478293_mir	cel-miR-39-3p
D1b4	478225_mir	hsa-miR-106a-5p
D1b5	478384_mir	hsa-miR-27a-3p
D1b6	477961_mir	hsa-miR-199a-3p_hsa-miR-199b-3p
D1b7	479544_mir	hsa-miR-186-3p
D1b8	478363_mir	hsa-miR-373-3p
D1c1	478490_mir	hsa-miR-200a-3p
D1c2	478238_mir	hsa-miR-374a-5p
D1c3	478070_mir	hsa-miR-371a-3p
D1c4	478025_mir	hsa-miR-325
D1c5	478059_mir	hsa-miR-362-5p
D1c6	478979_mir	hsa-miR-516b-5p
D1c7	478264_mir	hsa-miR-19b-3p
D1c8	478323_mir	hsa-miR-331-3p
D1d1	478134_mir	hsa-miR-493-3p
D1d2	478411_mir	ath-miR159a
D1d3	478350_mir	hsa-miR-501-3p
D1d4	478972_mir	hsa-miR-512-5p
D1d5	478960_mir	hsa-miR-507
D1d6	478145_mir	hsa-miR-505-3p
D1d7	479089_mir	hsa-miR-608
D1d8	478982_mir	hsa-miR-518c-3p
D1e1	478142_mir	hsa-miR-501-5p
D1e2	479530_mir	hsa-miR-518d-5p_hsa-miR-520c-5p_hsa-miR-526a
D1e3	478958_mir	hsa-miR-506-3p
D1e4	478309_mir	hsa-miR-500a-5p
D1e5	478971_mir	hsa-miR-512-3p
D1e6	479101_mir	hsa-miR-618
D1e7	478088_mir	hsa-miR-421
D1e8	478968_mir	hsa-miR-510-5p
D1f1	478367_mir	hsa-miR-590-5p
D1f2	479073_mir	hsa-miR-589-5p
D1f3	479469_mir	hsa-miR-625-5p
D1f4	478977_mir	hsa-miR-516a-3p_hsa-miR-516b-3p
D1f5	478177_mir	hsa-miR-616-3p
D1f6	478215_mir	hsa-miR-96-5p
D1f7	478427_mir	hsa-miR-627-5p
D1f8	478348_mir	hsa-miR-502-3p
D1g3	479064_mir	hsa-miR-582-3p
D1g4	478077_mir	hsa-miR-379-5p
D1g5	477879_mir	hsa-miR-124-3p
D1g6	478532_mir	hsa-miR-23a-3p
D1h3	477860_mir	hsa-miR-16-5p
D2a2	478586_mir	hsa-miR-20a-5p
D2a3	477904_mir	hsa-miR-137
D2a4	478136_mir	hsa-miR-495-3p
D2a5	478060_mir	hsa-miR-363-3p
D2a6	477814_mir	hsa-miR-148a-3p
D2a7	478030_mir	hsa-miR-330-3p

D2a8	478066_mir	hsa-miR-367-3p
D2b1	478324_mir	hsa-miR-335-5p
D2b2	478325_mir	hsa-miR-339-3p
D2b3	478293_mir	cel-miR-39-3p
D2b4	478052_mir	hsa-miR-34c-5p
D2b5	477957_mir	hsa-miR-195-5p
D2b6	478071_mir	hsa-miR-372-3p
D2b7	477917_mir	hsa-miR-149-5p
D2b8	477954_mir	hsa-miR-193a-5p
D2c1	478307_mir	hsa-miR-136-5p
D2c2	478058_mir	hsa-miR-362-3p
D2c3	478040_mir	hsa-miR-339-5p
D2c4	478830_mir	hsa-miR-330-5p
D2c5	478986_mir	hsa-miR-519d-3p
D2c6	479228_mir	hsa-miR-19a-3p
D2c7	478306_mir	hsa-miR-193a-3p
D2c8	477956_mir	hsa-miR-194-5p
D2d1	478970_mir	hsa-miR-511-5p
D2d2	478411_mir	ath-miR159a
D2d3	479249_mir	hsa-miR-518a-5p_hsa-miR-527
D2d4	478616_mir	hsa-miR-520d-5p
D2d5	477927_mir	hsa-miR-155-5p
D2d6	478999_mir	hsa-miR-541-3p
D2d7	479003_mir	hsa-miR-545-5p
D2d8	478994_mir	hsa-miR-523-3p
D2e1	478152_mir	hsa-miR-539-5p
D2e2	478336_mir	hsa-miR-532-3p
D2e3	479495_mir	hsa-miR-519c-3p
D2e4	479002_mir	hsa-miR-545-3p
D2e5	479509_mir	hsa-miR-520b
D2e6	479534_mir	hsa-miR-519a-3p
D2e7	478993_mir	hsa-miR-522-3p
D2e8	479404_mir	hsa-miR-520a-5p
D2f1	478149_mir	hsa-miR-521
D2f2	478163_mir	hsa-miR-574-3p
D2f3	478151_mir	hsa-miR-532-5p
D2f4	479503_mir	hsa-miR-548h-5p
D2f5	479018_mir	hsa-miR-548b-3p
D2f6	480872_mir	hsa-miR-548am-5p_hsa-miR-548c-5p_hsa-miR-548o-5p
D2f7	479041_mir	hsa-miR-556-3p
D2f8	478157_mir	hsa-miR-548a-3p
D2g3	478107_mir	hsa-miR-451a
D2g4	478214_mir	hsa-miR-9-5p
D2g5	478175_mir	hsa-miR-615-3p
D2g6	477901_mir	hsa-miR-134-5p
D2h3	477860_mir	hsa-miR-16-5p
D3a2	478752_mir	hsa-miR-200a-5p
D3a3	478753_mir	hsa-miR-200b-5p
D3a4	479032_mir	hsa-miR-550a-3p
D3a5	478741_mir	hsa-miR-192-3p
D3a6	478754_mir	hsa-miR-200c-5p

D3a7	478764_mir	hsa-miR-20b-3p
D3a8	478193_mir	hsa-miR-664a-3p
D3b1	477902_mir	hsa-miR-136-3p
D3b2	478712_mir	hsa-miR-141-5p
D3b3	478293_mir	cel-miR-39-3p
D3b4	478743_mir	hsa-miR-194-3p
D3b5	477968_mir	hsa-miR-206
D3b6	479036_mir	hsa-miR-552-3p
D3b7	478041_mir	hsa-miR-340-3p
D3b8	478347_mir	hsa-miR-33a-5p
D3c1	477913_mir	hsa-miR-144-3p
D3c2	478720_mir	hsa-miR-149-3p
D3c3	478693_mir	hsa-miR-1294
D3c4	478718_mir	hsa-miR-148a-5p
D3c5	478212_mir	hsa-miR-942-5p
D3c6	478697_mir	hsa-miR-1302
D3c7	478690_mir	hsa-miR-1291
D3c8	477931_mir	hsa-miR-16-2-3p
D3d1	479202_mir	hsa-miR-921
D3d2	478411_mir	ath-miR159a
D3d3	479208_mir	hsa-miR-933
D3d4	478686_mir	hsa-miR-1284
D3d5	479526_mir	hsa-miR-411-3p
D3d6	479201_mir	hsa-miR-920
D3d7	479173_mir	hsa-miR-765
D3d8	479211_mir	hsa-miR-936
D3e1	478946_mir	hsa-miR-497-3p
D3e2	479076_mir	hsa-miR-593-3p
D3e3	478050_mir	hsa-miR-34b-5p
D3e4	479088_mir	hsa-miR-607
D3e5	479087_mir	hsa-miR-606
D3e6	479106_mir	hsa-miR-622
D3e7	478983_mir	hsa-miR-518c-5p
D3e8	478181_mir	hsa-miR-628-3p
D3f1	479070_mir	hsa-miR-587
D3f2	479072_mir	hsa-miR-589-3p
D3f3	479077_mir	hsa-miR-593-5p
D3f4	479177_mir	hsa-miR-769-3p
D3f5	477893_mir	hsa-miR-1286
D3f6	478338_mir	hsa-miR-596
D3f7	479105_mir	hsa-miR-621
D3f8	478174_mir	hsa-miR-605-5p
D3g3	479047_mir	hsa-miR-562
D3g4	478158_mir	hsa-miR-551a
D3g5	478162_mir	hsa-miR-572
D3g6	479373_mir	hsa-miR-566
D3h3	477860_mir	hsa-miR-16-5p
D4a1	478216_mir	hsa-miR-99b-3p
D4a2	477932_mir	hsa-miR-17-3p
D4a3	478688_mir	hsa-miR-1288-3p
D4a4	478674_mir	hsa-miR-1271-5p

D4a5	479522_mir	hsa-miR-1269a
D4a6	480873_mir	hsa-miR-129-1-3p
D4a7	477897_mir	hsa-miR-1301-3p
D4b1	478732_mir	hsa-miR-185-3p
D4b2	478675_mir	hsa-miR-1272
D4b3	478293_mir	cel-miR-39-3p
D4b4	478714_mir	hsa-miR-146a-3p
D4b5	478230_mir	hsa-miR-196a-5p
D4b6	478687_mir	hsa-miR-1285-3p
D4b7	478692_mir	hsa-miR-1293
D4c1	477928_mir	hsa-miR-15a-3p
D4c2	478689_mir	hsa-miR-1289
D4c3	478659_mir	hsa-miR-1253
D4c4	478698_mir	hsa-miR-1303
D4c5	478310_mir	hsa-miR-1203
D4c6	478683_mir	hsa-miR-1282
D4c7	478664_mir	hsa-miR-1257
D4d1	479099_mir	hsa-miR-616-5p
D4d2	478411_mir	ath-miR159a
D4d3	478178_mir	hsa-miR-624-5p
D4d4	479074_mir	hsa-miR-591
D4d5	478182_mir	hsa-miR-629-3p
D4d6	479081_mir	hsa-miR-599
D4e1	478179_mir	hsa-miR-625-3p
D4e2	479499_mir	hsa-miR-520h
D4e3	478138_mir	hsa-miR-497-5p
D4e4	478155_mir	hsa-miR-543
D4e5	478957_mir	hsa-miR-505-5p
D4e6	479022_mir	hsa-miR-548j-5p
D4f1	479023_mir	hsa-miR-548m
D4f2	479000_mir	hsa-miR-541-5p
D4f3	479536_mir	hsa-miR-520c-3p
D4f4	478705_mir	hsa-miR-132-5p
D4f5	479333_mir	hsa-miR-519b-3p
D4f6	479374_mir	hsa-miR-548k
D4g3	479056_mir	hsa-miR-575
D4g4	479222_mir	hsa-miR-96-3p
D4g5	479224_mir	hsa-miR-99a-3p
D4g6	478005_mir	hsa-miR-29c-5p
D4h3	477860_mir	hsa-miR-16-5p

Table S2. Taqman advanced miRNA assays and associated assay IDs used in the study. Acquired from ThermoFisher Scientific.

miRNA	Assay ID
hsa-miR-324-5p	483066_mir
hsa-miR-29b-3p	478794_mir
hsa-miR-19a-3p	479228_mir
hsa-miR-186-5p	477940_mir
hsa-miR-361-5p	478056_mir
hsa-miR-425-5p	478094_mir
hsa-miR-187-3p	477941_mir
hsa-miR-29a-3p	478587_mir
hsa-miR-660-5p	478192_mir
hsa-miR-155-5p	483064_mir
hsa-miR-181a-5p	477857_mir
hsa-miR-222-3p	477982_mir
hsa-miR-339-5p	478040_mir
hsa-miR-25-3p	477994_mir
hsa-miR-92a-3p	477827_mir
hsa-miR-92b-3p	477823_mir
hsa-miR-22-5p	477987_mir
hsa-miR-29c-5p	478005_mir
hsa-miR-125a-5p	477884_mir
ath-miR159a	478411_mir

Table S3. Raw CT values for 4 candidate miRNAs and endogenous control miRNA hsa-miR-125a-5p in the validation cohort. CT values in bold were missings replaced by maximum CT value + 1. Dense category (extremely high or very low), age, body mass index (BMI), Parity and NAF color category are provided. UD = undetermined.

	Dense category	Age	BMI	Parity	NAF colour	hsa-miR-92a-3p	hsa-miR-92b-3p	hsa-miR-22-5p	hsa-miR-29c-5p	hsa-miR-125a-5p
sample 1	HIGH	53	22.2	Parous	green/brown	20.3	21.3	27.8	32.3	19.6
sample 2	LOW	51	40.9	Nulliparous	green/brown	21.0	21.0	26.0	28.9	18.9
sample 3	LOW	52	26.9	Parous	cloudy white/yellow	25.1	25.3	**35.0**	31.0	28.0
sample 4	HIGH	50	20.5	Parous	green/brown	19.5	20.2	25.9	25.7	18.1
sample 5	HIGH	51	23.1	Parous	bloody/orange/pink	17.4	19.0	22.7	26.2	19.8
sample 6	HIGH	66	24.5	Parous	bloody/orange/pink	17.6	19.1	23.5	26.8	20.3
sample 7	HIGH	53	24.5	Parous	clear white/yellow	16.3	17.3	22.1	25.3	19.5
sample 8	HIGH	69	19.4	Parous	bloody/orange/pink	17.4	18.5	23.7	25.8	19.9
sample 9	HIGH	59	UD	UD	bloody/orange/pink	17.7	19.4	23.2	26.2	21.3
sample 10	HIGH	50	22.3	Parous	green/brown	18.5	19.7	20.0	33.0	21.9
sample 11	HIGH	52	22	Nulliparous	cloudy white/yellow	19.7	20.7	24.9	27.9	18.9
sample 12	HIGH	69	21.5	Parous	bloody/orange/pink	16.8	18.1	22.9	25.0	18.0
sample 13	HIGH	52	24.6	Parous	clear white/yellow	17.5	18.7	22.5	28.7	20.4
sample 14	LOW	53	35.9	Parous	green/brown	21.4	21.8	28.5	30.3	20.3
sample 15	LOW	50	27.5	Parous	cloudy white/yellow	19.0	20.0	25.4	27.6	19.0
sample 16	LOW	52	24.9	Parous	green/brown	20.4	21.3	25.5	29.4	19.4
sample 17	LOW	59	35.6	Parous	clear white/yellow	20.5	21.2	24.7	28.8	21.7
sample 18	LOW	54	28.6	Nulliparous	cloudy white/yellow	18.3	19.0	24.1	28.9	20.3
sample 19	LOW	60	30.5	Parous	bloody/orange/pink	17.6	18.6	20.7	25.3	19.4
sample 20	LOW	56	28.7	Parous	clear white/yellow	18.8	20.0	23.4	27.6	20.2
sample 21	LOW	55	25.9	Parous	clear white/yellow	18.8	19.9	23.6	27.9	20.4
sample 22	LOW	56	25	Parous	clear white/yellow	22.1	22.3	**35.0**	30.5	21.0
sample 23	HIGH	57	26.2	Parous	clear white/yellow	17.7	19.0	22.5	25.4	19.2
sample 24	HIGH	53	UD	UD	bloody/orange/pink	18.0	18.9	24.3	27.4	19.4
sample 25	HIGH	58	20.7	Parous	bloody/orange/pink	16.6	18.2	22.7	24.9	18.1
sample 26	LOW	50	29.8	Parous	clear white/yellow	17.2	18.4	21.6	25.5	19.2
sample 27	LOW	52	27	Parous	cloudy white/yellow	19.0	20.1	23.7	27.1	18.1
sample 28	LOW	58	UD	Parous	bloody/orange/pink	17.3	18.7	22.4	26.7	19.2
sample 29	HIGH	54	19.7	Parous	cloudy white/yellow	20.2	21.2	24.2	28.0	19.8
sample 30	HIGH	67	24	Parous	cloudy white/yellow	20.1	20.9	26.6	29.4	18.6
sample 31	HIGH	50	26.5	Parous	bloody/orange/pink	17.9	19.1	22.3	26.1	19.7
sample 32	LOW	56	30.7	Parous	cloudy white/yellow	21.7	22.5	26.5	31.5	21.4
sample 33	LOW	59	26.6	Parous	cloudy white/yellow	18.6	20.1	26.2	28.7	19.2
sample 34	LOW	57	28.4	Parous	clear white/yellow	20.8	21.1	23.9	27.6	22.0
sample 35	HIGH	74	20.8	Parous	clear white/yellow	17.4	18.4	23.7	26.2	19.1
sample 36	HIGH	54	20.8	Parous	green/brown	20.4	21.4	31.6	30.7	19.1
sample 37	HIGH	53	25.2	Parous	cloudy white/yellow	20.2	20.4	22.1	25.7	21.0
sample 38	HIGH	62	22.3	Parous	clear white/yellow	17.1	18.2	22.9	26.4	18.4
sample 39	LOW	55	28.7	Parous	cloudy white/yellow	22.9	23.1	27.9	32.2	21.2
sample 40	LOW	52	28.3	Parous	cloudy white/yellow	17.8	19.0	22.9	34.0	20.3
sample 41	LOW	50	24.7	Parous	clear white/yellow	17.6	18.8	21.8	27.1	19.4

sample 42	LOW	54	32.5	Parous	clear white/yellow	17.9	19.1	22.2	25.7	20.5
sample 43	HIGH	70	22	Parous	cloudy white/yellow	17.7	19.1	23.7	27.0	19.2
sample 44	HIGH	54	20.9	Parous	clear white/yellow	22.8	23.5	28.5	29.7	22.8
sample 45	LOW	55	38.5	Parous	bloody/orange/pink	17.9	18.8	23.8	29.8	21.4
sample 46	LOW	52	UD	Parous	cloudy white/yellow	23.1	23.8	28.5	34.3	23.6
sample 47	HIGH	70	24.8	Parous	bloody/orange/pink	17.1	19.1	22.4	25.6	19.6
sample 48	HIGH	62	23.6	Parous	bloody/orange/pink	17.6	19.3	23.1	25.7	20.1
sample 49	LOW	55	37.4	Parous	bloody/orange/pink	18.7	20.7	24.4	26.6	21.5
sample 50	LOW	50	26.8	Parous	bloody/orange/pink	17.2	19.1	21.8	24.7	20.6
sample 51	HIGH	63	18.8	Parous	clear white/yellow	17.9	20.2	24.4	26.0	20.0
sample 52	HIGH	55	21.6	Nulliparous	cloudy white/yellow	20.9	21.8	26.2	28.1	21.7
sample 53	LOW	53	25.3	Parous	bloody/orange/pink	19.0	21.0	24.8	29.3	22.3
sample 54	LOW	57	26.8	Parous	clear white/yellow	UD	UD	UD	UD	UD
sample 55	HIGH	64	25	Parous	bloody/orange/pink	17.2	19.1	22.2	24.3	19.7
sample 56	HIGH	57	24.2	Parous	cloudy white/yellow	20.8	22.0	26.3	28.6	20.8
sample 57	LOW	55	31.3	Parous	bloody/orange/pink	17.4	19.0	22.5	25.6	20.0
sample 58	LOW	52	24.7	Parous	cloudy white/yellow	18.0	20.1	23.8	26.6	21.1
sample 59	HIGH	51	19.6	Parous	green/brown	23.8	**28.0**	30.6	32.0	24.3
sample 60	LOW	60	49.6	Parous	cloudy white/yellow	23.0	23.4	31.4	29.1	23.1
sample 61	HIGH	52	21.1	Parous	clear white/yellow	18.3	19.9	24.5	28.5	20.8
sample 62	LOW	58	28.7	Parous	clear white/yellow	20.9	22.0	29.8	32.3	24.5
sample 63	LOW	52	UD	Parous	bloody/orange/pink	18.2	19.8	23.1	26.0	20.9
sample 64	LOW	52	34.3	Parous	clear white/yellow	18.0	19.2	24.4	26.6	20.3
sample 65	LOW	55	24.6	Parous	green/brown	19.8	20.9	26.7	33.1	21.5
sample 66	HIGH	50	23.6	Parous	clear white/yellow	21.2	22.3	26.7	29.9	24.4
sample 67	HIGH	62	21.4	Nulliparous	clear white/yellow	17.6	19.4	23.2	25.2	20.8
sample 68	HIGH	59	20.5	Parous	bloody/orange/pink	18.2	19.6	24.6	28.9	21.0
sample 69	HIGH	57	21.3	Parous	clear white/yellow	18.3	19.9	24.3	27.5	20.3
sample 70	HIGH	63	UD	UD	bloody/orange/pink	17.3	19.2	24.5	27.0	19.7
sample 71	LOW	57	28.3	Parous	cloudy white/yellow	25.5	26.1	31.9	33.3	25.3
sample 72	HIGH	53	21.8	Nulliparous	green/brown	22.6	22.7	28.2	31.3	22.4
sample 73	LOW	50	38.4	Nulliparous	bloody/orange/pink	18.8	19.9	25.0	26.8	21.5
sample 74	LOW	60	33.7	Parous	bloody/orange/pink	17.8	19.7	24.1	26.1	20.6
sample 75	HIGH	50	20.8	Parous	clear white/yellow	18.8	19.7	26.5	27.2	19.4
sample 76	HIGH	50	22.8	Parous	bloody/orange/pink	16.9	18.6	22.8	24.8	19.7
sample 77	LOW	59	UD	Parous	clear white/yellow	18.4	20.3	24.2	26.8	20.5
sample 78	LOW	58	25.4	Parous	bloody/orange/pink	17.6	19.5	23.2	24.8	19.5
sample 79	HIGH	51	22	Parous	cloudy white/yellow	22.4	23.1	28.3	27.7	21.9
sample 80	HIGH	53	21	Parous	cloudy white/yellow	19.0	20.2	24.4	25.5	18.2
sample 81	HIGH	56	34.5	Parous	clear white/yellow	20.8	21.7	25.2	27.4	20.5
sample 82	LOW	57	28.3	Parous	clear white/yellow	22.7	23.5	27.7	29.3	21.9
sample 83	LOW	60	29.4	Parous	clear white/yellow	24.6	24.7	31.3	32.6	25.0
sample 84	HIGH	59	21.8	Parous	bloody/orange/pink	17.3	19.3	23.6	26.3	21.7
sample 85	HIGH	54	20.7	Parous	clear white/yellow	17.3	19.1	**35.0**	25.5	20.3
sample 86	LOW	53	32.3	Parous	green/brown	UD	UD	UD	UD	UD
sample 87	LOW	55	30.5	Parous	cloudy white/yellow	21.2	22.1	29.4	**35.0**	23.0
sample 88	HIGH	51	23.7	Parous	clear white/yellow	UD	UD	UD	UD	UD
sample 89	HIGH	54	20.3	Parous	cloudy white/yellow	24.9	23.4	31.3	32.8	24.7
sample 90	LOW	57	31.4	Nulliparous	cloudy white/yellow	25.2	23.6	32.3	**35.0**	25.3
sample 91	LOW	55	40.8	Nulliparous	clear white/yellow	18.0	18.0	23.5	25.9	20.2
sample 92	HIGH	51	22	Nulliparous	cloudy white/yellow	20.0	20.3	25.4	25.8	22.0

sample 93	HIGH	73	18.3	Parous	cloudy white/yellow	22.8	21.9	**35.0**	29.7	21.7
sample 94	LOW	57	35.4	Parous	clear white/yellow	22.1	21.4	29.1	**35.0**	23.8
sample 95	LOW	54	48.1	Parous	cloudy white/yellow	22.8	22.4	**35.0**	30.1	22.1
sample 96	HIGH	56	20.7	Parous	bloody/orange/pink	17.1	17.4	26.2	24.8	18.7
sample 97	HIGH	52	25.3	Parous	cloudy white/yellow	18.4	18.8	24.4	26.6	20.0
sample 98	LOW	60	27	Parous	clear white/yellow	UD	UD	UD	UD	UD
sample 99	LOW	54	27.2	Parous	cloudy white/yellow	22.9	22.2	29.1	**35.0**	24.0
sample 100	HIGH	57	21	Parous	clear white/yellow	17.3	17.7	22.7	25.5	18.7
sample 101	HIGH	54	24.1	Parous	clear white/yellow	18.5	18.5	24.5	26.8	20.3
sample 102	LOW	53	32	Parous	clear white/yellow	18.1	18.5	23.6	26.8	21.3
sample 103	LOW	57	28	Parous	clear white/yellow	18.7	18.8	23.6	27.2	21.6
sample 104	HIGH	61	17	Parous	clear white/yellow	17.5	17.6	25.0	25.0	20.5
sample 105	HIGH	52	UD	UD	cloudy white/yellow	19.3	19.5	24.3	24.7	22.5
sample 106	LOW	53	35.2	Parous	clear white/yellow	17.5	17.8	23.4	24.9	19.1
sample 107	LOW	56	30.4	Parous	clear white/yellow	19.2	19.4	26.0	28.6	22.1
sample 108	HIGH	51	24.8	Nulliparous	clear white/yellow	30.8	UD	UD	UD	30.9
sample 109	HIGH	57	19.4	Parous	clear white/yellow	25.0	23.6	**35.0**	33.0	23.4
sample 110	LOW	53	30.3	Parous	clear white/yellow	18.2	18.6	23.0	25.3	21.5
sample 111	LOW	55	UD	UD	clear white/yellow	18.9	19.2	24.2	26.8	21.5
sample 112	HIGH	50	19.1	Parous	clear white/yellow	20.4	20.1	26.3	28.4	25.0
sample 113	HIGH	57	20.4	Parous	cloudy white/yellow	26.7	25.5	31.9	32.9	27.6
sample 114	LOW	59	23.6	Parous	clear white/yellow	19.5	19.3	25.6	27.8	21.9
sample 115	LOW	54	24.6	Parous	bloody/orange/pink	18.9	19.3	23.0	25.9	22.2
sample 116	HIGH	54	23.1	Parous	clear white/yellow	18.2	18.7	24.3	25.5	20.3
sample 117	LOW	52	29	Parous	cloudy white/yellow	20.9	20.9	27.9	28.7	25.4
sample 118	LOW	59	UD	Parous	clear white/yellow	32.5	UD	UD	UD	UD
sample 119	HIGH	59	23.7	Nulliparous	cloudy white/yellow	23.9	23.1	30.0	29.0	24.4
sample 120	HIGH	50	24.3	Parous	green/brown	24.2	23.5	31.8	33.1	24.1
sample 121	LOW	50	46.1	Parous	clear white/yellow	22.2	22.0	29.1	29.4	23.1
sample 122	LOW	50	35.1	Parous	cloudy white/yellow	23.2	22.6	**35.0**	31.2	23.6
sample 123	HIGH	55	UD	UD	bloody/orange/pink	17.5	18.2	27.4	26.4	20.5
sample 124	HIGH	63	21.3	Parous	cloudy white/yellow	19.8	19.9	24.0	24.8	22.8
sample 125	LOW	57	28.4	Parous	cloudy white/yellow	23.5	22.9	30.1	30.8	26.4
sample 126	LOW	50	26	Nulliparous	cloudy white/yellow	24.7	23.9	29.5	29.9	26.4
sample 127	HIGH	52	25.6	Parous	clear white/yellow	21.5	21.5	28.5	30.7	23.9
sample 128	HIGH	57	25.1	Parous	blue > not categorized	24.4	23.7	33.2	33.0	27.7
sample 129	LOW	53	29.1	Parous	clear white/yellow	23.5	23.4	33.8	**35.0**	25.4
sample 130	LOW	59	24.4	Nulliparous	cloudy white/yellow	22.2	22.2	28.9	30.5	23.4
sample 131	HIGH	66	24	Nulliparous	clear white/yellow	18.9	20.4	27.1	30.3	22.9
sample 132	HIGH	51	17.8	Nulliparous	clear white/yellow	UD	UD	UD	UD	UD
sample 133	LOW	56	43.3	Parous	clear white/yellow	21.1	**28.0**	24.0	27.2	24.5
sample 134	LOW	50	23.5	Parous	cloudy white/yellow	23.6	23.5	29.4	33.9	23.7
sample 135	HIGH	58	20.7	Nulliparous	clear white/yellow	24.3	23.8	31.1	31.9	25.9
sample 136	HIGH	52	21.2	Parous	clear white/yellow	21.2	21.8	26.8	30.5	25.0
sample 137	LOW	57	29.1	Nulliparous	clear white/yellow	20.0	21.1	25.7	27.8	23.7
sample 138	HIGH	61	19.5	Parous	clear white/yellow	24.8	24.4	30.9	31.1	25.5
sample 139	HIGH	64	21.6	Parous	clear white/yellow	24.1	24.1	30.0	33.1	29.0
sample 140	LOW	55		Parous	clear white/yellow	UD	UD	UD	UD	UD
sample 141	LOW	54		Parous	clear white/yellow	UD	UD	UD	UD	UD
sample 142	HIGH	54	25.4	Nulliparous	cloudy white/yellow	19.0	20.0	24.5	27.1	22.2
sample 143	HIGH	61	21.1	Nulliparous	cloudy white/yellow	22.4	22.5	29.6	29.6	22.5

sample 144	LOW	52	29.8	Parous	clear white/yellow	18.9	20.1	24.8	27.5	22.0
sample 145	HIGH	57	22.3	Nulliparous	clear white/yellow	16.6	18.2	22.3	24.6	20.3
sample 146	HIGH	60	19.8	Parous	bloody/orange/pink	19.6	20.7	24.8	27.9	23.0
sample 147	HIGH	58	21.6	Parous	clear white/yellow	25.4	25.5	31.7	32.9	31.8
sample 148	LOW	53	23.1	Parous	clear white/yellow	UD	UD	UD	UD	UD
sample 149	LOW	51	30.5	Parous	clear white/yellow	21.4	22.2	27.3	29.9	24.7
sample 150	HIGH	58	20.1	Parous	clear white/yellow	19.8	21.8	27.0	29.3	23.4
sample 151	HIGH	59	25.2	Nulliparous	clear white/yellow	27.1	26.5	**35.0**	**35.0**	31.8
sample 152	LOW	54	32.6	Parous	green/brown	26.0	25.4	**35.0**	34.0	25.6
sample 153	LOW	60	27.5	Parous	clear white/yellow	31.2	UD	UD	UD	32.6
sample 154	HIGH	56	23.2	Parous	clear white/yellow	UD	UD	UD	UD	UD
sample 155	HIGH	53	20.4	Parous	clear white/yellow	UD	UD	UD	34.2	34.1
sample 156	LOW	50	34.6	Parous	clear white/yellow	18.5	19.6	24.2	26.5	22.0
sample 157	LOW	57	28	Parous	bloody/orange/pink	18.7	20.7	**35.0**	27.0	21.5
sample 158	HIGH	65	18.6	Parous	clear white/yellow	20.5	**28.0**	26.5	29.6	24.2
sample 159	HIGH	59	22.8	Parous	clear white/yellow	19.9	21.3	26.8	29.5	24.4
sample 160	LOW	55	38.6	Parous	cloudy white/yellow	21.8	22.3	26.7	29.0	23.4
sample 161	HIGH	63	18.4	Nulliparous	clear white/yellow	UD	UD	UD	UD	UD
sample 162	LOW	53	28.3	Parous	clear white/yellow	19.1	20.3	25.5	28.9	23.7
sample 163	HIGH	57	24.5	Parous	clear white/yellow	18.4	19.8	24.7	27.3	21.8
sample 164	HIGH	71	22.1	Parous	clear white/yellow	19.9	20.8	26.7	29.6	24.6
sample 165	LOW	58	35.1	Parous	green/brown	23.6	23.6	28.9	30.7	25.1
sample 166	HIGH	56	20.7	Parous	cloudy white/yellow	27.0	26.3	31.0	34.0	28.2
sample 167	HIGH	51	28.7	Nulliparous	clear white/yellow	28.5	26.6	33.7	33.0	31.2
sample 168	LOW	59	24.5	Parous	clear white/yellow	31.4	UD	UD	UD	33.6
sample 169	HIGH	51	22.7	Parous	cloudy white/yellow	23.5	23.0	29.2	29.1	23.9
sample 170	HIGH	56	21.3	Nulliparous	cloudy white/yellow	25.2	24.7	31.2	31.0	26.7

Table S4. Baseline table comparing the discovery cohort (N=41) with the validation cohort (N=170). Significant differences are shown in bold. Cohort size per baseline characteristic can differ due to missing values. Bold p-values indicate significant difference.

		Discovery	Validation	P value
Age	Median (range)	N=41 55 (50-72)	N=170 55 (50-74)	0.802
BMI	Median (range)	N=38 24.2 (18.4-38.8)	N=157 24.7 (17-49.6)	0.554
Age at first live birth	Median (range)	N= 33 29 (18-38)	N=139 28 (19-42)	0.079
Age at menarche	Median (range)	N=41 13 (9-18)	N=162 13 (9-17)	0.626
Parity	Nulliparous (n=33) Parous (n=172)	8 (20%) 33 (80%)	25 (15%) 139 (85%)	0.506
First degree BC	Yes (n=34) No (n=131)	8 (26%) 23 (74%)	26 (19%) 108 (81%)	0.427
NAF colour	Clear white/yellow (n=90) Turbid white/yellow (n=48) Bloody/orange/pink (n=44) Green/brown (n=28)	11 (27%) 3 (7%) 13 (32%) 14 (34%)	79 (47%) 45 (27%) 31 (18%) 14 (8%)	**< 0.0001**