Supplementary material

Supplementary Table 1. Distribution of the 18 hr-HPV genotypes.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| hr-HPV genotype | Non-malignant | CIN I | CIN II | CIN III | Cervical cancer | Total | *p*-value |
| HPV16 |
|  |  Negative | 98 (90.7%) | 23 (79.3%) | 15 (71.4%) | 18 (64.3%) | 2 (100.0%) | 156 (83.0%) | 0.050 |
|  Positive | 10 (9.3%) | 6 (20.7%) | 6 (28.6%) | 10 (35.7%) | 0 (0.0%) | 32 (17.0%) |
| HPV18 |
|  |  Negative | 105 (97.2%) | 29 (100.0%) | 20 (95.2%) | 28 (100.0%) | 1 (50.0%) | 183 (97.3%) | 0.065 |
|  Positive | 3 (2.8%) | 0 (0.0%) | 1 (4.8%) | 0 (0.0%) | 1 (50.0%) | 5 (2.7%) |
| HPV31 |
|  |  Negative | 106 (98.1%) | 28 (96.6%) | 20 (95.2%) | 27 (96.4%) | 2 (100.0%) | 183 (97.3%) | 0.493 |
|  Positive | 2 (1.9%) | 1 (3.4%) | 1 (4.8%) | 1 (3.6%) | 0 (0.0%) | 5 (2.7%) |
| HPV33 |
|  |  Negative | 107 (99.1%) | 29 (100.0%) | 19 (90.5%) | 23 (82.1%) | 2 (100.0%) | 180 (95.7%) | 0.030\* |
|  Positive | 1 (0.9%) | 0 (0.0%) | 2 (9.5%) | 5 (17.9%) | 0 (0.0%) | 8 (4.3%) |
| HPV35 |
|  |  Negative | 108 (100.0%) | 26 (89.7%) | 21 (100.0%) | 27 (96.4%) | 2 (100.0%) | 184 (97.9%) | 0.020\* |
|  Positive | 0 (0.0%) | 3 (10.3%) | 0 (0.0%) | 1 (3.6%) | 0 (0.0%) | 4 (2.1%) |
| HPV39 |
|  |  Negative | 104 (96.3%) | 27 (93.1%) | 20 (95.2%) | 27 (96.4%) | 2 (100.0%) | 180 (95.7%) | 0.896 |
|  Positive | 4 (3.7%) | 2 (6.9%) | 1 (4.8%) | 1 (3.6%) | 0 (0.0%) | 8 (4.3%) |
| HPV45 |
|   | Negative | 108 (100.0%) | 29 (100.0%) | 21 (100.0%) | 28 (100.0%) | 2 (100.0%) | 188 (100.0%) | – |
| HPV51 |
|  |  Negative | 102 (94.4%) | 22 (75.9%) | 19 (90.5%) | 27 (96.4%) | 2 (100.0%) | 172 (91.5%) | 0.037\* |
|  Positive | 6 (5.6%) | 7 (24.1%) | 2 (9.5%) | 1 (3.6%) | 0 (0.0%) | 16 (8.5%) |
| HPV52 |
|  |  Negative | 86 (79.6%) | 22 (75.9%) | 16 (76.2%) | 26 (92.9%) | 1 (50.0%) | 151 (80.3%) | 0.233 |
|  Positive | 22 (20.4%) | 7 (24.1%) | 5 (23.8%) | 2 (7.1%) | 1 (50.0%) | 37 (19.7%) |
| HPV53 |
|  |  Negative | 103 (95.4%) | 24 (82.8%) | 18 (85.7%) | 28 (100.0%) | 2 (100.0%) | 175 (93.1%) | 0.038\* |
|  Positive | 5 (4.6%) | 5 (17.2%) | 3 (14.3%) | 0 (0.0%) | 0 (0.0%) | 13 (6.9%) |
| HPV56 |
|  |  Negative | 106 (98.1%) | 27 (93.1%) | 21 (100.0%) | 26 (92.9%) | 2 (100.0%) | 182 (96.8%) | 0.218 |
|  Positive | 2 (1.9%) | 2 (6.9%) | 0 (0.0%) | 2 (7.1%) | 0 (0.0%) | 6 (3.2%) |
| HPV58 |
|  |  Negative | 98 (90.7%) | 25 (86.2%) | 17 (81.0%) | 22 (78.6%) | 1 (50.0%) | 163 (86.7%) | 0.134 |
|  Positive | 10 (9.3%) | 4 (13.8%) | 4 (19.0%) | 6 (21.4%) | 1 (50.0%) | 25 (13.3%) |
| HPV59 |
|  |  Negative | 103 (95.4%) | 28 (96.6%) | 20 (95.2%) | 27 (96.4%) | 2 (100.0%) | 180 (95.7%) | >0.999 |
|  Positive | 5 (4.6%) | 1 (3.4%) | 1 (4.8%) | 1 (3.6%) | 0 (0.0%) | 8 (4.3%) |
| HPV66 |
|  |  Negative | 107 (99.1%) | 27 (93.1%) | 20 (95.2%) | 27 (96.4%) | 2 (100.0%) | 183 (97.3%) | 0.173 |
|  Positive | 1 (0.9%) | 2 (6.9%) | 1 (4.8%) | 1 (3.6%) | 0 (0.0%) | 5 (2.7%) |
| HPV68 |
|  |  Negative | 102 (94.4%) | 27 (93.1%) | 20 (95.2%) | 27 (96.4%) | 2 (100.0%) | 178 (94.7%) | 0.960 |
|  Positive | 6 (5.6%) | 2 (6.9%) | 1 (4.8%) | 1 (3.6%) | 0 (0.0%) | 10 (5.3%) |
| HPV73 |
|  |  Negative | 108 (100.0%) | 29 (100.0%) | 20 (95.2%) | 27 (96.4%) | 2 (100.0%) | 186 (98.9%) | 0.111 |
|  Positive | 0 (0.0%) | 0 (0.0%) | 1 (4.8%) | 1 (3.6%) | 0 (0.0%) | 2 (1.1%) |
| HPV82 |
|   | Negative | 108 (100.0%) | 29 (100.0%) | 21 (100.0%) | 28 (100.0%) | 2 (100.0%) | 188 (100.0%) | - |
| HPV83 |
|  |  Negative | 0 (0.0%) | 1 (3.4%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (0.5%) | 0.426 |
|  Positive | 108 (100.0%) | 28 (96.6%) | 21 (100.0%) | 28 (100.0%) | 2 (100.0%) | 187 (99.5%) |

\**p* < 0.05



**Supplementary Fig. 1. ROC curves for the 88 *PAX1* methylation sites.** *PAX1*, paired box-1; ROC, receiver operating characteristic.