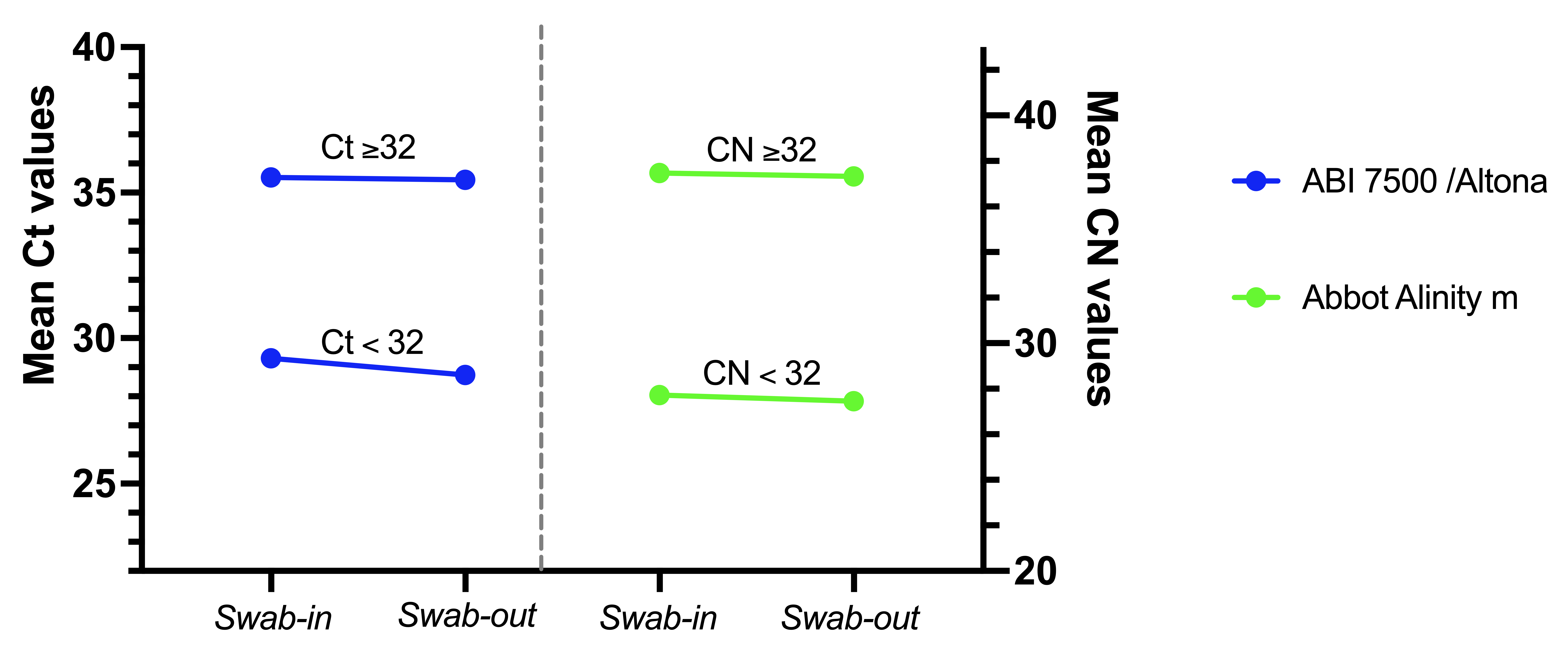
Annex Swab Paper

*Table S1*: Paired Ct and CN values for samples (S) and controls (C) in the ABI and Alinity platforms

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **sample\_id** | **swab\_status** | **Ct\_average** | **result** | **platform** |  | **sample\_id** | **swab\_status** | **CN\_average** | **result** | **platform** |
| S10D1 | Swab\_in | 32.2745 | positive | ABI |  | S10D1 | Swab\_in | 29.72 | positive | Alinity |
| S10D1 | Swab\_out | 32.66615 | positive | ABI |  | S10D1 | Swab\_out | 33.06 | positive | Alinity |
| S10D2 | Swab\_in | 35.6901 | positive | ABI |  | S10D2 | Swab\_in | 33.635 | positive | Alinity |
| S10D2 | Swab\_out | 36.36565 | positive | ABI |  | S10D2 | Swab\_out |  | negative | Alinity |
| S10D3 | Swab\_in | 38.56985 | positive | ABI |  | S10D3 | Swab\_in | 36.815 | positive | Alinity |
| S10D3 | Swab\_out |  | negative | ABI |  | S10D3 | Swab\_out | 36.93 | positive | Alinity |
| S10D4 | Swab\_in |  | negative | ABI |  | S10D4 | Swab\_in |  | negative | Alinity |
| S10D4 | Swab\_out |  | negative | ABI |  | S10D4 | Swab\_out |  | negative | Alinity |
| S10D5 | Swab\_in |  | negative | ABI |  | S10D5 | Swab\_in |  | negative | Alinity |
| S10D5 | Swab\_out |  | negative | ABI |  | S10D5 | Swab\_out |  | negative | Alinity |
| S10D6 | Swab\_in |  | negative | ABI |  | S10D6 | Swab\_in |  | negative | Alinity |
| S10D6 | Swab\_out |  | negative | ABI |  | S10D6 | Swab\_out |  | negative | Alinity |
| S1D1 | Swab\_in | 28.75755 | positive | ABI |  | S1D1 | Swab\_in | 26.45 | positive | Alinity |
| S1D1 | Swab\_out | 29.81525 | positive | ABI |  | S1D1 | Swab\_out | 27.205 | positive | Alinity |
| S1D2 | Swab\_in | 32.5157 | positive | ABI |  | S1D2 | Swab\_in | 29.45 | positive | Alinity |
| S1D2 | Swab\_out | 33.4679 | positive | ABI |  | S1D2 | Swab\_out | 30.715 | positive | Alinity |
| S1D3 | Swab\_in | 35.4992 | positive | ABI |  | S1D3 | Swab\_in | 33.4 | positive | Alinity |
| S1D3 | Swab\_out | 36.8991 | positive | ABI |  | S1D3 | Swab\_out | 33.75 | positive | Alinity |
| S1D4 | Swab\_in |  | negative | ABI |  | S1D4 | Swab\_in | 36.78 | positive | Alinity |
| S1D4 | Swab\_out |  | negative | ABI |  | S1D4 | Swab\_out | 38.38 | positive | Alinity |
| S1D5 | Swab\_in |  | negative | ABI |  | S1D5 | Swab\_in |  | negative | Alinity |
| S1D5 | Swab\_out |  | negative | ABI |  | S1D5 | Swab\_out |  | negative | Alinity |
| S1D6 | Swab\_in |  | negative | ABI |  | S1D6 | Swab\_in |  | negative | Alinity |
| S1D6 | Swab\_out |  | negative | ABI |  | S1D6 | Swab\_out |  | negative | Alinity |
| S2D1 | Swab\_in | 29.428 | positive | ABI |  | S2D1 | Swab\_in | 25.99 | positive | Alinity |
| S2D1 | Swab\_out | 30.01295 | positive | ABI |  | S2D1 | Swab\_out | 26.56 | positive | Alinity |
| S2D2 | Swab\_in | 33.14045 | positive | ABI |  | S2D2 | Swab\_in | 29.695 | positive | Alinity |
| S2D2 | Swab\_out | 35.45635 | positive | ABI |  | S2D2 | Swab\_out | 29.985 | positive | Alinity |
| S2D3 | Swab\_in | 36.5602 | positive | ABI |  | S2D3 | Swab\_in | 32.935 | positive | Alinity |
| S2D3 | Swab\_out | 37.02375 | positive | ABI |  | S2D3 | Swab\_out | 33.515 | positive | Alinity |
| S2D4 | Swab\_in | 37.5758 | positive | ABI |  | S2D4 | Swab\_in | 37.565 | positive | Alinity |
| S2D4 | Swab\_out |  | negative | ABI |  | S2D4 | Swab\_out | 37.585 | positive | Alinity |
| S2D5 | Swab\_in |  | negative | ABI |  | S2D5 | Swab\_in | 38.72 | positive | Alinity |
| S2D5 | Swab\_out |  | negative | ABI |  | S2D5 | Swab\_out |  | negative | Alinity |
| S2D6 | Swab\_in |  | negative | ABI |  | S2D6 | Swab\_in |  | negative | Alinity |
| S2D6 | Swab\_out |  | negative | ABI |  | S2D6 | Swab\_out |  | negative | Alinity |
| S3D1 | Swab\_in | 32.07605 | positive | ABI |  | S3D1 | Swab\_in | 27.165 | positive | Alinity |
| S3D1 | Swab\_out | 32.1414 | positive | ABI |  | S3D1 | Swab\_out | 29.59 | positive | Alinity |
| S3D2 | Swab\_out | 35.18175 | positive | ABI |  | S3D2 | Swab\_in | 30.57 | positive | Alinity |
| S3D2 | Swab\_in | 36.5025 | positive | ABI |  | S3D2 | Swab\_out | 32.705 | positive | Alinity |
| S3D3 | Swab\_out | 36.4844 | positive | ABI |  | S3D3 | Swab\_in | 35.105 | positive | Alinity |
| S3D3 | Swab\_in |  | negative | ABI |  | S3D3 | Swab\_out | 36.575 | positive | Alinity |
| S3D4 | Swab\_in |  | negative | ABI |  | S3D4 | Swab\_in | 38.805 | positive | Alinity |
| S3D4 | Swab\_out |  | negative | ABI |  | S3D4 | Swab\_out |  | negative | Alinity |
| S3D5 | Swab\_in |  | negative | ABI |  | S3D5 | Swab\_in |  | negative | Alinity |
| S3D5 | Swab\_out |  | negative | ABI |  | S3D5 | Swab\_out |  | negative | Alinity |
| S3D6 | Swab\_in |  | negative | ABI |  | S3D6 | Swab\_in |  | negative | Alinity |
| S3D6 | Swab\_out |  | negative | ABI |  | S3D6 | Swab\_out |  | negative | Alinity |
| S4D1 | Swab\_in | 28.4386 | positive | ABI |  | S4D1 | Swab\_in | 23.925 | positive | Alinity |
| S4D1 | Swab\_out | 28.72945 | positive | ABI |  | S4D1 | Swab\_out | 25.47 | positive | Alinity |
| S4D2 | Swab\_out | 32.2191 | positive | ABI |  | S4D2 | Swab\_in | 27.48 | positive | Alinity |
| S4D2 | Swab\_in | 32.6 | positive | ABI |  | S4D2 | Swab\_out | 29.355 | positive | Alinity |
| S4D3 | Swab\_in | 35.4802 | positive | ABI |  | S4D3 | Swab\_in | 30.73 | positive | Alinity |
| S4D3 | Swab\_out | 36.10315 | positive | ABI |  | S4D3 | Swab\_out | 32.035 | positive | Alinity |
| S4D4 | Swab\_in | 38.1931 | positive | ABI |  | S4D4 | Swab\_in | 34.06 | positive | Alinity |
| S4D4 | Swab\_out |  | negative | ABI |  | S4D4 | Swab\_out | 36.27 | positive | Alinity |
| S4D5 | Swab\_in |  | negative | ABI |  | S4D5 | Swab\_in | 36.445 | positive | Alinity |
| S4D5 | Swab\_out |  | negative | ABI |  | S4D5 | Swab\_out | 38.765 | positive | Alinity |
| S4D6 | Swab\_in |  | negative | ABI |  | S4D6 | Swab\_in |  | negative | Alinity |
| S4D6 | Swab\_out |  | negative | ABI |  | S4D6 | Swab\_out |  | negative | Alinity |
| S5D1 | Swab\_out | 25.27315 | positive | ABI |  | S5D1 | Swab\_in | 21.855 | positive | Alinity |
| S5D1 | Swab\_in | 25.41595 | positive | ABI |  | S5D1 | Swab\_out | 21.935 | positive | Alinity |
| S5D2 | Swab\_out | 28.8412 | positive | ABI |  | S5D2 | Swab\_out | 25.375 | positive | Alinity |
| S5D2 | Swab\_in | 28.91475 | positive | ABI |  | S5D2 | Swab\_in | 25.76 | positive | Alinity |
| S5D3 | Swab\_out | 31.9235 | positive | ABI |  | S5D3 | Swab\_out | 28.95 | positive | Alinity |
| S5D3 | Swab\_in | 32.8178 | positive | ABI |  | S5D3 | Swab\_in | 29.47 | positive | Alinity |
| S5D4 | Swab\_in | 36.23615 | positive | ABI |  | S5D4 | Swab\_in | 32.395 | positive | Alinity |
| S5D4 | Swab\_out | 36.51545 | positive | ABI |  | S5D4 | Swab\_out | 32.71 | positive | Alinity |
| S5D5 | Swab\_in | 39.4948 | positive | ABI |  | S5D5 | Swab\_in | 35.585 | positive | Alinity |
| S5D5 | Swab\_out |  | negative | ABI |  | S5D5 | Swab\_out | 35.915 | positive | Alinity |
| S5D6 | Swab\_in |  | negative | ABI |  | S5D6 | Swab\_out | 39.42 | positive | Alinity |
| S5D6 | Swab\_out |  | negative | ABI |  | S5D6 | Swab\_in |  | negative | Alinity |
| S6D1 | Swab\_out | 30.45425 | positive | ABI |  | S6D1 | Swab\_out | 27.295 | positive | Alinity |
| S6D1 | Swab\_in | 31.14705 | positive | ABI |  | S6D1 | Swab\_in | 27.725 | positive | Alinity |
| S6D2 | Swab\_out | 35.22445 | positive | ABI |  | S6D2 | Swab\_out | 31.005 | positive | Alinity |
| S6D2 | Swab\_in | 35.50715 | positive | ABI |  | S6D2 | Swab\_in | 31.345 | positive | Alinity |
| S6D3 | Swab\_out | 37.7775 | positive | ABI |  | S6D3 | Swab\_out | 33.94 | positive | Alinity |
| S6D3 | Swab\_in | 39.57 | positive | ABI |  | S6D3 | Swab\_in | 34.67 | positive | Alinity |
| S6D4 | Swab\_in |  | negative | ABI |  | S6D4 | Swab\_in | 38.285 | positive | Alinity |
| S6D4 | Swab\_out |  | negative | ABI |  | S6D4 | Swab\_out |  | negative | Alinity |
| S6D5 | Swab\_in |  | negative | ABI |  | S6D5 | Swab\_in |  | negative | Alinity |
| S6D5 | Swab\_out |  | negative | ABI |  | S6D5 | Swab\_out |  | negative | Alinity |
| S6D6 | Swab\_in |  | negative | ABI |  | S6D6 | Swab\_in |  | negative | Alinity |
| S6D6 | Swab\_out |  | negative | ABI |  | S6D6 | Swab\_out |  | negative | Alinity |
| S8D1 | Swab\_in | 35.82885 | positive | ABI |  | S8D1 | Swab\_in | 32.125 | positive | Alinity |
| S8D1 | Swab\_out | 36.174 | positive | ABI |  | S8D1 | Swab\_out | 32.58 | positive | Alinity |
| S8D2 | Swab\_in | 35.0119 | positive | ABI |  | S8D2 | Swab\_in | 35.3 | positive | Alinity |
| S8D2 | Swab\_out |  | negative | ABI |  | S8D2 | Swab\_out |  | negative | Alinity |
| S8D3 | Swab\_in |  | negative | ABI |  | S8D3 | Swab\_in | 39.63 | positive | Alinity |
| S8D3 | Swab\_out |  | negative | ABI |  | S8D3 | Swab\_out |  | negative | Alinity |
| S8D4 | Swab\_in |  | negative | ABI |  | S8D4 | Swab\_in |  | negative | Alinity |
| S8D4 | Swab\_out |  | negative | ABI |  | S8D4 | Swab\_out |  | negative | Alinity |
| S8D5 | Swab\_in |  | negative | ABI |  | S8D5 | Swab\_in |  | negative | Alinity |
| S8D5 | Swab\_out |  | negative | ABI |  | S8D5 | Swab\_out |  | negative | Alinity |
| S8D6 | Swab\_in |  | negative | ABI |  | S8D6 | Swab\_in |  | negative | Alinity |
| S8D6 | Swab\_out |  | negative | ABI |  | S8D6 | Swab\_out |  | negative | Alinity |
| S9D1 | Swab\_in | 27.1921 | positive | ABI |  | S9D1 | Swab\_in | 24.29 | positive | Alinity |
| S9D1 | Swab\_out | 28.04645 | positive | ABI |  | S9D1 | Swab\_out | 26.49 | positive | Alinity |
| S9D2 | Swab\_in | 30.60165 | positive | ABI |  | S9D2 | Swab\_in | 28.755 | positive | Alinity |
| S9D2 | Swab\_out | 31.8407 | positive | ABI |  | S9D2 | Swab\_out | 29.87 | positive | Alinity |
| S9D3 | Swab\_in | 34.3881 | positive | ABI |  | S9D3 | Swab\_in | 31.85 | positive | Alinity |
| S9D3 | Swab\_out | 35.03785 | positive | ABI |  | S9D3 | Swab\_out | 35.045 | positive | Alinity |
| S9D4 | Swab\_in | 37.4859 | positive | ABI |  | S9D4 | Swab\_in | 35.415 | positive | Alinity |
| S9D4 | Swab\_out | 38.25325 | positive | ABI |  | S9D4 | Swab\_out | 40.83 | positive | Alinity |
| S9D5 | Swab\_in |  | negative | ABI |  | S9D5 | Swab\_in | 38.075 | positive | Alinity |
| S9D5 | Swab\_out |  | negative | ABI |  | S9D5 | Swab\_out |  | negative | Alinity |
| S9D6 | Swab\_in |  | negative | ABI |  | S9D6 | Swab\_in |  | negative | Alinity |
| S9D6 | Swab\_out |  | negative | ABI |  | S9D6 | Swab\_out |  | negative | Alinity |
| C1D1 | Swab\_in |  | negative | ABI |  | C1D1 | Swab\_in |  | negative | Alinity |
| C1D1 | Swab\_out |  | negative | ABI |  | C1D1 | Swab\_out |  | negative | Alinity |
| C1D2 | Swab\_in |  | negative | ABI |  | C1D2 | Swab\_in |  | negative | Alinity |
| C1D2 | Swab\_out |  | negative | ABI |  | C1D2 | Swab\_out |  | negative | Alinity |
| C1D3 | Swab\_in |  | negative | ABI |  | C1D3 | Swab\_in |  | negative | Alinity |
| C1D3 | Swab\_out |  | negative | ABI |  | C1D3 | Swab\_out |  | negative | Alinity |
| C1D4 | Swab\_in |  | negative | ABI |  | C1D4 | Swab\_in |  | negative | Alinity |
| C1D4 | Swab\_out |  | negative | ABI |  | C1D4 | Swab\_out |  | negative | Alinity |
| C1D5 | Swab\_in |  | negative | ABI |  | C1D5 | Swab\_in |  | negative | Alinity |
| C1D5 | Swab\_out |  | negative | ABI |  | C1D5 | Swab\_out |  | negative | Alinity |
| C1D6 | Swab\_in |  | negative | ABI |  | C1D6 | Swab\_in |  | negative | Alinity |
| C1D6 | Swab\_out |  | negative | ABI |  | C1D6 | Swab\_out |  | negative | Alinity |
| C2D1 | Swab\_in |  | negative | ABI |  | C2D1 | Swab\_in |  | negative | Alinity |
| C2D1 | Swab\_out |  | negative | ABI |  | C2D1 | Swab\_out |  | negative | Alinity |
| C2D2 | Swab\_in |  | negative | ABI |  | C2D2 | Swab\_in |  | negative | Alinity |
| C2D2 | Swab\_out |  | negative | ABI |  | C2D2 | Swab\_out |  | negative | Alinity |
| C2D3 | Swab\_in |  | negative | ABI |  | C2D3 | Swab\_in |  | negative | Alinity |
| C2D3 | Swab\_out |  | negative | ABI |  | C2D3 | Swab\_out |  | negative | Alinity |
| C2D4 | Swab\_in |  | negative | ABI |  | C2D4 | Swab\_in |  | negative | Alinity |
| C2D4 | Swab\_out |  | negative | ABI |  | C2D4 | Swab\_out |  | negative | Alinity |
| C2D5 | Swab\_in |  | negative | ABI |  | C2D5 | Swab\_in |  | negative | Alinity |
| C2D5 | Swab\_out |  | negative | ABI |  | C2D5 | Swab\_out |  | negative | Alinity |
| C2D6 | Swab\_in |  | negative | ABI |  | C2D6 | Swab\_in |  | negative | Alinity |
| C2D6 | Swab\_out |  | negative | ABI |  | C2D6 | Swab\_out |  | negative | Alinity |

  
*Figure S1:* Comparison of Ct mean values before and after swab removal for the moderate-high Ct (<32) and high Ct groups (≥32).

*Table S2*: Paired t-test results comparing the mean Ct values for each group and platform

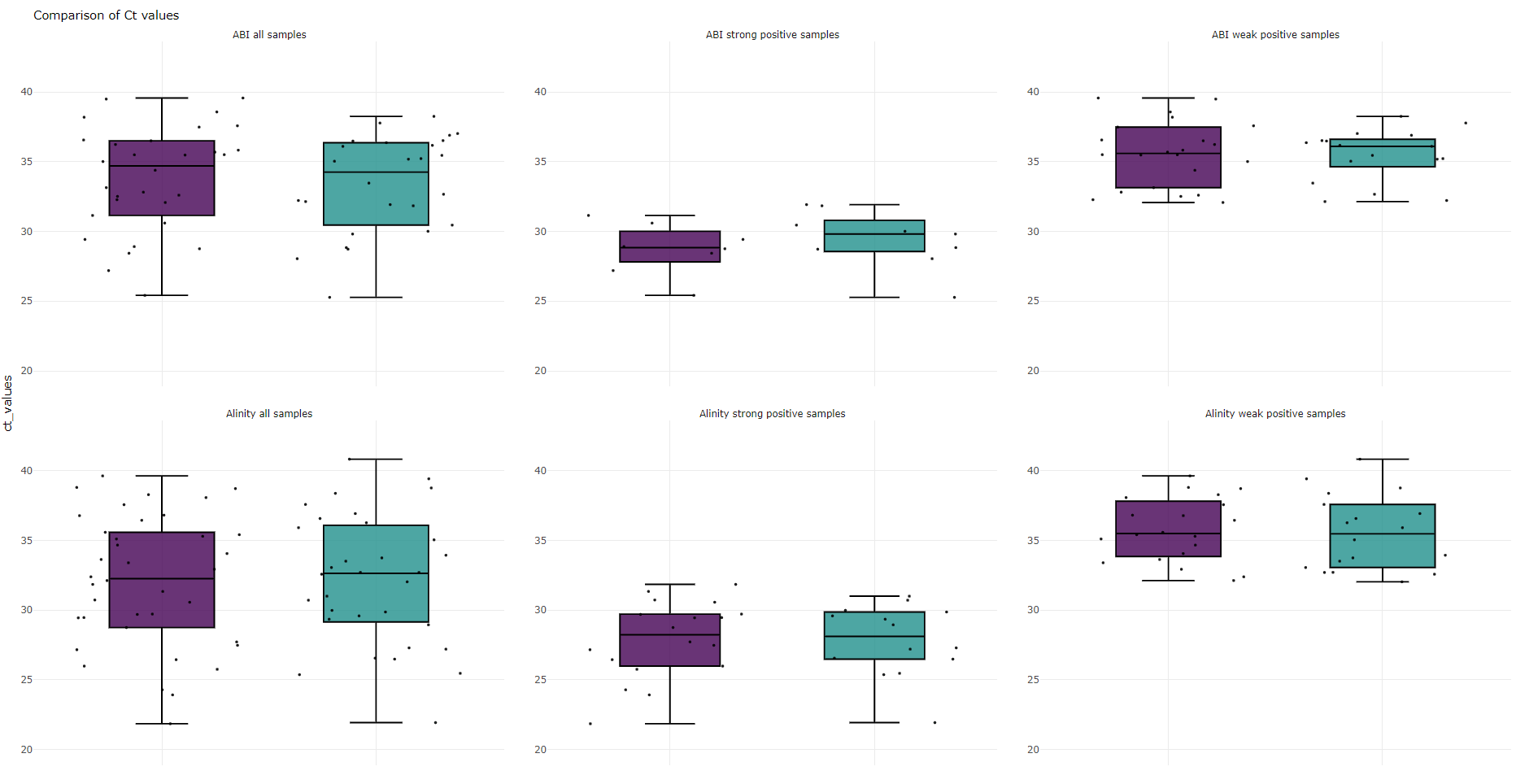
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Platform** | **Group** | **p value** | **CI 95%** | **Mean diff** |
| Alinity | All | 0.8689 | 3.2129 - 3.7673 | 0.2772 |
| Alinity | CN <32 | 0.5268 | 2.8932 - 1.5541 | -0.6696 |
| Alinity | CN ≥32 | 0.9631 | -1.5493 - 1.6201 | 0.035277 |
| ABI | All | 0.3437 | -3.8388 - 1.4576 | -0.7782 |
| ABI | Ct <32 | 0.5441 | 1.5532 - 2.7003 | 0.557 |
| ABI | Ct ≥32 | 0.6893 | -1.2016 - 0.8145 | -0.0.1936 |

Table S3: Contingency tables for each group and platform

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Alinity - Overall Results** | | | | |  | **Altona/ABI - Overall Results** | | | | |  |
|  |  |  | **Swab in method** | |  |  |  |  | **Swab in method** | |  |  |
|  |  |  | Positive | Negative | **Total** |  |  |  | Positive | Negative | **Total** |  |
|  | **Swab Out method** | Positive | 31 | 1 | **32** |  | **Swab Out method** | Positive | 25 | 1 | **26** |  |
|  | Negative | 7 | 27 | **34** |  | Negative | 5 | 35 | **40** |  |
|  |  | **Total** | **38** | **28** | **66** |  |  | **Total** | **30** | **36** | **66** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Alinity - CN <32 group** | | | | |  | **Altona/ABI - Ct <32 group** | | | | |  |
|  |  |  | **Swab in method** | |  |  |  |  | **Swab in method** | |  |  |
|  |  |  | Positive | Negative | **Total** |  |  |  | Positive | Negative | **Total** |  |
|  | **Swab Out method** | Positive | 18 | 0 | **18** |  | **Swab Out method** | Positive | 8 | 0 | **8** |  |
|  | Negative | 0 | 27 | **27** |  | Negative | 0 | 35 | **35** |  |
|  |  | **Total** | **18** | **27** | **45** |  |  | **Total** | **8** | **35** | **43** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Alinity - CN ≥32 group** | | | | |  | **Altona/ABI - Ct ≥32 group** | | | | |  |
|  |  |  | **Swab in method** | |  |  |  |  | **Swab in method** | |  |  |
|  |  |  | Positive | Negative | **Total** |  |  |  | Positive | Negative | **Total** |  |
|  | **Swab Out method** | Positive | 13 | 1 | **14** |  | **Swab Out method** | Positive | 17 | 1 | **18** |  |
|  | Negative | 7 | 27 | **34** |  | Negative | 5 | 35 | **40** |  |
|  |  | **Total** | **20** | **28** | **48** |  |  | **Total** | **22** | **36** | **58** |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

Some samples were not detected in the swab-in method but were captured after removing the swab, but the results should be interpreted cautiously. Our data analysis strategy considered samples positive only when both replicates were detected. For instance, sample S5D6 was considered negative in the Alinity because only one replicate was captured in the swab-in method, which had a very high CN value of CN 40.78. The corresponding swab-out pair samples were detected, with CNs of 40.69 and 38.15. The set was considered positive since these two samples from the swab-out method were detected.

Similarly, sample S3D3 in the SARS-Cov-2 Altona/ABI assay had a single Ct of 39.05 for the swab-in method but two values of Ct 38.54 and 38.37 after removing the swab. Boxplot figures comparing the distribution of samples and a table detailing the complete statistics can be found in the supplementary materials (**Figure S2, Table S4**).

*Figure S2:* Comparison of Ct mean values before and after swab removal for the moderate-high Ct and high Ct groups.

*Table S4*: Summary statistics for all groups, conditions and platforms.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Method** | **Platform** | **Group** | **Min** | **Max** | **Median** | **Mean** | **1st Qu.** | **3rd Qu.** |
| Swab in | Alinity | All | 21.93 | 40.83 | 32.64 | 32.18 | 28.93 | 35.54 |
| Swab out | Alinity | All | 28.93 | 39.63 | 32.26 | 32.05 | 29.25 | 36.00 |
| Swab in | Alinity | CN <32 | 21.86 | 31.85 | 28.24 | 28.05 | 26.11 | 29.71 |
| Swab out | Alinity | CN <32 | 21.93 | 31.00 | 28.12 | 27.84 | 26.51 | 29.80 |
| Swab in | Alinity | CN ≥32 | 35.05 | 40.83 | 37.26 | 37.57 | 36.35 | 40.83 |
| Swab out | Alinity | CN ≥32 | 35.10 | 39.63 | 36.61 | 36.69 | 35.46 | 37.38 |
| Swab in | ABI | All | 25.27 | 38.25 | 34.25 | 33.38 | 31.38 | 36.44 |
| Swab out | ABI | All | 25.42 | 39.57 | 34.7 | 33.46 | 30.80 | 36.32 |
| Swab in | ABI | Ct <32 | 25.27 | 31.92 | 29.33 | 29.31 | 28.13 | 29.72 |
| Swab out | ABI | Ct <32 | 25.42 | 31.15 | 28.84 | 28.74 | 28.56 | 30.80 |
| Swab in | ABI | Ct ≥32 | 32.14 | 38.25 | 35.47 | 36.52 | 35.04 | 36.56 |
| Swab out | ABI | Ct ≥32 | 32.08 | 39.49 | 35.69 | 35.44 | 35.04 | 36.52 |