

#Table S2. Clinical and pathological characteristics of the TRACERx 100 cohort by patient.

TRACERxID	Stage	Age	Gender	Ethnicity	Histology
CRUK0001	2a	84	Male	White- British	Invasive adenocarcinoma
CRUK0002	1b	81	Male	White- British	Invasive adenocarcinoma
CRUK0003	3a	78	Female	White- British	Invasive adenocarcinoma
CRUK0004	2b	69	Female	White- British	Invasive adenocarcinoma
CRUK0005	3a	74	Female	White- British	Invasive adenocarcinoma
CRUK0006	1a	66	Male	White- British	Invasive adenocarcinoma
CRUK0007	1a	69	Male	White- British	Invasive adenocarcinoma
CRUK0008	1a	72	Male	White- Irish	Invasive adenocarcinoma
CRUK0009	2b	55	Male	White- British	Invasive adenocarcinoma
CRUK0010	3a	68	Male	White- British	Invasive adenocarcinoma
CRUK0011	1b	71	Female	White- British	Invasive adenocarcinoma
CRUK0012	1a	65	Male	White- British	Invasive adenocarcinoma
CRUK0013	3a	67	Male	White- British	Invasive adenocarcinoma
CRUK0014	1a	66	Male	White- British	Invasive adenocarcinoma
CRUK0015	1a	73	Female	White- British	Invasive adenocarcinoma
CRUK0016	1b	70	Male	White- British	Invasive adenocarcinoma
CRUK0017	1b	77	Female	White- British	Invasive adenocarcinoma
CRUK0018	1a	59	Male	White- British	Invasive adenocarcinoma
CRUK0019	1b	54	Female	White- British	Invasive adenocarcinoma
CRUK0020	1b	83	Male	White- British	Invasive adenocarcinoma
CRUK0021	1a	83	Female	White- British	Invasive adenocarcinoma
CRUK0022	3a	65	Female	White- British	Invasive adenocarcinoma
CRUK0023	2b	68	Male	White- British	Invasive adenocarcinoma
CRUK0024	1b	68	Male	White- British	Invasive adenocarcinoma
CRUK0025	1b	52	Male	White- British	Invasive adenocarcinoma
CRUK0026	1a	67	Female	White- British	Invasive adenocarcinoma
CRUK0027	2a	58	Female	White- British	Invasive adenocarcinoma
CRUK0028	1b	78	Female	White- British	Invasive adenocarcinoma
CRUK0029	3a	56	Male	White- British	Invasive adenocarcinoma
CRUK0030	3a	75	Male	White- British	Invasive adenocarcinoma
CRUK0031	1b	59	Male	Caribbean	Invasive adenocarcinoma
CRUK0032	1b	73	Male	White- British	Invasive adenocarcinoma
CRUK0033	1a	68	Male	White- British	Invasive adenocarcinoma
CRUK0034	1b	68	Female	White- Irish	Invasive adenocarcinoma
CRUK0035	3b	75	Male	White- Other	Invasive adenocarcinoma
CRUK0036	1b	64	Female	White- British	Invasive adenocarcinoma
CRUK0037	2b	83	Male	White- British	Invasive adenocarcinoma
CRUK0038	1b	81	Female	White- British	Invasive adenocarcinoma
CRUK0039	1b	70	Male	White- British	Invasive adenocarcinoma
CRUK0040	1a	62	Female	White- British	Invasive adenocarcinoma
CRUK0041	1b	72	Male	White- Other	Invasive adenocarcinoma
CRUK0042	1a	68	Male	White- British	Invasive adenocarcinoma

CRUK0043	1a	68 Male	White- British	Invasive adenocarcinoma
CRUK0044	1a	59 Female	White- British	Invasive adenocarcinoma
CRUK0045	1b	85 Male	White- British	Invasive adenocarcinoma
CRUK0046	2a	61 Female	White- British	Invasive adenocarcinoma
CRUK0047	1a	72 Female	White- British	Invasive adenocarcinoma
CRUK0048	1b	76 Female	White- British	Invasive adenocarcinoma
CRUK0049	1a	66 Female	White- British	Invasive adenocarcinoma
CRUK0050	3a	55 Male	White- British	Invasive adenocarcinoma
CRUK0051	1b	76 Male	White- British	Invasive adenocarcinoma
CRUK0052	3a	59 Female	White- British	Invasive adenocarcinoma
CRUK0053	1b	68 Male	White- British	Invasive adenocarcinoma
CRUK0054	1a	76 Female	White- British	Invasive adenocarcinoma
CRUK0055	2b	54 Male	Caribbean	Invasive adenocarcinoma
CRUK0056	1b	71 Female	White- British	Invasive adenocarcinoma
CRUK0057	1b	67 Female	White- British	Invasive adenocarcinoma
CRUK0058	2b	74 Male	White- Irish	Invasive adenocarcinoma
CRUK0059	1a	79 Female	White- British	Invasive adenocarcinoma
CRUK0060	1a	48 Female	White- British	Invasive adenocarcinoma
CRUK0061	1b	82 Male	White- British	Invasive adenocarcinoma
CRUK0062	2b	57 Male	Caribbean	Squamous cell carcinoma
CRUK0063	2a	65 Male	White- British	Squamous cell carcinoma
CRUK0064	1b	68 Male	White- British	Squamous cell carcinoma
CRUK0065	2b	76 Male	White- British	Squamous cell carcinoma
CRUK0066	1b	78 Male	White- British	Squamous cell carcinoma
CRUK0067	1a	63 Male	White- British	Squamous cell carcinoma
CRUK0068	1b	68 Female	White- British	Squamous cell carcinoma
CRUK0069	1b	73 Female	White- British	Squamous cell carcinoma
CRUK0070	2a	56 Male	White- British	Squamous cell carcinoma
CRUK0071	2a	66 Male	White- British	Squamous cell carcinoma
CRUK0072	1b	67 Male	White- British	Squamous cell carcinoma
CRUK0073	1a	79 Female	White- British	Squamous cell carcinoma
CRUK0074	2b	80 Male	White- British	Squamous cell carcinoma
CRUK0075	1b	75 Male	White- British	Squamous cell carcinoma
CRUK0076	1b	63 Male	White- British	Squamous cell carcinoma
CRUK0077	1b	72 Male	White- British	Squamous cell carcinoma
CRUK0078	1b	58 Male	White- Irish	Squamous cell carcinoma
CRUK0079	2a	63 Female	White- British	Squamous cell carcinoma
CRUK0080	2a	61 Male	White- British	Squamous cell carcinoma
CRUK0081	2a	72 Male	White- British	Squamous cell carcinoma
CRUK0082	3a	63 Female	White- British	Squamous cell carcinoma
CRUK0083	2b	72 Male	White- British	Squamous cell carcinoma
CRUK0084	1b	65 Female	White- British	Squamous cell carcinoma
CRUK0085	1a	78 Male	White- British	Squamous cell carcinoma
CRUK0086	1b	79 Male	White- British	Squamous cell carcinoma

CRUK0087	3a	81 Female	White- British	Squamous cell carcinoma
CRUK0088	1a	81 Male	White- Other	Squamous cell carcinoma
CRUK0089	2a	66 Male	White- British	Squamous cell carcinoma
CRUK0090	2a	65 Male	White- British	Squamous cell carcinoma
CRUK0091	1a	50 Female	White- British	Squamous cell carcinoma
CRUK0092	2a	76 Male	White- British	Squamous cell carcinoma
CRUK0093	1a	69 Male	White- British	Squamous cell carcinoma
CRUK0094	2a	34 Male	White- Other	Carcinosarcoma
CRUK0095	1a	59 Female	White- British	Adenosquamous carcinoma
CRUK0096	2b	74 Female	White- British	Adenosquamous carcinoma
CRUK0097	1b	76 Male	White- British	Large cell carcinoma
CRUK0098	1b	55 Male	White- British	Carcinosarcoma
CRUK0099	3a	77 Male	White- British	Adenosquamous carcinoma
CRUK0100	3a	49 Female	White- British	Large Cell Neuroendocrine

Tumor size	Resection margins	Vascular invasion	Pleural invasion	Adjuvant therapy
26 R0		no	Yes	No adjuvant treatment
35 R0		yes	No	No adjuvant treatment
52 R0		yes	No	Adjuvant
47 R0		no	Yes	Adjuvant
43 R0		yes	Yes	No adjuvant treatment
18 R0		yes	No	No adjuvant treatment
18 R0		no	No	No adjuvant treatment
25 R0		no	No	No adjuvant treatment
65 R0		yes	No	Adjuvant
32 R0		no	No	Adjuvant
40 R0		no	No	No adjuvant treatment
28 R0		no	No	No adjuvant treatment
35 R0		yes	No	Adjuvant
13 R0		no	No	No adjuvant treatment
19 R0		no	No	No adjuvant treatment
28 R0		yes	Yes	Adjuvant
18 R0		no	No	No adjuvant treatment
24 R0		yes	No	No adjuvant treatment
32 R0		no	No	No adjuvant treatment
19 R0		yes	Yes	No adjuvant treatment
18 R1		no	No	No adjuvant treatment
27 R0		yes	Yes	Adjuvant
71 R0		no	No	Adjuvant
52 R0		yes	No	No adjuvant treatment
33 R0		yes	No	No adjuvant treatment
26 R0		no	No	No adjuvant treatment
22 R0		no	Yes	Adjuvant
22 R0		no	No	No adjuvant treatment
70 R0		no	Yes	No adjuvant treatment
14 R0		no	Yes	Adjuvant
40 R0		yes	No	Adjuvant
34 R0		no	No	No adjuvant treatment
21 R0		no	No	No adjuvant treatment
40 R0		yes	No	No adjuvant treatment
28 R0		yes	No	Adjuvant
40 R0		no	No	No adjuvant treatment
75 R0		no	No	No adjuvant treatment
25 R1		yes	Yes	No adjuvant treatment
48 R0		yes	Yes	No adjuvant treatment
14 R0		no	No	No adjuvant treatment
35 R0		yes	Yes	No adjuvant treatment
30 R0		no	No	No adjuvant treatment

20 R0	no	No	No adjuvant treatment
23 R0	yes	No	No adjuvant treatment
48 R0	yes	Yes	No adjuvant treatment
60 R1	no	Yes	Adjuvant
21 R0	no	No	No adjuvant treatment
33 R0	no	No	No adjuvant treatment
20 R0	no	No	No adjuvant treatment
120 R0	no	No	No adjuvant treatment
50 R0	no	No	No adjuvant treatment
37 R0	yes	No	Adjuvant
19 R0	yes	Yes	No adjuvant treatment
14 R0	no	No	No adjuvant treatment
45 R0	yes	No	Adjuvant
25 R0	no	Yes	No adjuvant treatment
22 R0	yes	Yes	No adjuvant treatment
16 R0	no	No	Adjuvant
11 R0	no	No	No adjuvant treatment
10 R0	no	No	No adjuvant treatment
30 R0	no	No	No adjuvant treatment
55 R0	no	No	Adjuvant
50 R0	yes	No	Adjuvant
38 R0	no	Yes	No adjuvant treatment
75 R0	yes	No	No adjuvant treatment
42 R0	no	No	No adjuvant treatment
10 R0	no	No	No adjuvant treatment
38 R0	no	No	No adjuvant treatment
50 R0	yes	Yes	Adjuvant
45 R0	yes	No	Adjuvant
55 R0	no	No	Adjuvant
35 R0	yes	No	No adjuvant treatment
21 R0	no	No	No adjuvant treatment
60 R0	no	Yes	No adjuvant treatment
30 R0	yes	Yes	No adjuvant treatment
32 R0	no	No	No adjuvant treatment
35 R1	yes	No	No adjuvant treatment
38 R0	yes	Yes	No adjuvant treatment
60 R0	yes	No	Adjuvant
37 R0	no	Yes	Adjuvant
60 R0	no	No	No adjuvant treatment
115 R0	yes	No	No adjuvant treatment
39 R0	yes	No	Adjuvant
32 R0	no	No	No adjuvant treatment
29 R0	yes	No	No adjuvant treatment
42 R0	yes	No	Adjuvant

110 R0	no	No	No adjuvant treatment
10 R1	no	No	No adjuvant treatment
45 R0	yes	No	Adjuvant
35 R0	yes	Yes	Adjuvant
15 R0	no	No	No adjuvant treatment
45 R0	no	No	No adjuvant treatment
11 R0	no	No	No adjuvant treatment
35 R0	no	Yes	No adjuvant treatment
20 R0	yes	No	No adjuvant treatment
85 R0	no	No	No adjuvant treatment
25 R0	no	Yes	No adjuvant treatment
42 R0	no	No	No adjuvant treatment
72 R0	yes	Yes	No adjuvant treatment
29 R0	no	No	Adjuvant

ECOG	Smoking status	Pack years	Genome doubled	Recurrence or death
1	Ex-Smoker	31	Clonal GD	0
1	Ex-Smoker	8	Clonal GD	0
0	Never Smoked	NA	Clonal GD	1
0	Ex-Smoker	13,5	Clonal GD	1
1	Ex-Smoker	55	Clonal GD	1
0	Recent Ex-Smoker	NA	Clonal GD	0
0	Ex-Smoker	0,45	Clonal GD	0
1	Ex-Smoker	74	Clonal GD	0
0	Recent Ex-Smoker	10,25	Clonal GD	0
0	Never Smoked	NA	Clonal GD	0
1	Ex-Smoker	35	Subclonal GD	0
1	Ex-Smoker	14,25	Clonal GD	0
0	Ex-Smoker	26,25	Clonal GD	0
0	Never Smoked	NA	Not GD	0
0	Never Smoked	NA	Clonal GD	0
1	Ex-Smoker	73,5	Clonal GD	0
1	Recent Ex-Smoker	42	Clonal GD	0
0	Ex-Smoker	27,75	Clonal GD	0
1	Never Smoked	NA	Clonal GD	0
1	Ex-Smoker	102	Clonal GD	0
0	Never Smoked	NA	Clonal GD	1
0	Ex-Smoker	32,25	Clonal GD	0
0	Ex-Smoker	39	Not GD	1
1	Recent Ex-Smoker	65	Clonal GD	0
0	Recent Ex-Smoker	55,5	Clonal GD	0
0	Ex-Smoker	0,05	Clonal GD	0
0	Recent Ex-Smoker	30	Not GD	0
0	Ex-Smoker	17,5	Not GD	0
1	Ex-Smoker	35	Clonal GD	1
0	Ex-Smoker	60	Not GD	0
1	Recent Ex-Smoker	30	Clonal GD	0
1	Recent Ex-Smoker	58	Clonal GD	0
0	Never Smoked	NA	Not GD	0
0	Ex-Smoker	33	Clonal GD	0
1	Ex-Smoker	28	Clonal GD	1
1	Recent Ex-Smoker	33,75	Clonal GD	1
1	Ex-Smoker	9,75	Not GD	1
0	Ex-Smoker	32	Not GD	0
1	Ex-Smoker	52	Clonal GD	0
0	Ex-Smoker	40	Not GD	0
1	Ex-Smoker	62	Clonal GD	1
1	Never Smoked	NA	Not GD	0

0 Ex-Smoker	4 Clonal GD	0
1 Current Smoker	33,75 Not GD	1
1 Ex-Smoker	11 Clonal GD	0
0 Ex-Smoker	15 Not GD	0
0 Ex-Smoker	33,75 Not GD	0
1 Recent Ex-Smoker	49 Clonal GD	0
0 Recent Ex-Smoker	48 Not GD	0
1 Current Smoker	42 Clonal GD	1
1 Ex-Smoker	73,5 Clonal GD	0
0 Ex-Smoker	35 Clonal GD	0
0 Ex-Smoker	74 Clonal GD	0
0 Never Smoked	NA Clonal GD	0
0 Recent Ex-Smoker	20 Clonal GD	0
1 Ex-Smoker	90 Clonal GD	0
1 Recent Ex-Smoker	53 Clonal GD	0
0 Ex-Smoker	34 Clonal GD	0
1 Never Smoked	NA Not GD	0
0 Recent Ex-Smoker	22,5 Clonal GD	0
1 Ex-Smoker	40 Clonal GD	0
1 Recent Ex-Smoker	19 Subclonal GD	1
0 Current Smoker	57,5 Subclonal GD	1
0 Current Smoker	26,5 Clonal GD	0
0 Ex-Smoker	22,5 Not GD	1
1 Recent Ex-Smoker	60 Clonal GD	0
0 Recent Ex-Smoker	50 Not GD	0
1 Recent Ex-Smoker	106 Not GD	0
1 Ex-Smoker	44 Clonal GD	0
1 Recent Ex-Smoker	41 Clonal GD	0
0 Ex-Smoker	80 Clonal GD	0
1 Ex-Smoker	25,5 Clonal GD	0
1 Ex-Smoker	16 Clonal GD	0
1 Ex-Smoker	79,5 Clonal GD	0
1 Recent Ex-Smoker	41,3 Clonal GD	0
1 Recent Ex-Smoker	102 Clonal GD	0
1 Ex-Smoker	58 Clonal GD	1
0 Recent Ex-Smoker	63 Clonal GD	0
1 Recent Ex-Smoker	15 Clonal GD	0
0 Recent Ex-Smoker	56,25 Clonal GD	1
0 Current Smoker	13,75 Clonal GD	1
1 Recent Ex-Smoker	NA Clonal GD	0
0 Ex-Smoker	50 Clonal GD	0
0 Ex-Smoker	32,25 Not GD	0
0 Current Smoker	50,25 Clonal GD	0
1 Ex-Smoker	92 Clonal GD	0

1 Recent Ex-Smoker	2,1 Clonal GD	1
0 Ex-Smoker	40 Clonal GD	1
0 Recent Ex-Smoker	15 Not GD	0
1 Ex-Smoker	16,5 Clonal GD	0
1 Recent Ex-Smoker	34 Not GD	0
1 Recent Ex-Smoker	100 Clonal GD	1
1 Never Smoked NA	Clonal GD	0
0 Never Smoked NA	Not GD	1
0 Recent Ex-Smoker	22,8 Not GD	0
0 Recent Ex-Smoker	53 Clonal GD	1
0 Recent Ex-Smoker	118 Clonal GD	0
1 Current Smoker	48,75 Clonal GD	1
0 Ex-Smoker	48 Not GD	1
0 Recent Ex-Smoker	25 Clonal GD	1

Time_to_recurrence_or_death (months)

21,3369863
16,83287671
7,134246575
10,68493151
21,3369863
13,05205479
18,54246575
23,50684932
16,96438356
13,84109589
15,35342466
18,64109589
8,810958904
16,17534247
24,2630137
17,55616438
22,02739726
24,65753425
15,45205479
23,80273973
17,65479452
8,515068493
10,3890411
28,50410959
5,917808219
24,62465753
21,17260274
19,2
1,775342466
18,37808219
20,48219178
1,643835616
19,13424658
29,95068493
12,88767123
10,06027397
10,29041096
18,01643836
24,46027397
1,41369863
3,452054795
24,03287671

22,09315068
6,378082192
25,01917808
21,3369863
19,56164384
15,91232877
14,30136986
16,56986301
26,23561644
21,3369863
21,10684932
16,60273973
23,86849315
17,75342466
26,99178082
21,8630137
12,55890411
25,38082192
23,27671233
24,42739726
14,99178082
16,37260274
8,712328767
25,01917808
22,98082192
21,79726027
25,01917808
22,48767123
24,39452055
21,8630137
21,92876712
16,50410959
16,20821918
29,22739726
4,997260274
24,98630137
3,616438356
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16,2739726
3,189041096
21,3369863
19,39726027
23,63835616
12,69041096

4,997260274
21,99452055
16,37260274
27,12328767
28,8
3,517808219
11,04657534
8,942465753
24,88767123
5,095890411
6,706849315
1,117808219
2,169863014
14,95890411