Supplementary Figures Legends

Supplementary Figure 1. ctDNA dynamics based on first response assessment after ICB start.

Supplementary Figure 2. Overall survival and progression-free survival by ctDNA clearance due to ICB only.

Supplementary Tables Legends

Supplementary Table 1. Patient details. Group 1: Patients with detectable ctDNA that remains detectable after therapy; Group 2: Patients with detectable ctDNA that becomes undetectable after therapy; Group 3: Patients with undetectable ctDNA that becomes detectable after therapy; Group 4: Patients with undetectable ctDNA that remains undetectable after therapy. D: Detectable, U: Undetectable [25]. CCR: ctDNA complete response -> ctDNA clearance after initial detectability. CPR: ctDNA partial response -> Decrease of >10% in variant allele frequency. CSD: ctDNA stable disease -> No increase or up to 10% increase or decrease in variant allele frequency. CPD: ctDNA progressive disease -> increase >10% in variant allele frequency or *de novo* ctDNA detection. CND: ctDNA non-measurable disease -> Undetectable ctDNA before and after treatment.

Supplementary Table 2. WES results. Patient ID: anonymized patient identifier; Panel ID: Identifier of personalized designed panel; Reads (million): Number of total sequencing reads resulting from whole exome sequencing; Aligned %: Percentage of reads correctly aligned to the reference genome; Duplication %: Percentage of duplicated reads; On target %: Percentage of reads falling within targeted regions (i.e. regions targeted by hybridization capture); Usable %: Percentage of usable reads (i.e., aligned, on target and not duplicated); Mean Coverage Tumor: mean read depth per nucleotide in Tumor, based on usable reads; Total Variants Panel: Number of variants included in personalized panel for RaDaR assay; Tumor Passing Variants: Number of variants that were

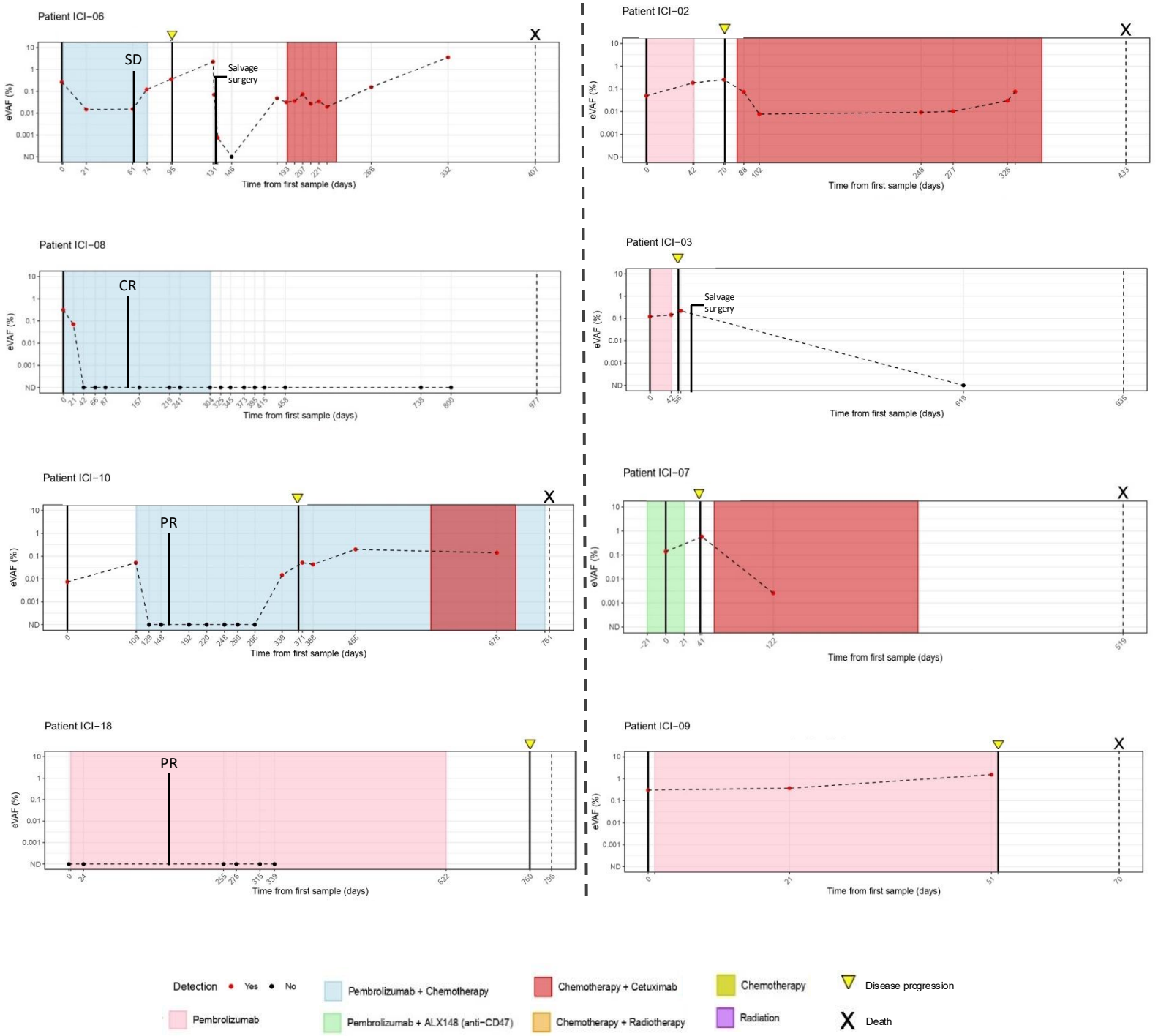
confirmed for each patient by qualification testing of the patient panel; Mean tumor VAF QC passing variants: mean tumor VAF at panel QC for passing variants.

Supplementary Table 3. Variants per panel. Patient ID: Internal study patient identifier; Mutation code: Variant code summarizing location and nature of the variant included in the panel; Chromosome: Chromosome of the variant; Locus: Genomic locus of the variant (hg38 coordinates); Present in buffy coat: Boolean (TRUE/FALSE), indicating presence/absence in the buffy coat control (if FALSE the variant is retained for ctDNA assessment); VAF in WES: VAF (Variant Allele Frequency) in the Whole Exome Sequencing data; Plasma sample IDs: Semicolon-separated list of plasma sample identifiers; VAF in plasma: Semicolon-separated list of plasma VAFs, relative to their respective samples (Plasma sample IDs).

Supplementary Table 4. Plasma calling. Patient ID: Anonymized patient identifier; Panel ID: Identifier of personalized designed panel; Timepoint: Timepoint at which sample was collected; Collection Date: Date sample was collected; Specimen Type: Specimen Type; Accession ID: Order identifier of received patient samples; Sample ID: Sample identifier; Extracted Volume (ml): The volume of fluid used for extraction; Total Extracted Copies: The total amount of extracted DNA copies; Total Input Copies: The amount of DNA copies loaded into the RaDaR assay; eVAF%: The estimated mean variant allele fraction in the specimen, expressed as a percentage; Total Variants Panel: Total number of variants included in each personalized panel; Plasma Calling Variants: Number of variants passing all QC criteria per RaDaR panel and used in the final plasma ctDNA status (TRUE/FALSE) calling; Total Depth: Total plasma RaDaR sequencing depth per sample; Mean Depth: Mean plasma RaDaR sequencing depth per variant; ctDNA Detected: Information relating to whether circulating tumor DNA was detected or not (TRUE: Detected; FALSE: Not Detected).

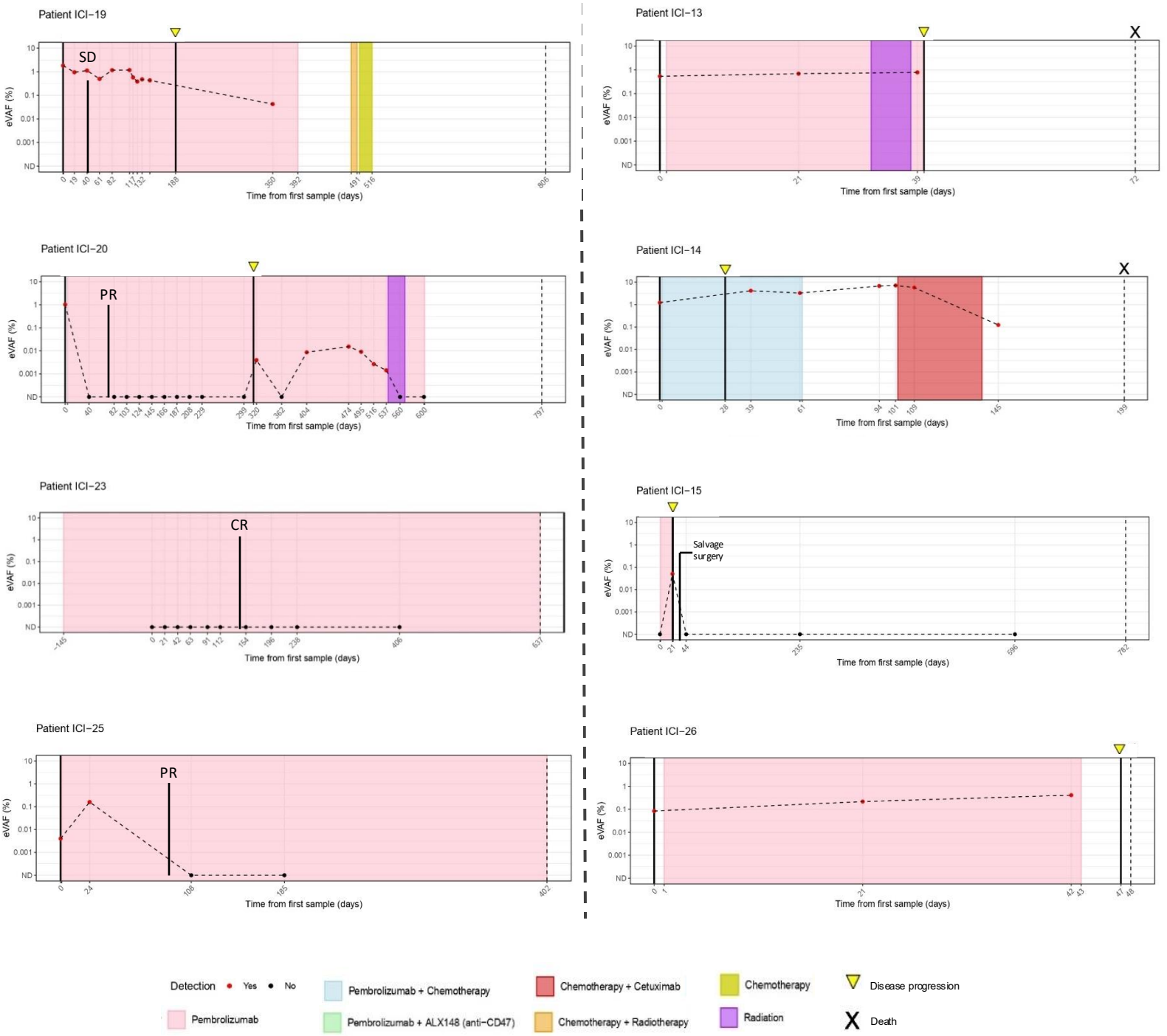
Best objective response: CR, PR or SD

Best objective response: Progressive Disease

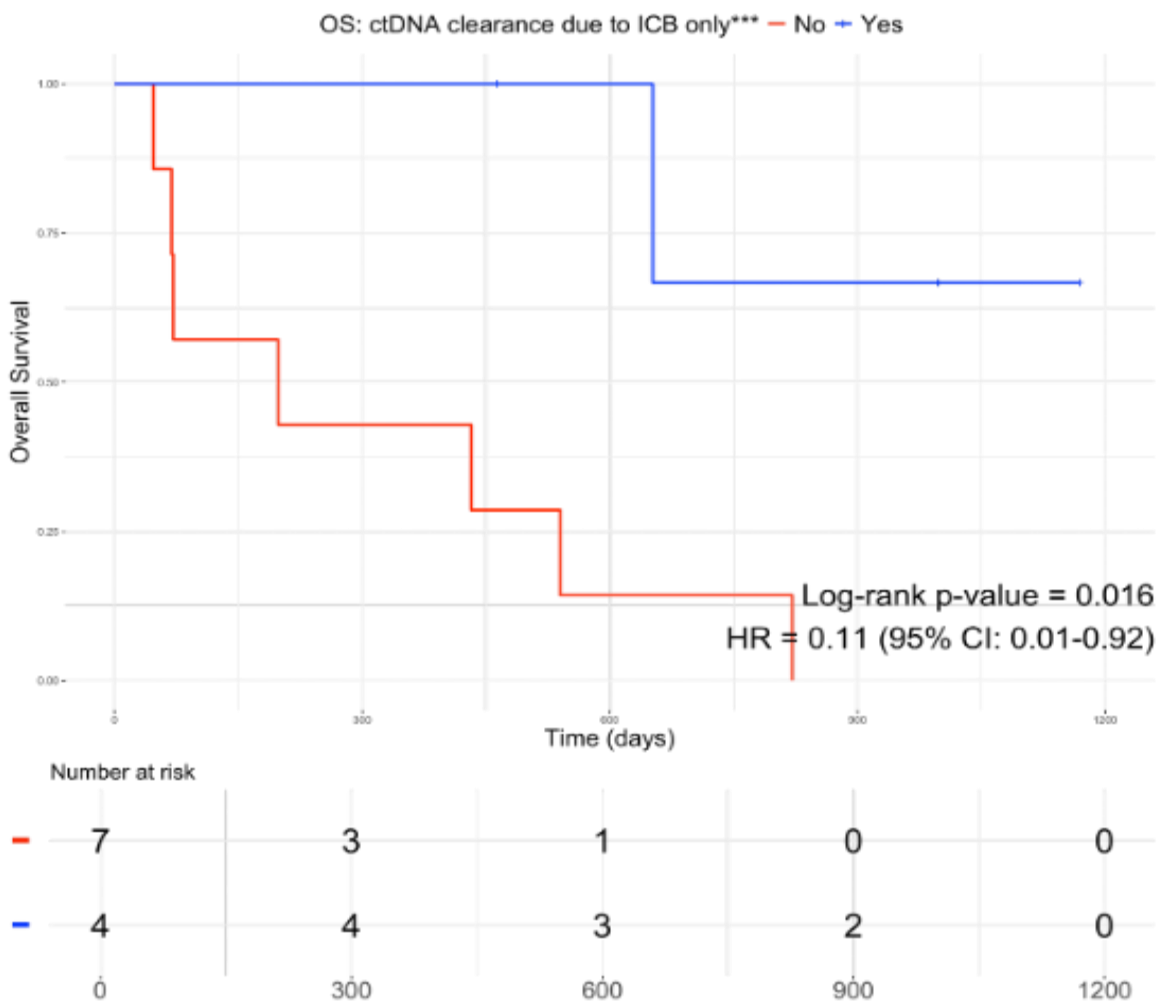


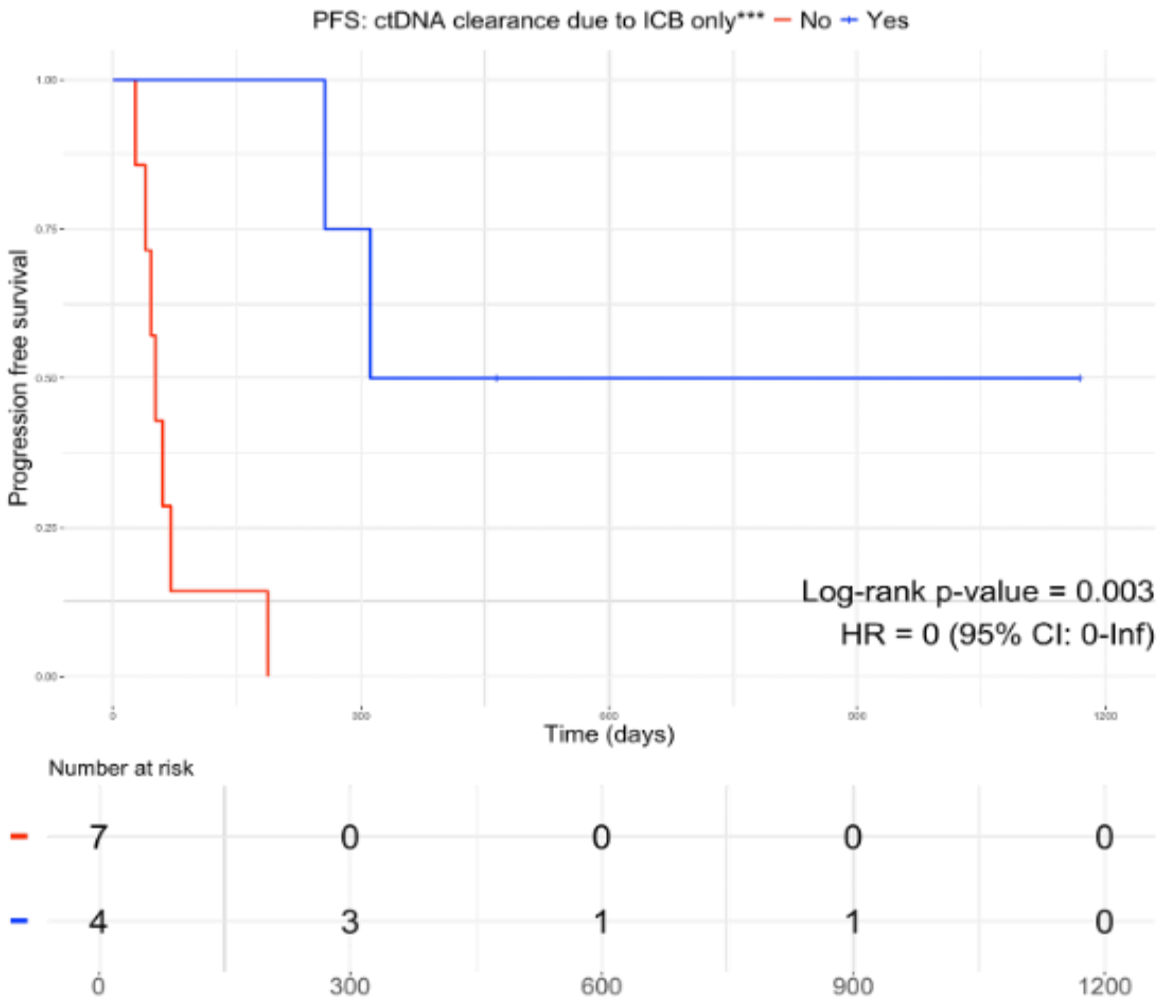
Best objective response: CR, PR or SD

Best objective response: Disease Progression



Supplementary Figure 2. OS and PFS based on ctDNA clearance due to ICB only





Patient ID	Panel ID	Timepoint	Collection Date	Specimen type	Accession ID	Sample ID	Extracted volume (ml)	Total extracted copies	Input copies	Total Input Copies	eVAF %	Total Variants Panel	Plasma Calling Variants	ctDNA detected
ICI-02	23A08200P01	P1	15-Jan-21	plasma	24A00176	24A0017601_pl	3.86	12,480	2,400	9,600	0.049504562	49	37	TRUE
ICI-02	23A08200P01	P2	26-Feb-21	plasma	24A00177	24A0017701_pl	4.357	10,920	2,100	8,400	0.184093636	49	37	TRUE
ICI-02	23A08200P01	P3	26-Mar-21	plasma	24A00178	24A0017801_pl	3.703	13,260	2,550	10,200	0.254551791	49	37	TRUE
ICI-02	23A08200P01	P4	13-Apr-21	plasma	24A00180	24A0018001_pl	3.599	6,760	1,300	5,200	0.073598852	49	37	TRUE
ICI-02	23A08200P01	P5	27-Apr-21	plasma	24A00181	24A0018101_pl	3.559	15,080	2,900	11,600	0.007791419	49	38	TRUE
ICI-02	23A08200P01	P6	20-Sep-21	plasma	24A00183	24A0018301_pl	3.52	40,300	5,000	20,000	0.009246714	49	38	TRUE
ICI-02	23A08200P01	P7	19-Oct-21	plasma	24A00184	24A0018401_pl	4.017	21,580	4,150	16,600	0.010244117	49	38	TRUE
ICI-02	23A08200P01	P8	7-Dec-21	plasma	24A00185	24A0018501_pl	3.403	14,560	2,800	11,200	0.029967637	49	37	TRUE
ICI-02	23A08200P01	P9	14-Dec-21	plasma	24A00186	24A0018601_pl	3.507	16,250	3,125	12,500	0.075567483	49	37	TRUE
ICI-03	23A08193P01	P1	22-Jan-21	plasma	24A00187	24A0018701_pl	3.572	15,210	2,925	11,700	0.122552116	48	43	TRUE
ICI-03	23A08193P01	P3	5-Mar-21	plasma	24A00188	24A0018801_pl	3.599	12,350	2,375	9,500	0.145812567	48	43	TRUE
ICI-03	23A08193P01	P4	24-Mar-21	plasma	24A00189	24A0018901_pl	3.612	11,440	2,200	8,800	0.220570034	48	43	TRUE
ICI-03	23A08193P01	P5	3-Oct-22	plasma	24A00190	24A0019001_pl	2.932	9,750	1,875	7,500	1.13E-31	48	43	FALSE
ICI-06	23A08225P01	P1	30-Apr-21	plasma	24A00010	24A0001001_pl	3.311	9,620	1,850	7,400	0.26421429	49	48	TRUE
ICI-06	23A08225P01	P2	21-May-21	plasma	24A00021	24A0002101_pl	2.867	8,320	1,600	6,400	0.014908125	49	47	TRUE
ICI-06	23A08225P01	P4	30-Jun-21	plasma	24A00020	24A0002001_pl	2.684	30,420	5,000	20,000	0.015418469	49	48	TRUE
ICI-06	23A08225P01	P5	12-Jul-21	plasma	24A00013	24A0001301_pl	2.932	8,710	1,675	6,700	0.121427369	49	48	TRUE
ICI-06	23A08225P01	P6	2-Aug-21	plasma	24A00014	24A0001401_pl	2.775	8,060	1,550	6,200	0.357138743	49	48	TRUE
ICI-06	23A08225P01	P7	7-Sep-21	plasma	24A00017	24A0001701_pl	3.089	6,890	1,325	5,300	2.251377608	49	48	TRUE
ICI-06	23A08225P01	P8	8-Sep-21	plasma	24A00018	24A0001801_pl	4.004	7,280	1,400	5,600	0.070556607	49	48	TRUE
ICI-06	23A08225P01	P9	11-Sep-21	plasma	24A00171	24A0017101_pl	4.997	57,200	4,998	19,992	7.45E-04	49	48	TRUE
ICI-06	23A08225P01	P10	23-Sep-21	plasma	24A00172	24A0017201_pl	3.795	11,700	2,250	9,000	6.93E-05	49	48	FALSE
ICI-06	23A08225P01	P11	1-Nov-21	plasma	24A00022	24A0002201_pl	3.651	6,240	1,200	4,800	0.048734787	49	48	TRUE
ICI-06	23A08225P01	P12	9-Nov-21	plasma	24A00023	24A0002301_pl	3.586	7,150	1,375	5,500	0.031648741	49	47	TRUE
ICI-06	23A08225P01	P13	16-Nov-21	plasma	24A00050	24A0005001_pl	3.952	9,360	1,800	7,200	0.036003185	49	47	TRUE
ICI-06	23A08225P01	P14	23-Nov-21	plasma	24A00049	24A0004901_pl	3.938	9,880	1,900	7,600	0.073670016	49	48	TRUE
ICI-06	23A08225P01	P15	30-Nov-21	plasma	24A00048	24A0004801_pl	4.396	10,660	2,050	8,200	0.026826077	49	47	TRUE
ICI-06	23A08225P01	P16	7-Dec-21	plasma	24A00047	24A0004701_pl	4.618	8,320	1,600	6,400	0.034753365	49	47	TRUE
ICI-06	23A08225P01	P17	14-Dec-21	plasma	24A00168	24A0016801_pl	3.729	9,750	1,875	7,500	0.019620778	49	46	TRUE
ICI-06	23A08225P01	P18	21-Jan-22	plasma	24A00169	24A0016901_pl	3.938	5,460	1,050	4,200	0.155949826	49	48	TRUE
ICI-06	23A08225P01	P19	28-Mar-22	plasma	24A00170	24A0017001_pl	3.965	14,560	2,800	11,200	3.616608743	49	48	TRUE
ICI-07	23A08201P01	P2	28-May-21	plasma	24A00201	24A0020101_pl	4.683	8,190	1,575	6,300	0.133389057	50	46	TRUE
ICI-07	23A08201P01	P4	8-Jul-21	plasma	24A00174	24A0017401_pl	3.651	7,150	1,375	5,500	0.572241986	50	46	TRUE
ICI-07	23A08201P01	P5	27-Sep-21	plasma	24A00175	24A0017501_pl	3.716	9,360	1,800	7,200	0.002590731	50	46	TRUE
ICI-08	23A08203P01	P1	18-May-21	plasma	24A00134	24A0013401_pl	2.854	5,720	1,100	4,400	0.314645992	48	42	TRUE
ICI-08	23A08203P01	P2	8-Jun-21	plasma	24A00133	24A0013301_pl	4.422	6,110	1,175	4,700	0.071110943	48	42	TRUE
ICI-08	23A08203P01	P3	29-Jun-21	plasma	24A00135	24A0013501_pl	4.657	8,060	1,550	6,200	9.37E-06	48	42	FALSE
ICI-08	23A08203P01	P4	23-Jul-21	plasma	24A00132	24A0013201_pl	2.475	9,490	1,825	7,300	1.77E-05	48	42	FALSE
ICI-08	23A08203P01	P5	13-Aug-21	plasma	24A00131	24A0013101_pl	3.141	21,320	4,100	16,400	4.18E-07	48	42	FALSE
ICI-08	23A08203P01	P6	22-Oct-21	plasma	24A00086	24A0008601_pl	3.847	12,610	2,425	9,700	2.46E-13	48	42	FALSE
ICI-08	23A08203P01	P7	23-Dec-21	plasma	24A00087	24A0008701_pl	3.193	5,590	1,075	4,300	3.26E-05	48	42	FALSE
ICI-08	23A08203P01	P8	14-Jan-22	plasma	24A00085	24A0008501_pl	2.658	7,280	1,400	5,600	1.38E-16	48	42	FALSE
ICI-08	23A08203P01	P9	17-Mar-22	plasma	24A00084	24A0008401_pl	2.854	6,500	1,250	5,000	7.23E-08	48	42	FALSE
ICI-08	23A08203P01	P10	8-Apr-22	plasma	24A00083	24A0008301_pl	3.742	8,450	1,625	6,500	1.57E-13	48	42	FALSE
ICI-08	23A08203P01	P11	28-Apr-22	plasma	24A00167	24A0016701_pl	4.344	17,030	3,275	13,100	1.28E-07	48	42	FALSE
ICI-08	23A08203P01	P12	26-May-22	plasma	24A00166	24A0016601_pl	2.893	7,020	1,350	5,400	2.38E-12	48	42	FALSE
ICI-08	23A08203P01	P13	17-Jun-22	plasma	24A00165	24A0016501_pl	5.311	6,240	1,200	4,800	2.41E-14	48	42	FALSE
ICI-08	23A08203P01	P14	7-Jul-22	plasma	24A00164	24A0016401_pl	3.899	15,340	2,950	11,800	3.24E-07	48	42	FALSE
ICI-08	23A08203P01	P15	19-Aug-22	plasma	24A00009	24A0000901_pl	3.769	31,070	4,999	19,996	3.84E-10	48	42	FALSE
ICI-08	23A08203P01	P17	26-May-23	plasma	24A00163	24A0016301_pl	2.749	6,630	1,275	5,100	2.68E-12	48	42	FALSE
ICI-08	23A08203P01	P18	27-Jul-23	plasma	24A00162	24A0016201_pl	2.592	5,330	1,025	4,100	1.79E-15	48	42	FALSE
ICI-09	23A08224P01	P1	7-Jun-21	plasma	24A00157	24A0015701_pl	4.631	43,940	4,999	19,996	0.305297106	48	44	TRUE
ICI-09	23A08224P01	P2	28-Jun-21	plasma	24A00159	24A0015901_pl	4.461	32,630	4,999	19,996	0.370983458	48	44	TRUE
ICI-09	23A08224P01	P3	28-Jul-21	plasma	24A00161	24A0016101_pl	4.226	24,960	4,800	19,200	1.541353368	48	44	TRUE
ICI-10	23A08233P01	P1	29-Jun-21	plasma	24A00156	24A0015601_pl	4.749	16,900	3,250	13,000	0.007430904	48	21	TRUE
ICI-10	23A08233P01	P2	15-Oct-21	plasma	24A00154	24A0015401_pl	3.651	8,060	1,550	6,200	0.051445205	48	21	TRUE
ICI-10	23A08233P01	P3	5-Nov-21	plasma	24A00150	24A0015001_pl	3.912	7,020	1,350	5,400	1.90E-17	48	21	FALSE
ICI-10	23A08233P01	P4	24-Nov-21	plasma	24A00152	24A0015201_pl	5.076	6,760	1,300	5,200	5.79E-22	48	21	FALSE
ICI-10	23A08233P01	P6	7-Jan-22	plasma	24A00149	24A0014901_pl	5.115	10,530	2,025	8,100	6.60E-09	48	21	FALSE
ICI-10	23A08233P01	P7	4-Feb-22	plasma	24A00125	24A0012501_pl	4.618	7,670	1,475	5,900	2.53E-04	48	21	FALSE
ICI-10	23A08233P01	P8	4-Mar-22	plasma	24A00124	24A0012401_pl	3.677	8,840	1,700	6,800	1.04E-25	48	21	FALSE
ICI-10	23A08233P01	P9	25-Mar-22	plasma	24A00123	24A0012301_pl	3.063	6,630	1,275	5,100	4.05E-36	48	21	FALSE
ICI-10	23A08233P01	P10	21-Apr-22	plasma	24A00122	24A0012201_pl	3.703	13,260	2,550	10,200	1.88E-22	48	21	FALSE
ICI-10	23A08233P01	P11	3-Jun-22	plasma	24A00121	24A0012101_pl	3.337	7,020	1,350	5,400	0.01477572	48	21	TRUE
ICI-10	23A08233P01	P12	5-Jul-22	plasma	24A00120	24A0012001_pl	3.729	6,500	1,250	5,000	0.052092844	48	20	TRUE
ICI-10	23A08233P01	P13	22-Jul-22	plasma	24A00119	24A0011901_pl	3.795	11,830	2,275	9,100	0.043491304	48	21	TRUE
ICI-10	23A08233P01	P15	27-Sep-22	plasma	24A00118	24A0011801_pl	3.873	10,400	2,000	8,000	0.198769119	48	21	TRUE
ICI-10	23A08233P01	P16	8-May-23	plasma	24A00116	24A0011601_pl	3.86	9,230	1,775	7,100	0.140433135	48	21	TRUE
ICI-13	23A08196P01	P1	26-Jul-21	plasma	23A08340	23A0834001_pl	2.945	15,730	3,025	12,100	0.538178964	48	45	TRUE
ICI-13	23A08196P01	P2	16-Aug-21	plasma	23A08339	23A0833901_pl	2.148	20,670	3,975	15,900	0.691059312	48	45	TRUE
ICI-13	23A08196P01	P3	3-Sep-21	plasma	23A08338	23A0833801_pl	3.024	31,720	4,999	19,996	0.784135471	48	44	TRUE
ICI-14	23A08235P01	P1	27-Aug-21	plasma	23A08337	23A0833701_pl	1.952	8,840	1,700	6,800	1.221978227	49	47	TRUE
ICI-14	23A08235P01	P2	5-Oct-21	plasma	23A08336	23A0833601_pl	3.141	17,550	3,375	13,500	4.142216778	49	47	TRUE
ICI-14	23A08235P01	P3	26-Oct-21	plasma	23A08335	23A0833501_pl	3.834	21,320	4,100	16,400	3.258455003	49	47	TRUE
ICI-14	23A08235P01	P4	29-Nov-21	plasma	23A08332	23A0833201_pl	3.024	18,980	3,650	14,600	6.70466003	49	46	TRUE
ICI-14	23A08235P01	P5	6-Dec-21	plasma	23A08331	23A0833101_pl	3.063	17,290	3,325	13,300	7.073800685	49	46	TRUE
ICI-14	23A08235P01	P6	14-Dec-21	plasma	23A08330	23A0833001_pl	2.906	13,650	2,625	10,500	5.732120034	49	47	TRUE
ICI-14	23A08235P01	P7	19-Jan-22	plasma	23A08329	23A0832901_pl	3.01	31,460	4,999	19,996	0.123080318	49	47	TRUE
ICI-15	23A08236P01	P1	27-Sep-21	plasma	23A08328	23A0832801_pl	3.769	14,560	2,800	11,200	5.97E-04	43	15	FALSE
ICI-15	23A08236P01	P2	18-Oct-21	plasma	23A08327	23A0832701_pl	3.494	29,510	5,000	20,000	0.050298671	43	15	TRUE
ICI-15	23A08236P01	P3	10-Nov-21	plasma	23A08326	23A0832601_pl	3.729	38,480	4,999	19,996	5.80E-12	43	15	FALSE
ICI-15	23A08236P01	P4	20-May-22	plasma	23A08325	23A0832501_pl	3.154	20,020	3,850	15,400	8.87E-17	43	15	FALSE
ICI-15	23A08236P01	P6	16-May-23	plasma	23A08292	23A0829201_pl	2.801	18,200	3,500	14,000	3.94E-04	43	15	FALSE
ICI-18	23A08195P01	P1	8-Oct-21	plasma	24A00003	24A0000301_pl	3.651	10,530	2,025	8,100	1.30E-13	48	19	FALSE
ICI-18	23A08195P01	P2	1-Nov-21	plasma	24A00004	24A0000401_pl	3.52	8,190	1,575	6,300	1.32E-14	48	19	FALSE
ICI-18	23A08195P01	P3	20-Jun-22	plasma	24A00005	24A0000501_pl	3.468	6,370	1,225	4,900	1.83E-13	48	19	FALSE
ICI-18	23A08195P01	P5	11-Jul-22	plasma	24A00006	24A0000601_pl	2.88	5,980	1,150	4,600	6.50E-11	48	19	FALSE
ICI-18	23A08195P01	P6	19-Aug-22	plasma	24A00007	24A0000701_pl	3.729	5,980	1,150	4,600	8.04E-13	48	19	FALSE
ICI-18	23A08195P01	P8	12-Sep-22	plasma	24A00008	24A0000801_pl	3.834	7,280	1,400	5,600	8.70E-05	48	19	FALSE
ICI-19	23A08189P01	P1	5-Nov-21	plasma	24A00011	24A0001101_pl	3.769	9,750	1,875	7,500	1.816827518	48	40	TRUE
ICI-19	23A08189P01	P2	24-Nov-21	plasma	24A00012	24A0001201_pl	3.677	16,120	3,100	12,400	0.951992626	48	40	TRUE
ICI-19	23A08189P01	P3	15-Dec-21	plasma	24A00015	24A0001501_pl	2.488	5,720	1,100	4,400	1.124174906	48	40	TRUE
ICI-19	23A08189P01	P4	5-Jan-22	plasma	24A00016	24A0001601_pl	3.716	12,220	2,350	9,400	0.496943933	48	40	TRUE
ICI-19	23A08189P01	P5	26-Jan-22	plasma	24A00019	24A0001901_pl	4.095	7,670	1,475	5,900	1.165680816	48	40	TRUE
ICI-19	23A08189P01	P6	24-Feb-22	plasma	24A00027	24A0002701_pl	4.553	23,400	4,500	18,000	1.174367055	48	40	TRUE
ICI-19	23A08189P01	P7	2-Mar-22	plasma	24A00028	24A0002801_pl	4.161	21,580	4,150	16,600	0.573247203	48	40	TRUE
ICI-19	23A08189P01	P8	9-Mar-22	plasma	24A00029	24A0002901_pl	3.991	17,160	3,300	13,200	0.384127094	48	40	TRUE
ICI-19	23A08189P01	P9	17-Mar-22	plasma	24A00139	24A0013901_pl	3.625	20,280	3,900	15,600	0.475884664	48	40	TRUE
ICI-19	23A08189P01	P10	30-Mar-22	plasma	24A00140	24A0014001_pl	3.52	12,740	2,450	9,800	0.433361191	48	40	TRUE
ICI-19	23A08189P01	P11	21-Oct-22	plasma	24A00141	24A0014101_pl	3.494	26,910	4,999	19,996	0.042675219	48	40	TRUE
ICI-20	23A08223P01	P1	18-Nov-21	plasma	24A00142	24A0014201_pl	1.259	1,300	250	1,000	1.022711327	49	48	TRUE
ICI-20	23A08223P01	P2	28-Dec-21	plasma	24A00144	24A0014401_pl	2.566	4,550	875	3,500	3.46E-36	49	48	FALSE
ICI-20	23A08223P01	P3	8-Feb-22	plasma	24A00145	24A0014501_pl	2.893	3,640	700	2,800	1.15E-18	49	48	FALSE
ICI-20	23A08223P01	P4	1-Mar-22	plasma	24A00146	24A0014601_pl	3.507	6,370	1,225	4,900	1.50E-31	49	48	FALSE
ICI-20	23A08223P01	P5	22-Mar-22	plasma	24A00147	24A0014701_pl	3.207	4,680	900	3,600	3.62E-29	49	48	FALSE
ICI-20	23A08223P01	P6	12-Apr-22	plasma	24A00148	24A0014801_pl	3.625	5,330	1,025	4,100	7.66E-08	49	48	FALSE
ICI-20	23A08223P01	P7	3-May-22	plasma	24A00151	24A0015101_pl	3.115	4,420	850	3,400	1.91E-04	49	48	FALSE
ICI-20	23A08223P01	P8	24-May-22	plasma	24A00153	24A0015301_pl	3.037	3,250	625	2,500	8.07E-41	49	48	FALSE
ICI-20	23A08223P01	P9	14-Jun-22	plasma	24A00155	24A0015501_pl	3.193	5,980	1,150	4,600	7.73E-37	49	48	FALSE
ICI-20	23A08223P01	P10	5-Jul-22	plasma	24A00193	24A0019301_pl	3.638	4,160	800	3,200	1.13E-46	49	48	FALSE
ICI-20	23A08223P01	P11	13-Sep-22	plasma	24A00158	24A0015801_pl	1.521	1,820	350	1,400	4.57E-65	49	47	FALSE
ICI-20	23A08223P01	P12	4-Oct-22	plasma	24A00143	24A0014301_pl	3.795	4,810	925	3,700	0.003941817	49	48	TRUE
ICI-20	23A08223P01	P13	15-Nov-22	plasma	24A00160	24A0016001_pl	2.814	2,080	400	1,600	9.14E-15	49	48	FALSE
ICI-20	23A08223P01	P14	27-Dec-22	plasma	24A00034	24A0003401_pl	3.285	5,720	1,100	4,400	0.008643444	49	48	TRUE
ICI-20	23A08223P01	P15	7-Mar-23	plasma	24A00035	24A0003501_pl	4.304	6,110	1,175	4,700	0.015303614	49	48	TRUE
ICI-20	23A08223P01	P16	28-Mar-23	plasma	24A00036	24A0003601_pl	3.886	4,160	800	3,200	0.009110738	49	48	TRUE
ICI-20	23A08223P01	P17	18-Apr-23	plasma	24A00037	24A0003701_pl	2.161	5,070	975	3,900	0.002674069	49	48	TRUE
ICI-20	23A08223P01	P18	9-May-23	plasma	24A00038	24A0003801_pl	3.795	6,110	1,175	4,700	0.001425328	49	48	TRUE
ICI-20	23A08223P01	P19	1-Jun-23	plasma	24A00039	24A0003901_pl	2.226	2,860	550	2,200	0.002800103	49	48	FALSE
ICI-20	23A08223P01	P20	11-Jul-23	plasma	24A00040	24A0004001_pl	2.109	5,720	1,100	4,400	5.44E-09	49	48	FALSE
ICI-23	23A08220P01	P1	14-Apr-22	plasma	24A00042	24A0004201_pl	3.886	9,100	1,750	7,000	1.08E-13	50	43	FALSE
ICI-23	23A08220P01	P2	5-May-22	plasma	24A00044	24A0004401_pl	4.657	8,840	1,700	6,800	4.93E-15	50	43	FALSE
ICI-23	23A08220P01	P3	26-May-22	plasma	24A00045	24A0004501_pl	3.938	9,750	1,875	7,500	5.69E-12	50	43	FALSE
ICI-23	23A08220P01	P4	16-Jun-22	plasma	24A00053	24A0005301_pl	4.017	7,280	1,400	5,600	6.54E-07	50	43	FALSE
ICI-23	23A08220P01	P5	14-Jul-22	plasma	24A00054	24A0005401_pl	4.017	15,860	3,050	12,200	8.51E-10	50	43	FALSE
ICI-23	23A08220P01	P6	4-Aug-22	plasma	24A00068	24A0006801_pl	3.193	7,800	1,500	6,000	1.21E-12	50	43	FALSE
ICI-23	23A08220P01	P7	15-Sep-22	plasma	24A00069	24A0006901_pl	2.592	12,350	2,375	9,500	3.92E-09	50	43	FALSE
ICI-23	23A08220P01	P8	27-Oct-22	plasma	24A00070	24A0007001_pl	2.37	4,810	925	3,700	1.15E-15	50	43	FALSE
ICI-23	23A08220P01	P9	8-Dec-22	plasma	24A00041	24A0004101_pl	4.056	14,430	2,775	11,100	4.41E-08	50	43	FALSE
ICI-23	23A08220P01	P10	25-May-23	plasma	24A00071	24A0007101_pl	1.494	4,030	775	3,100	2.61E-16	50	43	FALSE
ICI-25	23A08230P01	P1	14-Jun-22	plasma	24A00072	24A0007201_pl	2.409	7,930	1,525	6,100	0.004013925	48	47	TRUE
ICI-25	23A08230P01	P2	8-Jul-22	plasma	24A00199	24A0019901_pl	4.134	8,320	1,600	6,400	0.160195932	48	47	TRUE
ICI-25	23A08230P01	P4	30-Sep-22	plasma	24A00074	24A0007401_pl	2.553	9,620	1,850	7,400	7.63E-30	48	47	FALSE
ICI-25	23A08230P01	P5	16-Dec-22	plasma	24A00073	24A0007301_pl	3.259	11,570	2,225	8,900	4.47E-24	48	47	FALSE
ICI-26	23A08231P01	P1	15-Jun-22	plasma	24A00075	24A0007501_pl	3.481	16,120	3,100	12,400	0.083861948	47	35	TRUE
ICI-26	23A08231P01	P2	6-Jul-22	plasma	24A00076	24A0007601_pl	4.553	27,040	5,000	20,000	0.21611644	47	35	TRUE
ICI-26	23A08231P01	P3	27-Jul-22	plasma	24A00077	24A0007701_pl	1.664	7,540	1,450	5,800	0.41116006	47	35	TRUE

Patient ID: Anonymised patient identifier
Panel ID: Identifier of personalized designed panel
Timepoint: Timepoint at which sample was collected
Collection Date: Date sample was collected
Specimen Type: Specimen Type
Accession ID: Order identifier of received patient samples
Sample ID: Sample identifier
Extracted Volume (ml): The volume of fluid used for extraction
Total Extracted Copies: The total amount of extracted DNA copies
Total Input Copies: The amount of DNA copies loaded into the RaDaR assay
eVAF%: The estimated mean variant allele fraction in the specimen, expressed as a percentage
Total Variants Panel: Total number of variants included in each personalized panel
Plasma Calling Variants: Number of variants passing all QC criteria per RaDaR panel and used in the final plasma ctDNA status (TRUE/FALSE) calling
Total Depth: Total plasma RaDaR sequencing depth per sample
Mean Depth: Mean plasma RaDaR sequnecing depth per variant
ctDNA Detected: Information relating to whether circulating tumor DNA was detected or not (TRUE: Detected; FALSE: Not Detected)

Patient ID	Number of Lesions Assessed	Smoking History	Pk Yr	ACDST Tobacco use	Primary site	Primary subsite	Viral status	p16	PD-L1 status for Integral analysis	Type of Recurrence (Local or distant or both)	ICB Treatment	ICB Treatment Category	Number of ICB Infusions	Number of Cycles of Systemic Therapy in Palliative Intent After ICI Received During Study	Best ORR to ICB based therapy	Durable ORR (>6 mo)	Method of Response Determination	LD RECIST Diameter	RECIST Diameter	RECIST Diameter	Pretreatment Sample Collected	Measure of ctDNA in Baseline Sample	ctDNA Negative During Study Period	ctDNA from ICB or salvage surgery	ctDNA clearance methodology	Time from ICI start to progression or disease recurrence (months)	Time from ICI start to death or censor (months)	eVAF from T1 to T2 (increase +, decrease -)(%)
Patient-02	9	Never smoker	0	No	Oral Cavity SCC	buccal mucosa	Not available	Not available	1-19	Locoregional	Pembrolizumab	Mono	2	0	PD	No	RECIST	1	CPD	Yes	Yes	No	No	N/A	2.5	15.4	1
Patient-03	4	Former smoker	10	No	[illegible]	unknown primary	Negative	Negative	1-19	Distant	Pembrolizumab	Mono	3	1	PD	No	RECIST	1	CPD	Yes	Yes	Yes	Yes	Salvage surgery	2	39.2	1
Patient-06	18	Never smoker	0	No	Oropharyngeal SCC	BOT	Negative	Negative	1-19	Locoregional	Cisplatin + 5FU + Pembrolizumab	Combo	4	0	SD	No	Clinical	1	CPR	Yes	Yes	Yes	Yes	Salvage surgery	3.4	14.5	0
Patient-07	3	Never smoker	0	No	Oropharyngeal SCC	BOT	HPV Positive	Positive	<1	Distant	Pembrolizumab + ALX148	Combo	3	0	PD	No	RECIST	1	CPD	No	N/A	No	No	N/A	2.1	19.3	NA
Patient-08	17	Never smoker	0	No	Oral Cavity SCC	oral tongue	Negative	Negative	≥20	Locoregional	Carboplatin+5FU + Pembrolizumab	Combo	17	0	CR	Yes	RECIST	2	CCR	Yes	Yes	Yes	Yes	ICB	35.1	35.1	0
Patient-09	3	Former smoker	Not available	No	Oral Cavity SCC	oral tongue	Not available	Not available	≥20	Both	Pembrolizumab	Mono	3	0	PD	No	RECIST	1	CPD	Yes	Yes	No	No	N/A	1.8	2.5	1
Patient-10	14	Former smoker	Not available	No	Nasopharynx	N/A	HPV Positive	Positive	<1	Distant	Carboplatin+5FU + Pembrolizumab	Combo	10	0	PR	No	RECIST	2	CCR	Yes	Yes	Yes	Yes	ICB	9.1	23.3	0
Patient-13	3	Never smoker	0	No	Nasopharynx	N/A	EBV Positive	Negative	≥20	Distant	Pembrolizumab	Mono	3	2	PD	No	Clinical	1	CPD	Yes	Yes	No	No	N/A	1.4	2.5	1
Patient-14	7	Never smoker	0	No	Oral Cavity SCC	oral tongue	Not available	Not available	≥20	Locoregional	Pembrolizumab, then Carboplatin +5FU + cetuximab	Combo	4	0	PD	No	RECIST	1	CPD	Yes	Yes	No	No	N/A	1	7.1	1
Patient-15	5	Never smoker	0	No	Oral Cavity SCC	oral tongue	Not available	Not available	≥20	Locoregional	Pembrolizumab	Mono	2	0	PD	N/A	Clinical	3	CPD	Yes	Yes	Yes	Yes	Salvage surgery	Unable to assess	30.4	1
Patient-18	6	Former smoker	20	No	Oral Cavity SCC	oral tongue	Not available	Not available	≥20	Locoregional	Pembrolizumab	Mono	11	0	PR	Yes	RECIST	4	CND	Yes	No	Yes	No	Low assay sensitivity	27	29.9	NA
Patient-19	11	Never smoker	0	No	Oropharyngeal SCC	tonsil	HPV Positive	Positive	1-19	Both	Pembrolizumab	Mono	14	6	SD	No	RECIST	1	CPR	Yes	Yes	No	No	N/A	6.7	29	0
Patient-20	20	Never smoker	0	No	Oropharyngeal SCC	BOT	HPV Positive	Positive	≥20	Distant	Pembrolizumab	Mono	27	0	PR	Yes	RECIST	2	CCR	Yes	Yes	Yes	Yes	ICB	11.1	28.4	0
Patient-23	10	Never smoker	0	No	Oral Cavity SCC	[illegible]	Not available	Not available	≥20	Locoregional	Pembrolizumab	Mono	35	0	CR	Yes	RECIST	4	CND	No	N/A	Yes	No	Low assay sensitivity	28.5	28.5	NA
Patient-25	4	Former smoker	Not available	No	Nasal Cavity SCC	N/A	Negative	Negative	1-19	Locoregional	Pembrolizumab	Mono	5	0	PR	Yes	RECIST	2	CCR	Yes	Yes	Yes	Yes	ICB	21.1	21.1	1
Patient-26	3	Never smoker	0	No	Oral Cavity SCC	oral tongue	Not available	Not available	≥20	Locoregional	Pembrolizumab	Mono	3	0	PD	No	RECIST	1	CPD	Yes	Yes	No	No	N/A	1.6	1.7	1

Group 1: Patients with detectable ctDNA which remains detectable after therapy; Group 2: Patients with detectable ctDNA which becomes undetectable after therapy; Group 3: Patients with undetectable ctDNA which becomes detectable after therapy; Group 4: Patients with undetectable ctDNA which remains undetectable after therapy. D: Detectable, U: Undetectable (27).

CCR: ctDNA complete response -> ctDNA clearance after initial detectability

CPR: ctDNA partial response -> Decrease of >10% in variant allele frequency.

CSD: ctDNA stable disease -> No increase or up to 10% increase or decrease in variant allele frequency

CPD: ctDNA progressive disease -> increase >10% in variant allele frequency or de novo ctDNA detection

CND: ctDNA nonmeasurable disease -> Undetectable ctDNA before and after teratment

Patient ID	Panel ID	Reads (million)	Aligned %	Duplication %	On target %	Usable %	Mean Coverage Tumor	Total Variants Panel	Tumor Passing Variants	Mean tumor VAF QC passing variants	Mean tumor VAF WES passing variants
ICI-02	23A08200P01	943.19	99.63	42.09	91.45	52.88	345	49	39	0.184	0.177
ICI-03	23A08193P01	1225.42	99.72	42.85	92.27	52.71	433	48	46	0.397	0.375
ICI-06	23A08225P01	1041.16	99.51	45.58	92.88	50.40	322	49	49	NA	0.211
ICI-07	23A08201P01	872.55	99.70	59.48	90.14	36.53	210	50	46	0.218	0.216
ICI-08	23A08203P01	1062.05	99.79	55.26	90.82	40.67	290	48	44	NA	0.111
ICI-09	23A08224P01	1375.66	99.67	46.34	91.42	49.03	456	48	47	0.161	0.156
ICI-10	23A08233P01	1014.36	99.79	79.41	91.73	18.95	112	48	22	NA	0.331
ICI-13	23A08196P01	718.14	99.68	50.95	90.64	44.42	214	48	45	0.232	0.223
ICI-14	23A08235P01	2030.98	99.71	49.73	92.94	46.69	607	49	47	0.120	0.114
ICI-15	23A08236P01	1310.51	99.79	61.41	91.64	35.40	288	43	29	0.048	0.050
ICI-18	23A08195P01	481.25	99.76	45.20	90.03	49.33	150	48	19	0.047	0.068
ICI-19	23A08189P01	969.84	99.73	41.95	91.74	53.22	356	48	43	0.402	0.377
ICI-20	23A08223P01	927.14	99.79	46.81	92.27	49.10	280	49	48	NA	0.235
ICI-23	23A08220P01	896.52	99.78	48.56	92.28	47.47	271	50	43	0.152	0.149
ICI-25	23A08230P01	1356.99	99.74	45.56	92.89	50.54	426	48	47	0.411	0.388
ICI-26	23A08231P01	1260.00	99.77	44.49	92.48	51.33	409	47	39	0.230	0.211

Patient ID: anonymised patient identifier
Panel ID: Identifier of personalized designed panel
Reads (million): Number of total sequencing reads resulting from whole exome sequencing
Aligned %: Percentage of reads correctly aligned to the reference genome
Duplication %: Percentage of duplicated reads
On target %: Percentage of reads falling within targeted regions (i.e. regions targeted by hybridization capture)
Usable %: Percentage of usable reads (i.e., aligned, on target and not duplicated)
Mean Coverage Tumor: mean read depth per nucleotide in Tumor, based on usable reads
Total Variants Panel: Number of variants included in personalised panel for RaDaR assay
Tumor Passing Variants: Number of variants that were confirmed for each patient by qualification testing of the patient panel
Mean tumor VAF QC passing variants: mean tumor VAF at panel QC for passing variants
Mean tumor VAF WES passing variants: mean tumor VAF in WES for passing variants

Patient ID	Variant code	Chromosome	Position	Present in buffy coat	Present in tumor	VAF in WES	Plasma sample IDs	VAF per plasma sample tested
ICI-02	ms_chr2_20630678_C_G	chr2	20630678	FALSE	TRUE	0.25	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.0003610;0.0023323;0.0000000;0.0000000;0.0023310;0.0001813;0.0001011;0.0e-05;0.0007372;0.000795
ICI-02	ms_chr17_59211349_G_T	chr17	59211349	FALSE	TRUE	0.17599999	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000787;0.0024777;0.000424;0.000498;0.000193;0.000106;4e-05;0.0002811;0.001178
ICI-02	ms_chr20_43618890_T_G	chr20	43618890	FALSE	TRUE	0.13999999	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0;0;0;0;0;0;0;0;0
ICI-02	ms_chr2_46512104_G_A	chr2	46512104	FALSE	TRUE	0.13999997	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000106;3e-05;0.0003737;3.3e-05;5.5e-05;4.2e-05;6.3e-05;3.8e-05;3.8e-05
ICI-02	ms_chr2_1496244_A_C	chr2	1496244	FALSE	TRUE	0.14000003	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0;1e-05;1e-05;1e-05;2e-05;0;0;0;0
ICI-02	ms_chr19_16759187_T_G	chr19	16759187	FALSE	FALSE	0.15000006	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	2e-06;3e-06;6e-06;3e-06;0;2e-06;0
ICI-02	ms_chr11_56159708_A_C	chr11	56159708	FALSE	TRUE	0.13400003	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0;2e-06;1e-06;0;1e-06;0;0;6e-06;9e-06
ICI-02	ms_chr17_69113240_C_T	chr17	69113240	FALSE	TRUE	0.12999995	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	2.5e-05;2.4e-05;1.9e-05;3.1e-05;2.8e-05;1.7e-05;2.8e-05;3.2e-05;2.4e-05
ICI-02	ms_chr7_95658013_T_C	chr7	95658013	FALSE	TRUE	0.12999995	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.0003713;0.0032577;0.000662;0.000662;0.000662;0.000662;0.000662;0.000662;0.001582
ICI-02	ms_chr7_99080813_T_C	chr7	99080813	FALSE	TRUE	0.18999997	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.0010918;0.003934;0.001164;0.001602;0.000293;2.7e-05;0.001164;0.000293;0.001583
ICI-02	ms_chrX_129814792_C_T	chrX	129814792	TRUE	TRUE	0.25900003	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.045266;0.051883;0.051744;0.056733;0.044457;0.051117;0.047509;0.044388;0.045135
ICI-02	ms_chr13_102733410_G_C	chr13	102733410	FALSE	TRUE	0.17600005	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.0005483;0.0040574;0.006661;0.007822;0.002626;8.6e-05;0.002603;0.003381;0.001105
ICI-02	ms_chr14_31337458_C_G	chr14	31337458	FALSE	TRUE	0.18700006	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000447;0.003061;0.003016;0.002919;0.000225;0.000127;0.002722;0.001779
ICI-02	ms_chr21_18256478_C_T	chr21	18256478	FALSE	TRUE	0.18600004	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.0023037;0.015454;0.024536;0.019203;4.5e-05;0.000525;0.001845;0.0017;3.2e-05
ICI-02	ms_chrX_37792016_C_G	chrX	37792016	FALSE	FALSE	0.21400002	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.001233;0.002571;0.008173;0.000527;0.004495;0.6;7e-05;0.000886
ICI-02	ms_chr21_44063496_G_A	chr21	44063496	FALSE	FALSE	0.21999997	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	4e-06;2e-06;2e-06;2e-06;1.9e-05;8e-06;3.3e-05;1.5e-05;3e-06
ICI-02	ms_chr3_169975739_G_C	chr3	169975739	FALSE	TRUE	0.15500001	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000635;0.00152;0.002331;0.8e-06;0.000278;0.001021;0.00087
ICI-02	ms_chr1_212988584_C_G	chr1	212988584	FALSE	TRUE	0.23000004	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.001157;0.003251;0.003167;0.002012;0.000252;5e-05;0.001843;0.003772;0.002577
ICI-02	ms_chr20_62392362_T_G	chr20	62392362	FALSE	FALSE	0.13999997	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	3e-06;0;3e-06;0;0;3e-06;0;0;3e-06
ICI-02	ms_chr11_85263373_C_G	chr11	85263373	FALSE	TRUE	0.15999993	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0;0;0.0004504;0.0001773;0.000119;1;3e-05;0;0;0
ICI-02	ms_chrX_101837544_A_C	chrX	101837544	FALSE	TRUE	0.19400006	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000964;0.002394;0.004688;0.001391;0.000165;0.000313;4.2e-05;0.000447;0.002178
ICI-02	ms_chr15_72580806_C_T	chr15	72580806	FALSE	TRUE	0.18999994	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000969;0.002235;0.004203;0.000329;7e-05;0.000345;0.002411;0.000745;0.000582
ICI-02	ms_chr7_107926383_C_T	chr7	107926383	FALSE	TRUE	0.17999993	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000306;0.002883;0.002612;0.000815;0.000136;0.000116;5.2e-05;0.000131;0.000586
ICI-02	ms_chr7_40863764_G_A	chr7	40863764	FALSE	TRUE	0.213	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000987;0.003892;0.004134;0.001484;0.002615;0.000134;0.000118;0.000149;0.001549
ICI-02	ms_chrX_154534465_A_T	chrX	154534465	FALSE	TRUE	0.27200015	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.001396;0.002414;0.003748;0.000331;9e-06;2.1e-05;1.1e-05;0.000125;0.000615
ICI-02	ms_chr10_99679846_C_A	chr10	99679846	FALSE	TRUE	0.22999995	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000741;0.001724;0.004263;0.001318;7.7e-05;0.002413;0.001208;0.000556;0.000563
ICI-02	ms_chr6_135197125_G_C	chr6	135197125	FALSE	TRUE	0.15700005	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000236;0.001566;0.002623;9.5e-05;0.000171;0.000367;4.1e-05;0.000565;0.001658
ICI-02	ms_chr10_35176289_C_A	chr10	35176289	FALSE	TRUE	0.11999997	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000805;0.003468;0.005208;5.001601;0.000179;0.000324;9e-05;0.000612;0.001212
ICI-02	ms_chr17_64006639_C_T	chr17	64006639	FALSE	TRUE	0.16400005	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.002564;0.007213;0.004262;0.002186;0.000516;6e-05;0.000588;0.000892
ICI-02	ms_chr1_156466184_C_T	chr1	156466184	FALSE	TRUE	0.15999994	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000353;0.001396;0.002;0.000243;0.000179;0.000116;1.1e-05;0.000116;0.000353
ICI-02	ms_chr19_21204328_G_A	chr19	21204328	FALSE	TRUE	0.17999994	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	2.1e-05;0.0074;4.4e-05;0.00084;4.2e-05;1.3e-05;2.2e-05;4.5e-05;2.8e-05
ICI-02	ms_chr13_35818093_C_T	chr13	35818093	FALSE	TRUE	0.17100004	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.001108;0.002553;0.004689;0.000468;0.000197;9.6e-05;3.8e-05;0.000586;0.001326
ICI-02	ms_chr3_119730280_G_A	chr3	119730280	FALSE	TRUE	0.15999994	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000624;0.002402;0.002875;0.000811;0.000148;0.000226;1.9e-05;0.000415;0.000973
ICI-02	ms_chr2_68465194_T_G	chr2	68465194	FALSE	TRUE	0.14599998	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	3e-05;0.000805;0.002299;0.001211;0.000174;0.000448;0.000734
ICI-02	ms_chr3_130941728_C_A	chr3	130941728	FALSE	TRUE	0.16999998	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000327;0.002312;0.003075;0.000483;1.9e-05;0.000377;7e-05;0.000365;0.001135
ICI-02	ms_chr21_42395351_C_A	chr21	42395351	FALSE	TRUE	0.12200001	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	3e-06;2e-06;2e-06;3e-06;9e-06;9e-06;9e-06;6e-06;0.000218
ICI-02	ms_chrX_53536146_C_T	chrX	53536146	FALSE	TRUE	0.16999998	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.001308;0.002811;0.004595;0.001016;0.001956;0.000299;0.001126;0.000689;0.001534
ICI-02	ms_chr8_33461458_C_G	chr8	33461458	FALSE	TRUE	0.20000003	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	1.8e-05;0.000319;8e-06;0.000282;0.000102;1e-05;7e-06;5e-06;1e-05
ICI-02	ms_chrX_153774706_G_T	chrX	153774706	FALSE	TRUE	0.11999989	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.002255;0.002798;0.002886;0.000825;5e-06;0.000115;3e-06;0.000142;4e-06
ICI-02	ms_chr17_7556775_T_C	chr17	7556775	FALSE	TRUE	0.11999997	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	3e-05;2.6e-05;2.9e-05;3.8e-05;3.6e-05;2.7e-05;4.2e-05;2.4e-05;3.8e-05
ICI-02	ms_chrX_19356675_T_G	chrX	19356675	FALSE	TRUE	0.12000006	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	2e-06;0;4e-06;0;0;0;0
ICI-02	ms_chrX_19356673_T_C	chrX	19356673	FALSE	TRUE	0.11200003	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0;2e-06;0;3e-06;2e-06;9e-06;0;0;4e-06
ICI-02	ms_chr9_35717435_C_A	chr9	35717435	FALSE	TRUE	0.13999998	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	9e-06;0.000437;2e-06;3e-06;9e-06;3e-06;5.4e-05;1e-05;1e-05;3e-04
ICI-02	ms_chr11_108054700_G_C	chr11	108054700	FALSE	FALSE	0.12999998	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000175;0.000505;0.003104;0.001297;9.2e-05;0.000731;8.5e-05;0.002709
ICI-02	ms_chr8_90051724_C_G	chr8	90051724	FALSE	TRUE	0.12000001	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000466;0.002815;0.004685;0.000762;3.1e-05;0.000168;3.5e-05;0.000315;0.001337
ICI-02	ms_chr20_31406153_G_C	chr20	31406153	FALSE	TRUE	0.15000006	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.001315;0.003718;0.004079;0.001555;0.000172;0.000424;7.1e-05;0.000566;0.001184
ICI-02	ms_chr15_74134711_C_G	chr15	74134711	FALSE	TRUE	0.16000007	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	0.000523;0.002222;0.003418;0.000852;2.6e-05;1e-04;0.000294;0.001168
ICI-02	ms_chr1_44826322_C_T	chr1	44826322	FALSE	TRUE	0.10100004	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	2.5e-05;3.9e-05;3.4e-05;3.3e-05;2.8e-05;3.1e-05;4.2e-05;4.3e-05;3.4e-05
ICI-02	ms_chr1_248293522_C_T	chr1	248293522	FALSE	TRUE	0.1999999	24A0017601_pt24A0017701_pt24A0018001_pt24A0018101_pt24A0018301_pt24A0018401_pt24A0018501_pt24A0018601_pt	1;0;0;0;0;0;0;0;0
ICI-02	ms_chr2_26434304_C_A	chr2	26434304	FALSE	TRUE	0.27000011	24A0018101_pt24A0018201_pt24A0018901_pt24A0019001_pt	0.000573;0.001462;0.002103;0.0e-05
ICI-03	ms_chr4_112540120_C_A	chr4	112540120	FALSE	TRUE	0.36700014	24A0018101_pt24A0018801_pt24A0019001_pt	0.001018;0.002114;0.003360
ICI-03	ms_chr18_69947032_G_C	chr18	69947032	FALSE	TRUE	0.33000004	24A0018101_pt24A0018801_pt24A0019001_pt	0.001353;0.003193;0.003117;2e-06
ICI-03	ms_chr17_51225042_T_A	chr17	51225042	FALSE	TRUE	0.47299999	24A0018101_pt24A0018801_pt24A0019001_pt	0.512755;0.499605;0.513883;0.500092
ms_chr1_220072876_G_T	chr1	220072876	FALSE	TRUE	0.34999999	24A0018101_pt24A0018801_pt24A0019001_pt	0.002491;0.001651;0.002829;5e-06	
ms_chr10_92531754_C_A	chr10	92531754	FALSE	TRUE	0.36700014	24A0018101_pt24A0018801_pt24A0019001_pt	0.001403;0.001812;0.003242;1.6e-05	
ms_chr17_44879070_A_T	chr17	44879070	FALSE	TRUE	0.45999992	24A0018101_pt24A0018801_pt24A0019001_pt	0.495167;0.504432;0.503273;0.497159	
ms_chr13_61411608_C_A	chr13	61411608	FALSE	TRUE	0.66999996	24A0018101_pt24A0018801_pt24A0019001_pt	0.000241;0.001382;0.003322;1.4e-05	
ms_chr1_145912522_T_A	chr1	145912522	FALSE	TRUE	0.36999993	24A0018101_pt24A0018801_pt24A0019001_pt	0.001698;0.002492;0.001944;2.2e-05	
ms_chr3_179416480_G_T	chr3	179416480	FALSE	TRUE	0.19900001	24A0018101_pt24A0018801_pt24A0019001_pt	0.000335;0.001534;0.001628;0	
ms_chr6_44180187_C_T	chr6	44180187	FALSE	TRUE	0.31999999	24A0018101_pt24A0018801_pt24A0019001_pt	0.001975;0.002895;0.002038;3.7e-05	
ms_chr17_74846094_G_T	chr17	74846094	FALSE	TRUE	0.25400008	24A0018101_pt24A0018801_pt24A0019001_pt	0.000781;0.000484;0.001210;0	
ms_chr6_43625817_T_A	chr6	43625817	FALSE	TRUE	0.32199997	24A0018101_pt24A0018801_pt24A0019001_pt	0.000558;0.000333;0.001674;1.5e-05	
ms_chr5_13839150_C_A	chr5	13839150	FALSE	TRUE	0.412	24A0018101_pt24A0018801_pt24A0019001_pt	0.002226;0.001406;0.002348;2e-06	
ms_chr2_17859294_T_C	chr2	17859294	FALSE	TRUE	0.36100001	24A0018101_pt24A0018801_pt24A0019001_pt	0.000812;0.001465;0.003421;1.1e-05	
ms_chr2_16641688_A_T	chr2	16641688	FALSE	TRUE	0.34000004	24A0018101_pt24A0018801_pt24A0019001_pt	0.001703;0.002111;0.002997;6e-06	
ms_chr17_30999101_C_T	chr17	30999101	FALSE	TRUE	0.40100005	24A0018101_pt24A0018801_pt24A0019001_pt	0.474882;0.478614;0.466701;0.479913	
ms_chr11_116535647_A_T	chr11	116535647	FALSE	TRUE	0.33000008	24A0018101_pt24A0018801_pt24A0019001_pt	0.001903;0.001598;0.002631;6e-06	
ms_chr1_155921144_A_C	chr1	155921144	FALSE	TRUE	0.22100003	24A0018101_pt24A0018801_pt24A0019001_pt	0.000236;0.000377;0.001412;1e-05	
ms_chr1_35591144_C_A	chr1	35591144	FALSE	TRUE	0.27100003	24A0018101_pt24A0018801_pt24A0019001_pt	0.002383;0.005803;0.004735;1e-05	
ms_chr12_86859967_T_C	chr12	86859967	FALSE	TRUE	0.37000012	24A0018101_pt24A0018801_pt24A0019001_pt	0.001545;0.001633;0.003073;8.1e-05	
ms_chr9_35547627_G_C	chr9	35547627	FALSE	TRUE	0.69000018	24A0018101_pt24A0018801_pt24A0019001_pt	0.000447;0.005889;0.000463;3e-06	
ms_chr5_134201006_G_A	chr5	134201006	FALSE	TRUE	0.331	24A0018101_pt24A0018801_pt24A0019001_pt	0.000822;0.001814;0.003735;8.4e-05	
ms_chr5_15927926_T_C	chr5	15927926	FALSE	TRUE	0.375	24A0018101_pt24A0018801_pt24A0019001_pt	0.001617;0.002372;0.002553;5e-06	
ms_chr1_74205443_T_A	chr1	74205443	FALSE	TRUE	0.37099992	24A0018101_pt24A0018801_pt24A0019001_pt	0.001198;0.001858;0.003993;9e-06	
ms_chr12_110706791_C_G	chr12	110706791	FALSE	TRUE	0.19000015	24A0018101_pt24A0018801_pt24A0019001_pt	0.001648;0.001531;0.004288;5e-06	
ms_chr1_121919329_G_A	chr1	121919329	FALSE	TRUE	0.26199995	24A0018101_pt24A0018801_pt24A0019001_pt	0.001041;0.001277;0.001508;7e-06	
ms_chr1_35186400_C_T	chr1	35186400	FALSE	TRUE	0.37000005	24A0018101_pt24A0018801_pt24A0019001_pt	0.001808;0.002288;0.002771;3.3e-05	
ms_chr19_8598895_C_G	chr19	8598895	FALSE	TRUE	0.57000005	24A0018101_pt24A0018801_pt24A0019001_pt	0.001449;0.000964;0.001915;5e-06	
ms_chr22_39418776_C_T	chr22	39418776	FALSE	TRUE	0.22999996	24A0018101_pt24A0018801_pt24A0019001_pt	0.000918;0.001115;0.002487;2	
ms_chr22_39418769_T_A	chr22	39418769	FALSE	TRUE	0.22499994	24A0018101_pt24A0018801_pt24A0019001_pt	0;6e-06;0.000247;9e-06;8e-06	
ms_chr7_134661898_C_T	chr7	134661898	FALSE	TRUE	0.169	24A0018101_pt24A0018801_pt24A0019001_pt	0.000638;2.8e-05;2.4e-05	
ms_chr5_55815444_G_A	chr5	55815444	FALSE	FALSE	0.19999987	24A0018101_pt24A0018801_pt24A0019001_pt	0.004671;0.000556;0.001621	
ms_chr14_33799918_T_G	chr14	33799918	FALSE	TRUE	0.28900005	24A0018101_pt24A0018801_pt24A0019001_pt	0.008033;9e-06;0.000722	
ms_chr5_100367926_C_A	chr5	100367926	FALSE	TRUE	0.22000002	24A0018101_pt24A0018801_pt24A0019001_pt	0.009575;7.6e-05;0.001664	
ms_chr19_35888563_G_C	chr19	35888563	FALSE	TRUE	0.23999993	24A0018101_pt24A0018801_pt24A0019001_pt	0.007269;3.3e-05;0.001522	
ms_chr8_27470947_T_G	chr8	27470947	FALSE	FALSE	0.16199995	24A0018101_pt24A0018801_pt24A0019001_pt	4e-05;0	
ms_chr17_81985575_C_G	chr17	81985575	FALSE	TRUE	0.147	24A0018101_pt24A0018801_pt24A0019001_pt	0.005722;3e-06;0.001388	
ms_chr17_81985632_C_G	chr17	81985632	FALSE	TRUE	0.15999994	24A0018101_pt24A0018801_pt24A0019001_pt	0.005714;5e-06;0.00138	
ms_chr7_117777663_C_G	chr7	117777663	FALSE	TRUE	0.20000003	24A0018101_pt24A0018801_pt24A0019001_pt	0.00827;3e-06;0.002167	
ms_chr9_125336996_T_G	chr9	125336996	FALSE	TRUE	0.21100006	24A0018101_pt24A0018801_pt24A0019001_pt	0.004413;4e-05;0.00026	
ms_chr3_160756645_A_T	chr3	160756645	FALSE	TRUE	0.12999993	24A0018101_pt24A0018801_pt24A0019001_pt	0.006295;1.5e-05;0.000881	
ms_chr9_104530381_G_T	chr9	104530381	FALSE	TRUE	0.24000007	24A0018101_pt24A0018801_pt24A0019001_pt	0.003913;3e-06;0.00103	
ms_chr12_125653826_G_A	chr12	125653826	FALSE	TRUE	0.213	24A0018101_pt24A0018801_pt24A0019001_pt	0.004773;5.6e-05;0.001793	
ms_chr6_135262582_C_G	chr6	135262582	FALSE	TRUE	0.19999995	24A0018101_pt24A0018801_pt24A0019001_pt	0.004669;0;0.001996	
ms_chr1_150998149_G_A	chr1	150998149	FALSE	TRUE	0.16599994	24A0018101_pt24A0018801_pt24A0019001_pt	0.004729;2.7e-05;0.000786	
ms_chr19_35548634_C_T	chr19	35548634	FALSE	TRUE	0.20000007	24A0018101_pt24A0018801_pt24A0019001_pt	0.004119;1.1e-05;0.001219	
ms_chr3_185495614_C_A	chr3	185495614	FALSE	TRUE	0.23000007	24A0018101_pt24A0018801_pt24A0019001_pt	0.003418;1.2e-05;0.002319	
ms_chr16_3371815_C_T	chr16	3371815	FALSE	TRUE	0.14399994	24A0018101_pt24A0018801_pt24A0019001_pt	0.005131;0;0.000142	
ms_chr2_185738943_A_T	chr2	185738943	FALSE	TRUE	0.16999995	24A0018101_pt24A0018801_pt24A0019001_pt	0.004007;0.000167;0.001166	
ms_chr17_78972325_C_T	chr17	78972325	FALSE	TRUE	0.16099998	24A0018101_pt24A0018801_pt24A0019001_pt	0.003771;1.5e-05;0.000946	
ms_chr1_172365831_T_C	chr1	172365831	FALSE	TRUE	0.28799998	24A0018101_pt24A0018801_pt24A0019001_pt	0.001633;0.000196;0.002463	
ms_chr1_106397774_C_T	chr1	106397774	FALSE	TRUE	0.24199999	24A0018101_pt24A0018801_pt24A0019001_pt	0.00647;4.9e-05;0.00158	
ms_chr1_43311841_G_T	chr1	43311841	FALSE	TRUE	0.24000007	24A0018101_pt24A0018801_pt24A0019001_pt	0.003858;4e-05;0.00058	
del_chr15_44715491_TA_-	chr15	44715491	FALSE	TRUE	0.059	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	0;0;0;0;0;0;0;0;0;0;0.001123;0;0;0;3e-06;0;0;0
del_chr7_176791341_TTCTAGCCTTC_-	chr7	176791341	FALSE	TRUE	0.066	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	0;0;0;0.0004504;0.0001773;0.000119;1.3e-05;0;0;0
ms_chr7_99420182_G_C	chr7	99420182	TRUE	TRUE	0.57400001	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	0.508463;0.529602;0.504001;0.502754;0.484234;0.506797;0.497266;0.503227;0.492895;0.487626;0.499647;0.499704;0.503341;0.512619;0.496999;0.506884;0.493504
ms_chr17_16447320_A_C	chr17	16447320	FALSE	TRUE	0.05000001	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	0;0;0e-06;0;0;0;0;0e-06;0;0;0;0
ms_chr11_66849732_T_C	chr11	66849732	FALSE	TRUE	0.08299997	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	8e-06;6e-06;3e-06;6e-06;6e-06;7e-06;7e-06;5e-06;0;0;0998;0.000061;3e-06;6e-06;6e-06;1.3e-05;6e-06;0
ms_chr2_166037992_C_A	chr2	166037992	FALSE	TRUE	0.08000003	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	1.2e-05;1.2e-05;1.9e-05;1.8e-05;1.7e-05;4.2e-05;9e-06;1.3e-05;0;0015391;0.004642;2.8e-05;1e-05;6e-06;3e-06;1e-06;1.9e-05;1.3e-05
ms_chr6_3327787_C_T	chr6	3327787	FALSE	TRUE	0.05999999	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	6.3e-05;8.4e-05;3.7e-05;8.8e-05;2.3e-05;0.000361;4e-05;7.7e-05;0.001791;0.003871;2.7e-05;3.1e-05;0.000613;0.000146;4.1e-05;9.4e-05;7.3e-05
del_chr14_64466515_AAGCAGCCGAAAGCACTG_-	chr14	64466515	FALSE	TRUE	0.05999999	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	0;0;0;0;0;0;0;0.000588;0.000728;0.000503
ms_chr11_129040567_G_T	chr11	129040567	FALSE	FALSE	0.07000004	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	0.000113;0.8;3e-05;0;0;0;0;4.9e-05;0;0;0.5;3e-05;0;3.9e-05;0;8.9e-05;0
ms_chr1_165411143_A_T	chr1	165411143	FALSE	TRUE	0.092	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	1e-05;0;3.7e-05;1.1e-05;0;1.3e-05;0;0;0.001107;0.005338;0;2.4e-05;3.1e-05;2.6e-05;2.9e-05;0
ms_chr7_147128698_C_A	chr7	147128698	FALSE	TRUE	0.08200002	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	1e-05;0;3.7e-05;1.1e-05;0;1.3e-05;0;0;0.001107;0.005338;0;2.4e-05;3.1e-05;2.6e-05;2.9e-05;0
ms_chr20_35462464_C_G	chr20	35462464	FALSE	TRUE	0.05700003	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A0016501_pt24A0016701_pt	4e-06;0;0;0;0;0;0;0;0.000206;0.000261;0;0;1.5e-05;0;0;0;0;0;0
ms_chr7_99423814_C_G	chr7	99423814	FALSE	TRUE	0.08799997	24A0000901_pt24A0000801_pt24A0000601_pt24A0000501_pt24A0031101_pt24A0031301_pt24A0031401_pt24A0031501_pt24A0016201_pt24A0016301_pt24A0016401_pt24A

ICI-10	ms_chr7_103545319_C_A	chr7	103545319	FALSE	FALSE	0.11999997		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	2.5e-05;2.1e-05;1.3e-05;1.7e-05;2.5e-05;1.6e-05;2.3e-05;1.7e-05;3e-05;1.5e-05;2.3e-05;7e-06
ICI-10	ms_chr7_129709195_G_A	chr7	129709195	FALSE	TRUE	0.36999998		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.00200;0.00285;0.00048;0.00124;2.2e-05;2.9e-05;2.1e-05;6.4e-05;4.4e-05;1.6e-05;4.6e-05;2.3e-05;0.00086;4.3e-05
ICI-10	ms_chr8_51176467_T_G	chr18	51176467	TRUE	TRUE	0.34000004		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	1.1e-05;1.4e-05;7e-06;1e-05;7e-06;1.3e-05;4e-06;9e-06;1.7e-05;6e-06;6e-06;2.2e-05;2.4e-05;0
ICI-10	ms_chr9_127080304_A_G	chr9	127080304	FALSE	TRUE	0.33300004		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.000357;0.000466;0.000331;0.000452;3.4e-05;3.9e-05;5.9e-05;1.2e-05;1.3e-05;1.2e-05;1.2e-05;0.000106;0.000102;0.000308
ICI-10	ms_chr9_33467168_G_A	chr9	33467168	TRUE	TRUE	0.37999992		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.00104;0.001978;0.00611;0.000569;2.4e-05;2.2e-05;2.7e-05;1.6e-05;1.7e-05;1.9e-05;2.4e-05;1.6e-05;1.9e-05;0.000118;3.1e-05
ICI-10	ms_chr4_5856356_G_T	chr4	5856356	FALSE	FALSE	0.50000003		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	1e-05;9e-06;4e-06;1.1e-05;2e-06;3e-06;7e-06;5e-06;1.7e-05;1.9e-06;2e-06;3e-06;0.00
ICI-10	ms_chr4_6862897_G_A	chr4	6862897	TRUE	TRUE	0.37099992		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.00255;0.002704;0.000158;0.000893;0.000175;4.1e-05;1.1e-05;5e-05;9e-06;4.2e-05;1.4e-05;3.3e-05;0.001136;0.0025
ICI-10	ms_chr4_48145118_C_T	chr4	48145118	FALSE	TRUE	0.28400009		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.003006;0.005123;0.000852;8e-05;0.000986;1.5e-06;2e-05;3.3e-05;3.1e-05;3.9e-05;3e-05;0.001284;0.003366
ICI-10	ms_chr13_113669745_T_C	chr13	113669745	TRUE	TRUE	0.30300003		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	9e-05;0.001602;7.8e-05;0.000548;0.000195;7.2e-05;6.4e-05;7.9e-05;4.4e-05;7e-05;6.8e-05;9.6e-05;7e-05
ICI-10	ms_chr20_32255223_G_A	chr20	32255223	TRUE	TRUE	0.35999999		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	1e-05;1.1e-05;9e-06;2e-05;1.1e-05;1.1e-05;1.1e-05;1.2e-05;3e-05;1e-05;1e-05
ICI-10	ms_chr20_38227679_G_A	chr20	38227679	TRUE	TRUE	0.35999999		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.001445;0.002127;0.001115;1.4e-05;2.7e-05;2.3e-05;1.4e-05;2.5e-05;3.4e-05;1.7e-05;1.6e-05;0.001288;4e-04
ms_chr11_109021079_G_A	chr11	109021079	FALSE	FALSE	0.69999999		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0;0;0;0;0;1.2e-05;0;1.5e-05;1.7e-05;1.7e-05;0;0;0
ms_chr11_109022175_G_A	chr11	109022175	FALSE	FALSE	0.50400002		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0;0.00145;0.001545;0.000318;0.001019;3.6e-05;3.8e-05;2.4e-05;3.4e-05;4.9e-05;1.9e-05;3.9e-05;4e-05;5e-05
ms_chr11_119133243_T_C	chr11	119133243	TRUE	TRUE	0.28900005		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.496907;0.49396;0.50600;0.490102;0.479229;0.491879;0.482066;0.476564;0.487892;0.512273;0.52597;0.514809;0.505429;0.493958
ms_chr3_48415539_C_A	chr3	48415539	FALSE	FALSE	0.18999981		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.001556;0.001708;0.000341;0.001061;2.5e-05;2.5e-05;2.8e-05;2.4e-05;2.1e-05;1.9e-05;1.7e-05;0.000364;0.00117
ms_chr3_108963464_G_T	chr3	108963464	FALSE	FALSE	0.103		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0;0;0;1.9e-05;9e-06;0;2.3e-05;1.1e-05;0;0;2.3e-05;0;1.2e-05;2.2e-05
ms_chr5_14789236_C_T	chr5	14789236	FALSE	TRUE	0.27999998		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.001503;0.00164;0.000635;3.2e-05;4e-06;1.1e-05;6e-06;1.3e-05;6e-06;1.3e-05;0.001977;4e-06;1.5e-05;2.2e-05;8.8e-05
ms_chr5_114496135_C_A	chr5	114496135	FALSE	TRUE	0.21999995		24A0011001_pt24A0011001_pt24A0011901_pt24A0011901_pt24A0012001_pt24A0012001_pt24A0012201_pt24A0012201_pt24A0012401_pt24A0012401_pt24A0014901_pt24A0014901_pt24A0015001_pt24A0015001_pt24A0015401_pt24A0015401_pt24A0015601_pt	0.00277;0.00318;0.000823;0.000209;2.7e-05;2.6e-05;1.4e-05;3e-05;0.000242;1.6e-05;2.3e-05;1.5e-05;0.000958;1.3e-05
ms_chr7_179239977_C_G	chr7	179239977	TRUE	TRUE	0.21999999		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.014393;0.014517;0.0002
ms_chr7_107959835_C_T	chr7	107959835	TRUE	TRUE	0.27200015		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.010628;0.008636;0.008278
ms_chr7_247672478_A_T	chr7	247672478	TRUE	TRUE	0.28400009		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000289;0;0
ms_chr12_100269649_C_G	chr12	100269649	FALSE	TRUE	0.18500002		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.010437;0.009708;0.007498
ms_chr1_209603250_C_T	chr1	209603250	FALSE	TRUE	0.18799994		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.014787;0.011763;0.0099
ms_chr2_84718321_C_T	chr2	84718321	TRUE	TRUE	0.28600013		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000332;1.9e-05;0
ms_chr3_142663964_C_A	chr3	142663964	FALSE	TRUE	0.18500002		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.00035;0;0
ms_chr7_117791689_G_A	chr7	117791689	FALSE	TRUE	0.26499998		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.012141;0.011108;0.009095
ms_chr12_96589457_G_T	chr12	96589457	TRUE	TRUE	0.28999998		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.012853;0.010404;0.007029
ms_chr10_116601186_G_T	chr10	116601186	TRUE	TRUE	0.206		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.006534;0.007188;0.003882
ms_chr15_64185486_G_C	chr15	64185486	FALSE	TRUE	0.28999988		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.012357;0.008233;0.006713
ms_chr5_10258255_A_C	chr5	10258255	TRUE	TRUE	0.30999994		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.012764;0.011353;0.00976
ms_chr2_196228135_G_A	chr2	196228135	FALSE	TRUE	0.21999994		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.016425;0.016818;0.012694
ms_chr2_196228135_G_A	chr2	196228135	FALSE	TRUE	0.21999995		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.016842;0.016818;0.012694
ms_chr18_196812_G_T	chr18	196812	FALSE	FALSE	0.294		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.001067;0.009217;0.003368
ms_chr1_153356458_G_A	chr1	153356458	FALSE	FALSE	0.23999997		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000558;0.002743;9.3e-05
ms_chr2_178621464_A_T	chr2	178621464	FALSE	FALSE	0.27200015		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.012562;0.010234;0.006402
ms_chr6_26045755_T_C	chr6	26045755	FALSE	TRUE	0.25999999		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.007162;0.003333;0.000449
ms_chr9_37440598_G_A	chr9	37440598	FALSE	TRUE	0.15999999		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.010368;0.008266;0.007953
ms_chr1_3731505_C_T	chr1	3731505	TRUE	TRUE	0.22000002		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.00889;0.008997;0.007036
ms_chr5_151527963_G_A	chr5	151527963	FALSE	TRUE	0.26800007		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.009373;0.006978;0.006079
ms_chr11_118503953_C_T	chr11	118503953	TRUE	TRUE	0.28999992		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.011872;0.011354;0.007417
ms_chr4_188146906_C_A	chr4	188146906	FALSE	TRUE	0.20299994		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.011996;0.013247;0.00905
ms_chr12_7369485_C_T	chr12	7369485	FALSE	TRUE	0.17200006		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000447;0.000214;0.000123
ms_chr8_76854500_C_G	chr8	76854500	FALSE	TRUE	0.23999993		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.011478;0.010939;0.005987
ms_chr1_215648551_C_A	chr1	215648551	FALSE	TRUE	0.18000007		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.007943;0.000233;0.000364
ms_chr1_119899938_G_A	chr1	119899938	TRUE	TRUE	0.27599993		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.001162;0.000203;7.2e-05
ms_chr12_6912863_T_C	chr12	69128063	FALSE	TRUE	0.18999996		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.010051;0.006958;0.006159
ms_chr4_44722136_G_A	chr4	44722136	TRUE	TRUE	0.20499998		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.007194;0.005946;0.004896
ms_chr17_73248462_G_A	chr17	73248462	FALSE	TRUE	0.25999988		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.011415;0.010466;0.007729
ms_chr3_41030285_T_C	chr3	41030285	FALSE	TRUE	0.11200003		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000366;0.000131;1.4e-05
ms_chr9_74503828_A_G	chr9	74503828	FALSE	TRUE	0.22999996		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.00117;0.000;0
ms_chr16_74503828_A_G	chr16	74503828	FALSE	TRUE	0.22999996		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.013836;0.012918;0.008947
ms_chr11_62984679_C_T	chr11	62984679	FALSE	TRUE	0.23299991		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.003993;0.008575;0.007308
ms_chr10_97733448_G_T	chr10	97733448	FALSE	TRUE	0.25299991		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.013422;0.013043;0.00964
ms_chr16_77293065_C_T	chr16	77293065	FALSE	TRUE	0.21600006		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000818;0.000439;0.000435
ms_chr12_119733356_A_G	chr12	119733356	FALSE	TRUE	0.21500004		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.011192;0.008379;0.006225
ms_chr8_102238774_C_T	chr8	102238774	TRUE	TRUE	0.228		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.011112;0.009613;0.006461
ms_chr3_124474637_C_A	chr3	124474637	FALSE	TRUE	0.14100003		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000862;8.3e-05;8.1e-05
ms_chr9_99040565_C_T	chr9	99040565	FALSE	TRUE	0.15299997		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.009534;0.008521;0.006751
ms_chr17_44885209_G_A	chr17	44885209	FALSE	TRUE	0.21999999		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.015723;0.015573;0.009463
ms_chr11_64801111_C_T	chr11	64801111	FALSE	TRUE	0.21199997		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.00069;0.000123;0.000334
ms_chr3_149191969_A_C	chr3	149191969	FALSE	FALSE	0.14599998		23A0833001_pt23A0833901_pt23A0834001_pt	5e-06;0;5e-06
ms_chr22_46409174_G_A	chr22	46409174	FALSE	TRUE	0.19300004		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.010828;0.007466;0.006187
ms_chr1_18482845_A_G	chr1	18482845	FALSE	TRUE	0.33399991		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.004;0.012160;0.00785
ms_chr12_132140539_C_T	chr12	132140539	FALSE	TRUE	0.23999993		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.000471;0.000112;0.000185
ms_chr11_133093638_G_A	chr11	133093638	FALSE	TRUE	0.24000009		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.007939;0.007383;0.006439
ms_chr6_107707997_G_A	chr6	107707997	TRUE	TRUE	0.18999998		23A0833001_pt23A0833901_pt23A0834001_pt	0;0;0.001077;0.000173;0.000776
ms_chr16_2500945_C_A	chr16	2500945	TRUE	TRUE	0.12800006	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001792;0.082013;0.088522;0.036806;0.034116;0.025068;0.041949;0.015448
ms_chr16_23413476_C_G	chr16	23413476	FALSE	TRUE	0.11299998	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001304;0.010088;0.088916;0.106859;0.035806;0.052373;0.014248
ms_chr16_23413476_C_A	chr16	23413476	FALSE	TRUE	0.11299998	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001304;0.010088;0.088916;0.106859;0.035806;0.052373;0.014248
chr1_65535302_C_T	chr1	65535302	FALSE	TRUE	0.09000004	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000868;0.045503;0.051603;0.044869;0.021410;0.023583;0.007487
del_chr1_26466901_GAACTCAAGCGA_-	chr1	26466901	FALSE	TRUE	0.09600002	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000180;0.026665;0.032757;0.029795;0.014862;0.013611;0.003994
ms_chr1_37979452_G_A	chr1	37979452	FALSE	TRUE	0.23999999	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000325;0.001771;0.007947;0.008553;0.014693;0.023611;0.003302
ms_chr1_76074829_C_T	chr1	76074829	FALSE	TRUE	0.05999997	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001333;0.065826;0.067293;0.063015;0.025893;0.034634;0.008561
ms_chr1_154043511_C_T	chr1	154043511	FALSE	TRUE	0.11999999	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000365;0.009944;0.008093;0.034047;0.019495;0.024224;0.005994
ms_chr1_215845785_G_C	chr1	215845785	FALSE	TRUE	0.114	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000425;0.031224;0.034026;0.030338;0.013390;0.014724;0.005658
ms_chr22_24723223_G_C	chr22	24723223	FALSE	TRUE	0.06600003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000581;0.007046;0.013985;0.014144;0.020349;0.026880;0.006074
ms_chr22_24723211_G_C	chr22	24723211	FALSE	TRUE	0.092	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000598;0.007564;0.014482;0.014816;0.021063;0.028126;0.006155
ms_chr22_36991586_C_T	chr22	36991586	FALSE	TRUE	0.09999999	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000607;0.006051;0.015913;0.017397;0.022117;0.024508;0.005944
del_chr22_50530449_AAC_-	chr22	50530449	FALSE	TRUE	0.12200001	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000379;0.008115;0.009841;0.014448;0.023179;0.024489;0.013394
ms_chr1_101855182_G_C	chr1	101855182	FALSE	TRUE	0.13000005	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000605;0.047289;0.058502;0.056855;0.025916;0.037013;0.008175
ms_chr12_6772688_G_A	chr12	6772688	FALSE	FALSE	0.077	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	2.4e-05;1.6e-05;2.3e-05;1.1e-05;1.5e-05;1.3e-05;2.5e-05
ms_chr17_43857062_A_G	chr17	43857062	FALSE	TRUE	0.11000003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000782;0.032315;0.041901;0.045233;0.018862;0.026676;0.008454
ms_chr17_81869798_C_T	chr17	81869798	FALSE	TRUE	0.11900003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001365;0.077159;0.092384;0.085173;0.03997;0.03989;0.012529
ms_chr2_121765216_C_G	chr2	121765216	FALSE	TRUE	0.13799997	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.002315;0.079;0.108875;0.101811;0.041324;0.051342;0.014526
ms_chr2_137094983_C_T	chr2	137094983	FALSE	TRUE	0.13600007	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.002526;0.106529;0.138547;0.122657;0.062398;0.061007;0.021638
ms_chr2_191054596_G_T	chr2	191054596	FALSE	TRUE	0.19000003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001322;0.087201;0.117232;0.108855;0.048969;0.053613;0.01467
ms_chr2_201278679_T_C	chr2	201278679	FALSE	TRUE	0.12999998	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.002125;0.083648;0.106585;0.098381;0.043487;0.055135;0.016099
ms_chr2_202100348_C_T	chr2	202100348	FALSE	TRUE	0.27400001	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000889;0.049201;0.058962;0.053792;0.031137;0.037081
ms_chr2_229022602_C_A	chr2	229022602	FALSE	TRUE	0.059	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000889;0.051039;0.064851;0.064079;0.029258;0.033918;0.01374
ms_chr5_102867297_G_T	chr5	102867297	FALSE	TRUE	0.10999999	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000477;0.007;0.009;0.008;0.003;0.003;0.002;0.002;0.002;0.002
ms_chr5_102867272_G_T	chr5	102867272	FALSE	TRUE	0.10999999	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.002197;0.06391;0.102108;0.088117;0.049187;0.052425;0.01441
ms_chr5_113064162_G_A	chr5	113064162	FALSE	TRUE	0.10999999	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001678;0.082573;0.109766;0.098866;0.042258;0.053264;0.02016
ms_chr5_170234196_C_A	chr5	170234196	FALSE	TRUE	0.09000003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001113;0.073853;0.101611;0.089644;0.037158;0.046071;0.01476
ms_chr20_36431691_G_A	chr20	36431691	FALSE	TRUE	0.15600003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001374;0.061239;0.077158;0.070782;0.034691;0.046227;0.007869
ms_chr20_44424220_G_A	chr20	44424220	FALSE	TRUE	0.18000006	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001532;0.056999;0.071510;0.067582;0.031585;0.039021;0.14432
ms_chr20_63495147_G_T	chr20	63495147	FALSE	TRUE	0.15399999	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001171;0.063225;0.064479;0.065668;0.034676;0.043405;0.012106
ms_chr6_33209968_G_A	chr6	33209968	FALSE	TRUE	0.10700001	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000376;0.013969;0.018723;0.022399;0.025499;0.030906;0.016923
ms_chr6_131737355_G_A	chr6	131737355	FALSE	TRUE	0.066	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.002029;0.079868;0.115884;0.10167;0.045498;0.054833;0.013392
ms_chr19_38871692_G_A	chr19	38871692	FALSE	TRUE	0.09999998	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000681;0.052161;0.065081;0.064153;0.037012;0.045424;0.00743
ms_chr19_51719472_C_T	chr19	51719472	FALSE	TRUE	0.14100003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000999;0.044305;0.051792;0.055144;0.019343;0.023883;0.005835
ms_chr19_52881984_C_G	chr19	52881984	FALSE	TRUE	0.09700003	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001991;0.072052;0.078303;0.075399;0.033293;0.041747;0.01257
ms_chr19_54152232_G_C	chr19	54152232	FALSE	TRUE	0.09300002	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001471;0.07495;0.088251;0.078864;0.027767;0.042023;0.01207
ms_chr19_55133897_C_T	chr19	55133897	FALSE	TRUE	0.14499996	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001345;0.061635;0.07563;0.069864;0.032757;0.035895;0.00991
ms_chr6_668766_C_A	chr6	668766	FALSE	TRUE	0.12999995	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001127;0.071787;0.105119;0.097053;0.036598;0.056938;0.016883
ms_chr15_75457960_G_T	chr15	75457960	FALSE	TRUE	0.11800001	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.001559;0.082585;0.117531;0.096346;0.046869;0.042909;0.020485
ms_chr15_90946942_G_C	chr15	90946942	FALSE	TRUE	0.17200006	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000208;0.000165;6e-04;0.000149;0.000166;0.000127;9.7e-05
ms_chr7_23808511_G_A	chr7	23808511	FALSE	TRUE	0.19999998	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.002079;0.080629;0.107263;0.097813;0.048823;0.058924;0.02
ms_chr7_158773207_C_T	chr7	158773207	FALSE	TRUE	0.103	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000624;0.038766;0.049699;0.046117;0.027593;0.03622;0.01457
ms_chr9_133611260_C_T	chr9	133611260	FALSE	TRUE	0.20000004	23A0833901_pt23A0833001_pt	23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt;23A0833901_pt23A0833001_pt	0.000366;0.037;0.047;0.044;0.024;0.029;0.009;0.009;0.009;0.009
ms_chr9_53035576_T_C	chrX	53035576	FALSE	TRUE	0.22100003	23A0833901_pt23

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