|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplemental Table 1**: Comparison of Analytic Sample Characteristics with Respective Cohort Populations | | | | | | | | |  | | |  | |
|  |  |  |  |  | **Analytic Samples** | | | | | **Comp. P-value**§ | | | |
| **Population Covariates** | | **CANDLE** (n=1503) | **GAPPS** (n=467) | **P-value** | **CANDLE** (n=776) | | | **GAPPS**  (n=205) | | **CANDLE** | | **GAPPS** | |
|  | **Continuous** | **Mean (SD)** |  |  | **Mean (SD)** | | | **Mean (SD)** | |  | |  | |
| **Maternal Age (years)** | | 26.3 (5.5)\* | 30.9 (5.6)\* | <0.001 | 27.3 (5.5)\* | | | 30.5 (5.7)\* | | <0.001 | | 0.474 | |
| **Gestational Age (weeks)** | | 38.9 (1.9)\* | 38.3 (3.0)\* | <0.001 | 39.0 (1.5) | | | 38.3 (3.0)\* | | 0.040 | | 0.893 | |
| **Pre-Pregnancy BMI (kg/m3)** | | 27.5 (7.5)\* | 27.3 (7.6)\* | 0.638 | 27.7 (7.4)\* | | | 26.3 (9.1)\* | | 0.443 | | 0.767 | |
| **Family Income (US dollars)** | | 36800 (27500)\* | 61400 (26600)\* | <0.001 | 41400 (27600)\* | | | 58900 (27600)\* | | <0.001 | | 0.398 | |
| **Birthweight (grams)** | | 3230 (566) | 3250 (782) | 0.542 | 3310 (516) | | | 3270 (806) | | 0.001 | | 0.799 | |
|  | **Categorical** | **N (%)** | **N (%)** |  | **N (%)** | | | **N (%)** | |  | |  | |
| **Maternal Race/Ethnicity** | |  |  |  |  | | |  | |  | |  | |
|  | White | 467 (31.1)⍭ | 354 (75.8)⍭ | <0.001 | 292 (37.6) | | | 163 (79.5)⍭ | | 0.098 | | - | |
|  | Black/African American | 936 (62.3)⍭ | 10 (2.1)⍭ |  | 438 (56.4) | | | 4 (2.0)⍭ | |  | |  | |
|  | Asian | 13 (0.9)⍭ | 13 (2.8)⍭ |  | 6 (0.8) | | | 7 (3.4)⍭ | |  | |  | |
|  | Native Hawaiian Pacific Islander | 1 (0.1)⍭ | 0 (0) |  | 0 (0) | | | 0 (0) | |  | |  | |
|  | American Indian/Alaska Native | 1 (0.1)⍭ | 4 (0.9)⍭. |  | 0 (0) | | | 2 (1.0)⍭ | |  | |  | |
|  | Other | 77 (5.1)⍭ | 37 (7.9)⍭ |  | 37 (4.8) | | | 12 (5.9)⍭ | |  | |  | |
|  | Multiple Race | 6 (0.4)⍭ | 12 (2.6)⍭ |  | 3 (0.4) | | | 3 (1.5)⍭ | |  | |  | |
| **Offspring Sex** | |  |  |  |  | | |  | |  | |  | |
|  | Male | 736 (49.0)⍭ | 240 (51.4) | 0.002 | 381 (49.1) | | | 108 (52.7) | | 0.617 | | 0.936 | |
|  | Female | 727 (48.4)⍭ | 227 (48.6) |  | 395 (50.9) | | | 97 (47.3) | |  | |  | |
| **Season of Birth** | |  |  |  |  | | |  | |  | |  | |
|  | Spring | 319 (21.2)⍭ | 125 (26.8) | <0.001 | 166 (21.4)⍭ | | | 53 (25.9) | | 0.857 | | 0.718 | |
|  | Summer | 415 (27.6)⍭ | 121 (25.9) |  | 219 (28.2)⍭ | | | 50 (24.4) | |  | |  | |
|  | Fall | 414 (27.5)⍭ | 107 (22.9) |  | 217 (28.0)⍭ | | | 52 (25.4) | |  | |  | |
|  | Winter | 295 (19.6)⍭ | 114 (24.4) |  | 170 (21.9)⍭ | | | 50 (24.4) | |  | |  | |
| **Mode of Delivery** | |  |  |  |  | | |  | |  | |  | |
|  | Normal/Vaginal | 916 (60.9)⍭ | 280 (60.0)⍭ | 0.017 | 470 (60.6) | | | 134 (65.4) | | 0.298 | | 0.801 | |
|  | C-section | 540 (35.9)⍭ | 159 (34.0)⍭ |  | 306 (39.4) | | | 71 (34.6) | |  | |  | |
| **Presence/Absence of Labor** | |  |  |  |  | | |  | |  | |  | |
|  | Spontaneous, spontaneous  augmented, or induced labor | 1206 (80.2)⍭ | 369 (79.0)⍭ | <0.001 | 627 (80.8)⍭ | | | 180 (87.8)⍭ | | 0.268 | | 0.429 | |
|  | No labor | 249 (16.6)⍭ | 43 (9.2)⍭ |  | 148 (19.1)⍭ | | | 16 (7.8)⍭ | |  | |  | |
| **Maternal Smoking** | |  |  |  |  | | |  | |  | |  | |
|  | Yes/Cotinine positive (>200 ng/mL) | 77 (5.1)⍭ | 0 (0.0)⍭ | <0.001 | 37 (4.8)⍭ | | | 0 (0)⍭ | | 0.113 | | - | |
|  | No/Cotinine negative (<200 ng/mL) | 1085 (72.2)⍭ | 4 (0.9)⍭ |  | 736 (94.8)⍭ | | | 2 (1.0)⍭ | |  | |  | |
| **Maternal Smoking (Self-report)** | |  |  |  |  | | |  | |  | |  | |
|  | Yes | 151 (10.0)⍭ | 12 (2.6)⍭ | <0.001 | 65 (8.4) | | | 4 (2.0)⍭ | | 0.223 | | 0.738 | |
|  | No | 1351 (89.9)⍭ | 414 (88.7)⍭ |  | 711 (91.6) | | | 199 (97.1)⍭ | |  | |  | |
| **Maternal Education** | |  |  |  |  | | |  | |  | |  | |
|  | Less than high school | 184 (12.2)⍭ | 16 (3.4)⍭ | <0.001 | 66 (8.5) | | | 10 (4.9)⍭ | | 0.007 | | 0.857 | |
|  | High school completion | 709 (47.2)⍭ | 112 (24.0)⍭ |  | 346 (44.6) | | | 57 (27.8)⍭ | |  | |  | |
|  | Graduated college or technical school | 437 (29.1)⍭ | 187 (40.0)⍭ |  | 260 (33.5) | | | 85 (41.5)⍭ | |  | |  | |
|  | Some graduate work or professional degree | 171 (11.4)⍭ | 111 (23.8)⍭ |  | 104 (13.4) | | | 52 (25.4)⍭ | |  | |  | |
| \* | Mean and standard deviation values calculated after removal of missing values | | | | |  |  | | | |  | |  |
| ⍭ | Percentages do not sum to 100% due to missing values of the covariates | | | | |  |  | | | |  | |  |
| § | Comparison refers to tests between cohorts and their respective analytic samples; missing values arise due to categories with missing values | | | | | | | | | | | |  |

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| **Supplemental Table 2**: Comparison of lncRNA findings to other placental tissue databases | | | |  |  |
| GEO Database / Profile | Testing Platform | Samples | Study  Comparisons | Transcript(s) | Results |
| GDS5016 1 -  Male and female in vitro cultured placental cell types | Affymetrix Human Gene 1.0 ST Array | 32 | Cell-type, Fetal sex | ERVH48-1 | Elevated expression in cytotrophoblasts and syncytiotrophblasts compared to venous and arterial endothelial cells; no male-female differences observed |
|  |  |  |  |  |  |
| GDS5314 2 -  Placental CD14+ macrophage-derived multinucleated giant cells | Agilent-014850 Whole Human Genome Microarray 4x44K G4112F | 12 | Cell-type | ERVH48-1 | No difference for any transcripts |
| EPB41L4A-AS1 |
| DANCR |
| KANSL1-AS1 |
|  |  |  |  |  |  |
| GDS5021 3 -  Placenta response to maternal choline intake throughout the third trimester of pregnancy: dose response | Agilent-014850 Whole Human Genome Microarray 4x44K G4112F | 12 | Fetal sex, Maternal choline dose | ERVH48-1 | No difference for any transcripts |
| EPB41L4A-AS1 |
| DANCR |
| KANSL1-AS1 |
|  |  |  |  |  |  |
| GDS3834 4 -  Multiple normal tissues | Rosetta Human Gene Expression Array | 42 | Tissue | DANCR | Slight downregulation compared to tissue average |
|  |  |  |  |  |  |
| GDS4037 5 -  Normal placentae at first-trimester, second-trimester, and term | Affymetrix Human Genome U133 Plus 2.0 Array | 12 | First trimester, second trimester, term placenta | ERVH48-1 | Elevated at term |
| EPB41L4A-AS1 | Slight decrease at term |
| DANCR | Decrease at term |
| KANSL1-AS1 | Relatively similar across pregnancy |
| **Supplemental Table 2**: Comparison of lncRNA findings to other placental tissue databases (continued) | | | | | |
| GEO Database / Profile | Testing Platform | Samples | Study  Comparisons | Transcript(s) | Results |
| GD2990 6 -  Cigarette smoking effect on full-term placenta | Affymetrix Human Genome U133 Plus 2.0 Array | 10 | Maternal smoking, Fetal sex | ERVH48-1 | No difference |
| EPB41L4A-AS1 | No difference |
| DANCR | No difference |
| KANSL1-AS1 | Slight elevation among females |
|  |  |  |  |  |  |
| GDS2548 7 -  Preeclampsia: uteroplacental tissues | Affymetrix Human Genome U133 Plus 2.0 Array | 6 | Preeclampsia  vs. normal pregnancy | ERVH48-1 | Increased in preeclampsia |
| EPB41L4A-AS1 | Similarity and decrease observed in separate samples |
| DANCR | No difference |
| KANSL1-AS1 | Increase and decrease observed in separate samples |
|  |  |  |  |  |
| GDS2080 8 -  Early and late onset severe preeclampsia: placenta | Agilent-012391 Whole Human Genome Oligo Microarray G4112A | 14 | Preeclampsia vs. normal pregnancy | ERVH48-1 | Trends toward elevated ERVH48-1 in both early- and late-onset preeclampsia compared to normal |
|  |  |  |  |  |  |

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