SUPPLEMENTARY INFORMATION

Clinical course of the patient (SDC30) harboring a pathogenic germline *BRCA1* mutation

The patient was a 55 y/o woman, a 22.5 pack-years former smoker with a history of stage IIIc high grade papillary serous carcinoma of the ovary diagnosed at age 45 and treated with hysterectomy, bilateral salpingo-oophorectomy, omentectomy and chemotherapy for her primary disease, and with radiation and chemotherapy for the bone metastases 4 years later. She had remained ovarian cancer free since then. Her mother had a history of bilateral breast cancer diagnosed at the age of 31 (and history of lung cancer), which prompted the patient to obtain germline *BRCA1/2* testing. At the age of 51 she was found to harbor *BRCA1* germline mutation and she underwent a prophylactic bilateral mastectomy. There were no significant pathologic findings in her breast tissue. At the age of 55 years she was diagnosed with the right SDC ex PA, stage T1 N2b. The tumor was positive for CK7 and AR, and negative for CK20, ER, PR, and WT1. The patient was treated with right parotidectomy and neck lymph node dissection followed by radiation. Six months post-treatment she was found with SDC metastases to the liver and spine. The treatment for her metastatic disease included cisplatin, paclitaxel, trastuzumab, ado-trastuzumab emtansine, cetuximab, and pertuzumab. However, she continued to have persistent disease, suffered from significant toxicities and expired 16 months after the first recurrence. Mutational profiling of the primary parotid tumor showed multiple somatic alterations including *TP53* R175H pathogenic mutation, and likely oncogenic deletions of *CDH1, CTCF* and *FANCA* genes, but no somatic *BRCA1* alteration.