**Supplementary Table 1. Demographic data for the entire preterm cohort (PIFCO) that underwent nasal brushings.** No significant differences were observed in the demographic data from the wider cohort compared to the preterm samples used for the *ex vivo* and *in vitro* sequencing.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Full Cohort** | ***Ex vivo* Samples** | ***In vitro*****Samples** |
| **Sample (n male)** | 35 (28) | 9 (9) | 11 (9)  |
| **Age at Brushing****(Actual Years)** | 1.42 ± 0.99 | 1.45 ± 0.10 | 1.40 ± 0.12 |
| **Gestational Age (Weeks)** | 27.7 ± 2.35 | 27.2 ± 2.81 | 28.32 ± 1.95 |
| **Bronchopulmonary Dysplasia (%)** | 15 (43%) | 4 (44%) | 4 (36%) |
| **Birthweight Z-Score** | 0.03 ± 0.91 | -0.33 ± 0.78 | -0.12 ± 0.89 |
| **Total Hours Oxygen**  | 198 [1582] | 61 [1597] | 59 [1203] |
| **Total Hours Respiratory Support (Ventilation, CPAP and HHF)** | 1323  ± 863 | 1401 ± 895 | 1313 ± 729 |