Supplementary Materials

**Table S1**. Prevalence of *BRCA1/2* TPVs by histological subtype of EOC

|  |  |  |
| --- | --- | --- |
|  | ***BRCA1/2* TPV**  *n (%)* | ***BRCA1/2* VUS1**  *n (%)* |
| ***BRCA1/2* variants detected** | 74 (100.0) | 6 (100.0) |
| High-grade serous | 67 (90.5) | 5 (83.3) |
| Low-grade serous | 1 (1.4) | . |
| Endometrioid | 1 (1.4) | 1 (16.7) |
| Clear cell | 1 (1.4) | . |
| Mucinous | . | . |
| Carcinosarcoma | 3 (4.1) | . |
| Carcinoma NOS | 1 (1.4) | . |

1 VUS is not always reported. Abbreviations: TPV, tumor pathogenic variant; VUS, variance of unknown significance; NOS, not otherwise specified.

**Table S2**. Prevalence of *BRCA1/2* TPVs and histological subtypes for analyses reporting hybrid capture or PCR-based techniques

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total**  *n (%)* | **Hybrid capture**  *n (%)* | **PCR-based**  *n (%)* | **P-value** |
| *BRCA1/2* tumor tests performed | 502 (100.0) | 244 (100.0) | 133 (100.0) |  |
| *BRCA1/2* TPVs | 74 (14.7) | 33 (12.3) | 28 (21.1) | 0.0781 |
| *BRCA1* | 43 (8.6) | 17 (7.0) | 18 (13.5) |  |
| *BRCA2* | 31 (6.2) | 16 (6.6) | 10 (7.5) |  |
| Histological subtype2 |  |  |  |  |
| High-grade serous | 311 (82.5) | 201 (82.4) | 110 (82.7) | 0.8823 |
| Low-grade serous | 13 (3.4) | 8 (3.3) | 5 (3.8) |  |
| Endometrioid | 4 (1.1) | 2 (0.8) | 2 (1.5) |  |
| Clear cell | 15 (4.0) | 12 (4.9) | 3 (2.3) |  |
| Mucinous | 3 (0.8) | 2 (0.8) | 1 (0.8) |  |
| Carcinosarcoma | 9 (2.4) | 6 (2.5) | 3 (2.3) |  |
| Carcinoma NOS | 7 (1.9) | 4 (1.6) | 3 (2.3) |  |
| Other3 | 10 (2.7) | 5 (2.0) | 5 (3.8) |  |
| Unknown | 5 (1.6) | 4 (1.6) | 1 (0.8) |  |

1 Chi-square exact test comparing number of tests detecting *BRCA1/2* PVs for hybrid capture versus PCR-based techniques. 2 Reported for hybrid capture and PCR-based techniques only. 3 Fisher’s exact test comparing distribution of histological subtypes for hybrid capture versus PCR-based techniques. 3 Including: Malignant Brenner tumor, mixed type histology and undifferentiated carcinoma. Abbreviations: PCR, polymerase chain reaction; TPV, tumor pathogenic variant; NOS, not otherwise specified.

**Table S3**. Assays used and genes analyzed in analyses not reporting target enrichment techniques (*n*=125)

|  |  |  |
| --- | --- | --- |
| **Assays and genes** |  | **n (%)\*** |
| ***BRCA1/2*v2** |  | 19 (15.2) |
|  | *BRCA1/2* | 2 (10.5) |
|  |  |  |
|  | *BRCA1/2, CHEK2, TP53, FOXL2* | 2 (10.5) |
|  |  |  |
|  | *BRCA1/2, ATM, BARD1, BRIP1, CDK12, CHEK1/2, FANCL, PALB2, PPP2R2A, RAD51B/C/D, RAD54L* | 5 (26.3) |
|  |  |  |
|  | *ATM, ATR, BAP1, BARD1, BRCA1/2, BRIP1, CDK12, CHEK1/2, FANCA/C/E/L, FAND2, MAD2L2, MRE11A, NBN, PALB2, PPP2R2A, RAD51B/C/D, RAD54L, RIF1, TP53, TP53BP1, WRN, XRCC2/3* | 1 (5.3) |
|  |  |  |
|  | *ATM, ATR, BAP1, BARD1, BLM, BRCA1/2, BRIP1, CDK12, CHEK1/2, FANCA/C/D2/E/F/L, MAD2L2, MRE11A, NBN, PALB2, PPP2R2A, RAD51B/C/D, RAD54L, RIF1, TP53, TP53BP1, WRN, XRCC2, XRCC* | 1 (5.3) |
|  |  |  |
|  | *Unknown genes* | 8 (42.1) |
| **HRDv2** |  | 15 (12.0) |
|  | *ATM, ATR, BAP1, BARD1, BLM, BRCA1/2, BRIP1, CDK12, CHEK1/2, FANCA/C/D2/E/L, MAD2L2, MRE11A, NBN, PALB2, PPP2R2A, RAD51B/C/D, RAD54L, RIF1, TP53, TP53BP1, WRN, XRCC2/3* | 9 (56.3) |
|  |  |  |
|  | *ATM, ATR, BAP1, BARD1, BLM, BRCA1/21, BRIP1, CDK12, CHEK1/2, FANCA/C/D2/E/F, FANCL, MAD2L2, MRE11A, NBN, PALB2, PPP2R2A, RAD51B/C/D, RAD54L, RIF1, TP53, TP53BP1, WRN, XRCC2/3* | 5 (31.3) |
|  |  |  |
|  | *ATM, BARD1, BRCA1/2, BRIP1, CDK12, CHEK1/2, FANCL/D2, KRAS, MRE11A, NBN, PALB2, PIK3CA, POLE, POLD1, PPP2R2A, PTEN, RAD50, RAD51, RAD51B/C/D, RAD52, RAD54L, TP53, XRCC2* | 1 (6.3) |
|  |  |  |
| **HRDv1.1** |  | 4 (3.2) |
|  | *ATM, ATR, BAP1, BARD1, BLM, BRCA1/2, BRIP1, CDK12, CHEK1/2, FANCA/C/D2/E/L, MD2L2, MRE11A, NBN, PALB2, PPP2R2A, RAD51B/C/D, RAD54L, RIF1, TP53, TP53BP1, WRN, XRCC2/3* |  |
|  |  |
|  |  |  |
| **Unknown assay, and unknown genes** | | 1. (69.6) |

\* Denominator used for calculating percentages for assays is the total *n*=125, denominator used for calculating percentages for genes is the assay used.

**Table S4**. Type of platforms used for *BRCA1/2* tumor tests

|  |  |
| --- | --- |
| **Platforms** | **Total**  *n (%)* |
| ***BRCA1/2* tumor tests performed** | 502 (100.0) |
| Illumina | 262 (52.2) |
| Ion Torrent | 76 (15.1) |
| Other | 8 (1.6) |
| Not reported | 156 (31.1) |

**Table S5**. Lead times for *BRCA1/2* tumor tests, reported in days

|  |  |
| --- | --- |
|  | **Lead time**  *n=376* |
| Mean | 38.3 |
| SD | 64.2 |
| Minimum | 0 |
| Maximum | 525 |

Abbreviations: SD, standard deviation.