SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS

INTERVAL = Time in nearest month of interval between initial diagnosis of primary cancer and biopsy of metastatic site used in this study
PRIOR THERAPY = Systemic or radiation therapy in the interval between initial diagnosis and metastatic biopsy
HISTOLOG. TYPE = Histological subtype coded using the Oncotree classification system (http://oncotree.mskcc.org/oncotree/)

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	HISTOLOG. TYPE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
1	MO_1001	48	M	Caucasian	Colon Adenocarcinoma	COAD	Liver	COLO	Colon	11	Y	
2	MO_1002	49	F	Caucasian	Cutaneous Melanoma	SKCM	Skin	SKCM	Skin	26	Y	
3	MO_1005	44	F	Caucasian	Solitary Fibrous Tumor	SFT	Liver	SARC	Unknown	108	Y	
4	MO_1007	62	F	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Liver	CHOL	Gall Bladder	6	Y	
5	MO_1008	47	M	Caucasian	Prostate Adenocarcinoma	PRAD	Dura	PRAD	Prostate	41	Y	
6	MO_1011	69	M	Caucasian	Dedifferentiated Liposarcoma	DDLS	Shoulder	SARC	Retroperitoneum	124	Y	
7	MO_1012	71	M	Caucasian	Prostate Neuroendocrine Carcinoma	PRNE	Subq Nodule	PRAD	Prostate	91	Y	
8	MO_1013	55	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	59	Y	
9	MO_1014	67	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	54	Y	
10	MO_1015	75	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	122	Y	
11	MO_1016	80	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Lymph Node	BLCA	Bladder	90	Y	
12	MO_1017	66	M	East Asian	Thymic Neuroendocrine Tumor	TNET	Lymph Node	THYM	Thymus	26	Y	
13	MO_1020	63	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	30	Y	
14	MO_1022	50	M	East Asian	Extrahepatic Cholangiocarcinoma	EHCH	Liver	CHOL	Bile Duct	13	Y	
15	MO_1023	54	M	Caucasian	Extraskeletal Myxoid Chondrosarcoma	EMCHS	Lung	SARC	Thigh	36	Y	
16	MO_1024	57	M	Caucasian	Osteoblastic Osteosarcoma	OSOS	Chest Wall	SARC	Arm	54	Y	
17	MO_1025	31	F	African Am.	Embryonal Rhabdomyosarcoma	ERMS	Subq Abdom. Mass	SARC	Abdomen	55	Y	
18	MO_1026	75	M	Caucasian	Undifferentiated Pleomorphic Sarcoma	MFH	Forearm Mass	SARC	Knee	8	Y	
19	MO_1027	62	F	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Liver	CHOL	Gall Bladder	3	Y	
20	MO_1028	18	F	Caucasian	Adrenocortical Carcinoma	ACC	Retroperitoneum	ACC	Adrenal	19	Y	
21	MO_1030	78	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Pancreas	BRCA	Breast	252	Y	
22	MO_1031	41	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	155	Y	
23	MO_1032	35	F	African Am.	Breast Invasive Ductal Carcinoma	IDC	Breast	BRCA	Breast	44	Y	
24	MO_1033	54	F	Caucasian	Anal Squamous Cell Carcinoma	ANSC	Liver	COLO	Anal	27	Y	Papillary Thyroid
25	MO_1034	63	F	Caucasian	Atypical Lung Carcinoid	ALUCA	Lung	LUNG	Lung	12	Y	
26	MO_1035	67	M	Caucasian	Gastrointestinal Stromal Tumor	GIST	Retroperitoneum	STAD	Stomach	127	Y	
27	MO_1036	34	F	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Liver	CHOL	Bile Duct	1	N	
28	MO_1037	28	F	Caucasian	Desmoplastic Small-Round-Cell Tumor	DSRCT	Liver	PAAD	Pancreas	41	Y	
29	MO_1038	39	M	Caucasian	Cutaneous Melanoma	SKCM	Lung	SKCM	Neck	2	Y	
30	MO_1039	61	M	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Bile Duct	1	N	
31	MO_1040	62	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	210	Y	
32	MO_1042	26	F	Caucasian	Adrenocortical Carcinoma	ACC	Liver	ACC	Adrenal	34	Y	
33	MO_1043	48	F	Caucasian	Salivary Clear Cell Carcinoma		Lymph Node	SECR	Salivary Gland	10	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
34	MO_1044	37	F	Caucasian	Adenoid Cystic Carcinoma	ACYC	Lung	SECR	Oral Mass	146	Y	
35	MO_1045	60	M	Caucasian	Pancreatic Adenocarcinoma	PAAD	Lymph Node	PAAD	Pancreas	8	Y	
36	MO_1046	54	M	Caucasian	Penile Squamous Cell Carcinoma	PSCC	Bone	HNSC	Penis	6	Y	
37	MO_1047	40	M	Caucasian	Ewing Sarcoma	ES	Gluteus Muscle	SARC	Hip	25	Y	
38	MO_1048	63	M	Caucasian	Colon Adenocarcinoma	COAD	Lymph Node	COLO	Colon	312	Y	
39	MO_1049	72	M	Caucasian	Bladder Squamous Cell Carcinoma	BLSC	Lymph Node	BLCA	Bladder	202	Y	
40	MO_1050	62	F	Caucasian	Serous Ovarian Cancer	SOC	Liver	OV	Ovary	38	Y	
41	MO_1051	31	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	85	Y	
42	MO_1052	78	M	Caucasian	Anaplastic Thyroid Cancer	THAP	Thyroid	THCA	Thyroid	12	Y	
43	MO_1053	49	F	Caucasian	Adrenocortical Carcinoma	ACC	Adrenal	ACC	Adrenal	13	Y	
44	MO_1055	68	M	Caucasian	Cutaneous Squamous Cell Carcinoma	CSCC	Liver	HNSC	Scalp	34	Y	
45	MO_1058	62	M	Caucasian	Follicular Dendritic Cell Sarcoma	FDCS	Neck	SARC	Shoulder	33	Y	
46	MO_1059	49	F	Caucasian	Pancreatic Neuroendocrine Tumor	PANET	Liver	PAAD	Pancreas	33	Y	
47	MO_1060	62	F	Caucasian	High-Grade Serous Ovarian Cancer	HGSOC	Lymph Node	OV	Ovary	26	Y	
48	MO_1061	39	F	Caucasian	Thymoma	THYM	Lung	THYM	Thymus	61	Y	
49	MO_1062	33	F	Hispanic	Ameloblastoma		Lung	SECR	Mandible	86	Y	
50	MO_1063	76	M	Caucasian	Renal Clear Cell Carcinoma	CCRCC	Vertebra	KDNY	Kidney	22	Y	
51	MO_1064	52	M	Caucasian	Adenoid Cystic Carcinoma	ACYC	Lung	SECR	Parotid Gland	132	Y	
52	MO_1065	46	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	74	Y	
53	MO_1066	63	M	Caucasian	Prostate Adenocarcinoma	PRAD	Neck	PRAD	Prostate	62	Y	
54	MO_1067	73	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Esophagus	ESCA	Esophagus	7	Y	Superficial Urothelial Ca
55	MO_1068	65	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Lymph Node	BRCA	Breast	346	Y	
56	MO_1069	62	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Lymph Node	BRCA	Breast	219	Y	
57	MO_1070	70	M	Caucasian	Cutaneous Melanoma	SKCM	Lymph Node	SKCM	Skin (Arm)	16	Y	
58	MO_1072	69	M	Caucasian	Penile Squamous Cell Carcinoma	PSCC	Buttock	HNSC	Penis	81	Y	Basal Cell Carcinoma
59	MO_1073	36	M	Caucasian	Rectal Adenocarcinoma	READ	Colon	COLO	Rectum	0	N	
60	MO_1074	69	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	129	Y	
61	MO_1075	22	M	Caucasian	Poorly Differentiated Carcinoma, NOS	PDC	Lung	MISC	Unknown	6	Y	
62	MO_1076	63	M	Caucasian	Dermatofibrosarcoma Protuberans	DFSP	Lung	SARC	Skin (Neck)	29	Y	
63	MO_1077	65	F	Caucasian	Poorly Differentiated Thyroid Cancer	THPD	Thyroid	THCA	Thyroid	1	N	
64	MO_1079	53	M	Caucasian	Sarcomatoid Carcinoma		Mandible	MISC	Mandible	0	N	
65	MO_1080	69	F	Caucasian	Anaplastic Thyroid Cancer	THAP	Thyroid	THCA	Thyroid	3	Y	Breast Ductal Carcinoma
66	MO_1084	77	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	162	Y	
67	MO_1085	49	M	Caucasian	Gastrointestinal Stromal Tumor	GIST	Liver	STAD	Small Bowel	230	Y	
68	MO_1086	63	F	Caucasian	Undifferentiated Malignant Neoplasm	UDMN	Lung	MISC	Unknown	11	Y	
69	MO_1087	61	M	Caucasian	Colon Adenocarcinoma	COAD	Liver	COLO	Colon	17	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
70	MO_1088	66	M	Caucasian	Extraskeletal Myxoid Chondrosarcoma	EMCHS	Lung	SARC	Deltoid	18	Y	
71	MO_1089	58	F	Caucasian	Solid Pseudopapillary Neoplasm of the Pancreas	SPN	Periaortic Mass	PAAD	Pancreas	3	Y	
72	MO_1090	52	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Chest Wall	BRCA	Breast	227	Y	Hodgkin Lymphoma
73	MO_1091	58	F	Caucasian	Small Cell Bladder Cancer	SCBC	Abdom. Wall	BLCA	Bladder	3	Y	
74	MO_1092	62	F	Caucasian	Mucinous Adenocarcinoma		Lymph Node	MISC	Unknown	60	Y	
75	MO_1093	55	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	1	Y	
76	MO_1094	67	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	10	Y	
77	MO_1095	72	M	Caucasian	Prostate Adenocarcinoma	PRAD	Thoracic Epidural	PRAD	Prostate	14	Y	
78	MO_1096	65	M	African Am.	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	95	Y	
79	MO_1097	57	F	Caucasian	Bladder Urothelial Carcinoma	BLCA	Liver	BLCA	Bladder	9	Y	
80	MO_1098	46	M	Caucasian	Colon Adenocarcinoma	COAD	Lung	COLO	Colon	28	Y	
81	MO_1099	45	F	Caucasian	Bladder Squamous Cell Carcinoma	BLSC	Liver	BLCA	Bladder	6	Y	
82	MO_1100	48	M	Caucasian	Leiomyosarcoma	LMS	Paraspinal Mass	SARC	Kidney	11	Y	
83	MO_1102	34	M	Caucasian	Thymic Squamous Carcinoma		Liver	THYM	Thymus	16	Y	
84	MO_1106	72	M	Caucasian	Head and Neck Mucosal Melanoma	HNMUCM	Cheek	SKCM	Sinus	48	Y	
85	MO_1107	46	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	88	Y	
86	MO_1108	75	F	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	64	Y	
87	MO_1109	60	M	Caucasian	Merkel Cell Carcinoma	MCC	Chest Wall	MISC	Skin	21	Y	
88	MO_1111	54	F	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	17	Y	
89	MO_1112	55	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	32	Y	
90	MO_1114	62	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	91	Y	
91	MO_1116	54	M	Caucasian	Pancreatobiliary Ampullary Carcinoma	PAMPCA	Liver	CHOL	Ampulla of Vater	44	Y	
92	MO_1117	53	F	Caucasian	Hepatocellular Carcinoma	HCC	Liver	HCC	Liver	70	Y	
93	MO_1118	73	M	Caucasian	Prostate Neuroendocrine Carcinoma	PRNE	Liver	PRAD	Prostate	137	Y	
94	MO_1119	54	M	Caucasian	Poorly Differentiated Non-Small Cell Lung Cancer	NSCLCPD	Brain	LUNG	Lung	0	N	
95	MO_1123	77	F	Caucasian	Mucinous Cystic Neoplasm	MCN	Lung	PAAD	Pancreas	9	Y	Basal Cell Carcinoma
96	MO_1124	66	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bladder	PRAD	Prostate	285	Y	
97	MO_1125	72	M	Caucasian	Poorly Differentiated Non-Small Cell Lung Cancer	NSCLCPD	Lymph Node	LUNG	Lung	48	Y	
98	MO_1126	55	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	12	Y	
99	MO_1128	71	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	136	Y	
100	MO_1129	44	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	141	Y	
101	MO_1130	56	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	42	Y	
102	MO_1131	70	M	Caucasian	Cutaneous Melanoma	SKCM	Lymph Node	SKCM	Skin	16	Y	
103	MO_1132	60	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	5	Y	
104	MO_1133	49	F	Caucasian	Synovial Sarcoma	SYNS	Epidural	SARC	Unknown	51	Y	
105	MO_1135	47	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Rectus Muscle	BLCA	Bladder	12	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
106	MO_1136	35	F	Caucasian	Fibrolamellar Carcinoma	FLC	Chest Wall	HCC	Liver	36	Y	
107	MO_1137	66	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Lung	SARC	Uterus	104	Y	
108	MO_1138	60	F	Caucasian	High-Grade Serous Ovarian Cancer	HGSOC	Pelvis	OV	Fallopian Tube	0	N	
109	MO_1139	61	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	106	Y	
110	MO_1140	72	F	African Am.	Gastrointestinal Stromal Tumor	GIST	Paraspinal Mass	STAD	Unknown	2	Y	
111	MO_1141	56	M	Caucasian	Squamous Cell Carcinoma, NOS	SCCNOS	Lung	HNSC	Unknown	20	Y	
112	MO_1142	72	F	Caucasian	Clear Cell Carcinoma		Lung		Tongue	161	Y	Clinoidal Meningioma
113	MO_1146	72	M	Caucasian	Cutaneous Melanoma	SKCM	Subq Nodule	SKCM	Unknown	10	Y	Breast Ductal Carcinoma
114	MO_1147	62	F	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Unknown	1	N	
115	MO_1148	64	M	Caucasian	Leiomyosarcoma	LMS	Chest Wall	SARC	Penis	121	Y	
116	MO_1149	24	F	African Am.	Alveolar Soft Part Sarcoma	ASPS	Lung	SARC	Psoas Muscle	74	Y	
117	MO_1150	54	M	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	39	Y	
118	MO_1152	43	M	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Liver	CHOL	Gall Bladder	0	N	
119	MO_1153	70	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Liver	BLCA	Bladder	42	Y	
120	MO_1155	40	M	Caucasian	Adenoid Cystic Carcinoma	ACYC	Subq Nodule	SECR	Oropharynx	13	Y	
121	MO_1157	49	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Retroperitoneum	SARC	Uterus	17	Y	
122	MO_1158	64	F	Caucasian	High-Grade Serous Ovarian Cancer	HGSOC	Pelvic Mass	OV	Ovary	1	N	
123	MO_1159	54	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	24	Y	
124	MO_1160	66	M	Caucasian	Merkel Cell Carcinoma	MCC	Liver	MISC	Skin	15	Y	
125	MO_1161	65	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	16	Y	
126	MO_1162	62	M	Caucasian	Prostate Adenocarcinoma	PRAD	Peritoneum	PRAD	Prostate	106	Y	
127	MO_1163	52	M	Caucasian	Poorly Differentiated Non-Small Cell Lung Cancer	NSCLCPD	Liver	LUNG	Lung	20	Y	
128	MO_1164	51	F	Caucasian	Renal Clear Cell Carcinoma	CCRCC	Brain	KDNY	Kidney	18	Y	
129	MO_1165	32	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Breast	SARC	Uterus	41	Y	
130	MO_1166	78	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Bone	BLCA	Bladder	1	N	
131	MO_1167	60	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	214	Y	Basal Cell Carcinoma
132	MO_1168	50	M	Caucasian	Leiomyosarcoma	LMS	Liver	SARC	Unknown	27	Y	Bilateral Retinoblastoma
133	MO_1170	44	M	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Peritoneum	CHOL	Perihilar	18	Y	
134	MO_1171	42	M	Caucasian	Teratoma with Malignant Transformation	TMT	Lymph Node	TGCT	Testicle	6	Y	
135	MO_1172	55	F	Caucasian	Pancreatic Adenocarcinoma	PAAD	Lung	PAAD	Pancreas	45	Y	
136	MO_1175	69	M	Caucasian	Adenocarcinoma, NOS	ADNOS	Liver	MISC	Unknown	26	Y	
137	MO_1176	56	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	1	N	
138	MO_1177	62	M	Caucasian	Lung Squamous Cell Carcinoma	LUSC	Pleura	LUNG	Lung	7	Y	
139	MO_1178	61	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	52	Y	
140	MO_1179	75	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	61	Y	
141	MO_1180	58	M	Caucasian	Extraskeletal Myxoid Chondrosarcoma	EMCHS	Gluteus Muscle	SARC	Thigh	16	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
142	MO_1181	62	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Abdomen	SARC	Uterus	176	Y	
143	MO_1182	52	F	African Am.	Leiomyosarcoma	LMS	Gluteal Mass	SARC	Unknown	44	Y	
144	MO_1183	69	F	Caucasian	Cutaneous Melanoma	SKCM	Subq Nodule (Arm)	SKCM	Skin (Lip)	43	Y	
145	MO_1184	72	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	47	Y	
146	MO_1185	58	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Peritoneal Fluid	BRCA	Breast	195	Y	
147	MO_1187	64	F	Caucasian	Oral Cavity Squamous Cell Carcinoma	OCSC	Liver	HNSC	Oral	17	Y	
148	MO_1188	62	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	191	Y	
149	MO_1189	67	F	Caucasian	Poorly Differentiated Non-Small Cell Lung Cancer	NSCLCPD	Lymph Node	LUNG	Lung	4	Y	
150	MO_1190	66	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Bladder	BRCA	Breast	106	Y	
151	MO_1192	62	M	African Am.	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	73	Y	
152	MO_1193	28	F	Caucasian	Low-Grade Serous Ovarian Cancer	LGSOC	Lung	OV	Ovary	4	Y	
153	MO_1194	60	F	Caucasian	Lung Adenocarcinoma	LUAD	Chest Wall	LUNG	Lung	39	Y	
154	MO_1195	56	F	Caucasian	Adenocarcinoma, NOS	ADNOS	Lymph Node	BRCA	Breast	0	N	
155	MO_1196	34	M	Caucasian	Gastrointestinal Stromal Tumor	GIST	Liver	STAD	Stomach	13	Y	
156	MO_1197	59	M	Caucasian	Squamous Cell Carcinoma, NOS	SCCNOS	Lymph Node	HNSC	Unknown	9	Y	
157	MO_1198	64	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Liver	BLCA	Bladder	15	Y	
158	MO_1200	67	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	131	Y	
159	MO_1201	62	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	12	Y	
160	MO_1202	70	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	24	Y	
161	MO_1203	47	F	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Subcut. Abdomen	CHOL	Liver	8	Y	
162	MO_1204	46	F	Caucasian	Urachal Adenocarcinoma	UA	Subcut. Periumbilical	BLCA	Urachus	64	Y	
163	MO_1206	54	F	Caucasian	Lung Squamous Cell Carcinoma	LUSC	Liver	LUNG	Lung	14	Y	
164	MO_1208	61	M	Caucasian	Undifferentiated Pleomorphic Sarcoma/Malignant F	MFH	Acetabulum	SARC	Thigh	20	Y	
165	MO_1209	61	M	Caucasian	Clear Cell Carcinoma of the Lung	CCLC	Lung Nodule	LUNG	Lung	51	Y	
166	MO_1210	19	F	Caucasian	Hepatocellular Carcinoma	HCC	Peritoneum	HCC	Liver	9	Y	
167	MO_1211	23	M	African Am.	Desmoplastic Small-Round-Cell Tumor	DSRCT	Liver	SARC	Pelvis	16	Y	
168	MO_1213	43	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	8	Y	
169	MO_1214	78	M	Caucasian	Renal Cell Carcinoma	RCC	Bone	KDNY	Kidney	0	N	Prostate Carcinoma
170	MO_1215	65	M	Caucasian	Prostate Neuroendocrine Carcinoma	PRNE	Perirectal Mass	PRAD	Prostate	133	Y	
171	MO_1217	67	M	Caucasian	Undifferentiated Malignant Neoplasm	UDMN	Lymph Node	MISC	Unknown	2	N	
172	MO_1219	67	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	20	Y	
173	MO_1220	26	M	Caucasian	Desmoplastic Small-Round-Cell Tumor	DSRCT	Lymph Node	SARC	Pleura	46	Y	
174	MO_1221	59	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	102	Y	
175	MO_1222	46	M	Caucasian	Extraskeletal Myxoid Chondrosarcoma	EMCHS	Thigh	SARC	Thigh	149	Y	
176	MO_1223	62	F	Caucasian	Squamous Cell Carcinoma, NOS	SCCNOS	Lymph Node	HNSC	Unknown	2	Y	
177	MO_1224	69	M	Caucasian	Urethral Urothelial Carcinoma	UCU	Lymph Node	BLCA	Urethra	24	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
178	MO_1226	48	F	Caucasian	Angiosarcoma	ANGS	Chest Wall Nodule	SARC	Neck	114	Y	Hodgkin Lymph. / Breast Ca
179	MO_1227	58	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Bone	BRCA	Breast	74	Y	
180	MO_1228	54	F	Caucasian	Skin Adnexal Carcinoma	SKAC	Parotid	SECR	Skin (Cheek)	15	Y	
181	MO_1229	50	M	Caucasian	Myxoid/Round-Cell Liposarcoma	MRLS	Thigh	SARC	Thigh	22	Y	
182	MO_1230	64	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	210	Y	
183	MO_1231	45	F	Caucasian	Stomach Adenocarcinoma	STAD	Pelvic Mass	STAD	Stomach	20	Y	
184	MO_1232	65	M	Caucasian	Prostate Adenocarcinoma	PRAD	Chest Wall	PRAD	Prostate	46	Y	
185	MO_1233	44	F	Caucasian	Adenoid Cystic Carcinoma	ACYC	Liver	SECR	Palate	22	Y	
186	MO_1236	59	M	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	6	Y	
187	MO_1237	43	F	South Asian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	15	Y	
188	MO_1239	58	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	50	Y	
189	MO_1240	66	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	105	Y	
190	MO_1241	75	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	5	Y	
191	MO_1244	58	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	15	Y	
192	MO_1245	47	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Lung	SARC	Uterus	76	Y	
193	MO_1247	46	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	128	Y	
194	MO_1248	69	F	Caucasian	Serous Ovarian Cancer	SOC	Omentum	OV	Ovary	0	N	Breast Ductal Carcinoma
195	MO_1249	70	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	229	Y	
196	MO_1250	53	M	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	9	Y	
197	MO_1251	45	M	Caucasian	Renal Clear Cell Carcinoma	CCRCC	Lung	SARC	Kidney	60	Y	
198	MO_1252	45	M	Caucasian	Dedifferentiated Liposarcoma	DDLS	Thigh	SARC	Thigh	45	Y	
199	MO_1253	49	M	Caucasian	Lung Adenocarcinoma	LUAD	Hilum	LUNG	Lung	8	Y	
200	MO_1256	42	M	Caucasian	Adrenocortical Carcinoma	ACC	Lymph Node	ACC	Adrenal	12	Y	
201	MO_1260	61	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	21	Y	
202	MO_1262	53	M	African Am.	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	68	Y	
203	MO_1263	65	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	117	Y	
204	MO_1264	22	F	Caucasian	Fibrolamellar Carcinoma	FLC	Abdom. Nodule	HCC	Liver	47	Y	
205	MO_1265	54	F	Caucasian	Colon Adenocarcinoma	COAD	Liver	COLO	Colorectal	62	Y	Breast Ductal Carcinoma
206	MO_1266	58	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	117	Y	
207	MO_1267	63	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Skin Punch	BRCA	Breast	13	Y	Basal Cell Carcinoma
208	MO_1268	52	F	Caucasian	Mullerian Poorly Differentiated Carcinoma		Retroperitoneum	MISC	Mullerian	1	N	
209	MO_1269	46	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Sternal Mass	BRCA	Breast	142	Y	
210	MO_1271	63	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	150	Y	
211	MO_1272	42	M	Caucasian	Chromophobe Renal Cell Carcinoma	CHRCC	Lymph Node	KDNY	Kidney	70	Y	
212	MO_1274	50	M	Caucasian	Small Cell Carcinoma of Unknown Primary	SCUP	Liver	MISC	Unknown	10	Y	
213	MO_1276	41	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lung	BRCA	Breast	55	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
214	MO_1277	54	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	101	Y	
215	MO_1278	49	F	Caucasian	Perivascular Epithelioid Cell Tumor	PECOMA	Liver	MISC	Unknown	4	Y	
216	MO_1279	65	F	African Am.	Colon Adenocarcinoma	COAD	Lymph Node	COLO	Colorectal	35	Y	
217	MO_1283	35	F	Caucasian	Embryonal Rhabdomyosarcoma	ERMS	Pelvic Mass	SARC	Cervix	7	Y	
218	MO_1284	61	F	Caucasian	Lung Adenocarcinoma	LUAD	Infraclavicular Mass	MISC	Unknown	2	N	
219	MO_1285	28	F	Caucasian	Poorly Differentiated Non-Small Cell Lung Cancer	NSCLCPD	Lymph Node	MISC	Unknown	2	N	
220	MO_1286	58	F	Caucasian	Lung Squamous Cell Carcinoma	LUSC	Lymph Node	LUNG	Lung	21	Y	
221	MO_1287	56	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	34	Y	
222	MO_1288	77	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	168	Y	
223	MO_1289	49	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Chest Wall	BRCA	Breast	80	Y	
224	MO_1290	54	M	Caucasian	Small Cell Bladder Cancer	SCBC	Lymph Node	BLCA	Bladder	6	Y	
225	MO_1292	35	F	African Am.	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	0	N	
226	MO_1294	61	F	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	8	Y	
227	MO_1295	23	M	Caucasian	Desmoplastic Small-Round-Cell Tumor	DSRCT	Abdom. Mass	SARC	Unknown	12	Y	
228	MO_1296	68	F	Caucasian	Pancreatobiliary Ampullary Carcinoma	PAMPCA	Liver	CHOL	Pancreaticobiliary	13	Y	
229	MO_1297	67	M	Caucasian	Neuroendocrine Carcinoma of the Stomach		Liver	STAD	Stomach	179	Y	
230	MO_1298	64	F	African Am.	Breast Invasive Ductal Carcinoma	IDC	Chest Wall	BRCA	Breast	141	Y	
231	MO_1300	75	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Bladder	BRCA	Breast	44	Y	
232	MO_1301	42	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Brain	BRCA	Breast	16	Y	
233	MO_1302	44	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Peritoneal Fluid	BRCA	Breast	61	Y	
234	MO_1304	67	M	Caucasian	Cutaneous Squamous Cell Carcinoma	CSCC	Subq	HNSC	Head	21	Y	
235	MO_1305	51	F	Caucasian	Inflammatory Breast Cancer	IBC	Liver	BRCA	Breast	79	Y	
236	MO_1306	38	M	Caucasian	Yolk Sac Tumor	TYST	Liver	TGCT	Testes	108	Y	
237	MO_1307	69	M	Caucasian	Cutaneous Squamous Cell Carcinoma	CSCC	Neck	HNSC	Head	14	Y	Prostate Carcinoma
238	MO_1309	61	M	Caucasian	Oropharynx Squamous Cell Carcinoma	OPHSC	Neck Mass	HNSC	Tonsil	14	Y	
239	MO_1310	62	F	Caucasian	Leiomyosarcoma	LMS	Liver	SARC	Vena Cava	88	Y	
240	MO_1312	61	M	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Liver	CHOL	Bile Duct	14	Y	
241	MO_1313	65	M	Caucasian	Soft Tissue Myoepithelial Carcinoma	STMYEC	Liver	SECR	Foot	46	Y	
242	MO_1315	54	F	Caucasian	Lung Squamous Cell Carcinoma	LUSC	Lung	LUNG	Lung	9	Y	
243	MO_1316	70	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	182	Y	
244	MO_1317	58	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	74	Y	
245	MO_1318	63	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	45	Y	
246	MO_1319	61	F	Caucasian	Gastrointestinal Stromal Tumor	GIST	Abdom. Mass	STAD	Unknown	46	Y	
247	MO_1320	44	F	South Asian	Breast Invasive Ductal Carcinoma	IDC	Skin Punch	BRCA	Breast	12	Y	
248	MO_1322	27	F	Caucasian	Adrenocortical Carcinoma	ACC	Lung	ACC	Adrenal	17	Y	
249	MO_1323	65	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Subq Chest Wall	BRCA	Breast	93	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
250	MO_1324	57	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	108	Y	
251	MO_1325	54	M	Caucasian	Lung Adenocarcinoma	LUAD	Liver	LUNG	Lung	25	Y	
252	MO_1328	78	M	Caucasian	Penile Squamous Cell Carcinoma	PSCC	Lymph Node	HNSC	Penis	>13	Y	
253	MO_1329	59	F	Caucasian	Myxoid Chondrosarcoma	MYCHS	Shoulder Mass	SARC	Humerus	11	Y	
254	MO_1330	67	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Sternal Mass	BRCA	Breast	372	Y	
255	MO_1331	68	F	Caucasian	Oral Cavity Squamous Cell Carcinoma	OCSC	Lung	HNSC	Tongue	16	Y	
256	MO_1333	34	M	Caucasian	Embryonal Carcinoma	EMBCA	Lymph Node	TGCT	Testes	128	Y	
257	MO_1335	46	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	58	Y	
258	MO_1336	75	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	204	Y	
259	MO_1337	61	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	18	Y	
260	MO_1338	43	M	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Bile Duct	5	Y	
261	MO_1339	78	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	11	Y	
262	MO_1340	53	M	Caucasian	Signet Ring Cell Carcinoma of the Stomach	SSRCC	Peritoneal Fluid	STAD	Stomach	26	Y	
263	MO_1341	31	F	African Am.	Extrahepatic Cholangiocarcinoma	EHCH	Abdom. Mass	CHOL	Bile Duct	15	Y	
264	MO_1342	62	F	Caucasian	Adenocarcinoma, NOS	ADNOS	Bone	MISC	Unknown	1	N	
265	MO_1343	53	M	Caucasian	Oral Cavity Squamous Cell Carcinoma	OCSC	Lung	HNSC	Tongue	58	Y	
266	MO_1344	57	M	Caucasian	Synovial Sarcoma	SYNS	Pleural Mass	SARC	Lung	24	Y	
267	MO_1345	35	M	Caucasian	Oral Cavity Squamous Cell Carcinoma	OCSC	Neck Mass	HNSC	Tongue	9	Y	
268	MO_1346	57	M	Caucasian	Soft Tissue Myoepithelial Carcinoma	STMYEC	Lymph Node	SECR	Forearm	9	Y	
269	MO_1347	46	M	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Lymph Node	CHOL	Bile Duct	11	Y	Ampullary Carcinoma
270	MO_1355	65	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	180	Y	
271	MO_1357	52	M	Caucasian	Cutaneous Melanoma	SKCM	Back	SKCM	Skin	155	Y	
272	MO_1359	77	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	32	Y	
273	MO_1360	73	M	African Am.	Salivary Duct Carcinoma	SDCA	Subq Nodule	SECR	Parotid Gland	4	Y	
274	MO_1361	55	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Omentum	BLCA	Bladder	>14	Y	Renal Cell Carcinoma
275	MO_1362	59	M	Caucasian	Oropharynx Squamous Cell Carcinoma	OPHSC	Lung	HNSC	Tonsil	47	Y	
276	MO_1363	55	F	Caucasian	Poorly Differentiated Carcinoma, NOS	PDC	Lymph Node	MISC	Unknown	7	Y	
277	MO_1364	56	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	28	Y	
278	MO_1366	32	M	Caucasian	Cutaneous Melanoma	SKCM	Abdom. Wall	SKCM	Skin	192	Y	
279	MO_1367	39	M	Caucasian	Oral Cavity Squamous Cell Carcinoma	OCSC	Lymph Node	HNSC	Tongue	23	Y	
280	MO_1369	65	F	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Lung	CHOL	Unknown	40	Y	
281	MO_1370	24	F	Caucasian	Undifferentiated Pleomorphic Sarcoma/Malignant F	MFH	Thigh Mass	SARC	Thigh	38	Y	
282	MO_1371	39	M	Caucasian	Granular Cell Tumor	GCT	Scapular Mass	MISC	Testes	40	Y	
283	MO_1372	73	F	Caucasian	Mullerian Adenocarcinoma		Abdom. Wall	MISC	Unknown	24	Y	
284	MO_1373	69	M	Caucasian	Oral Cavity Squamous Cell Carcinoma	OCSC	Lung	HNSC	Tongue	240	Y	
285	MO_1374	50	M	Caucasian	Cutaneous Melanoma	SKCM	Breast	SKCM	Skin	70	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
286	MO_1375	50	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Liver	ESCA	Esophagus	11	Y	
287	MO_1376	73	F	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Liver	CHOL	Gall Bladder	8	Y	
288	MO_1377	53	M	Caucasian	Adrenocortical Carcinoma	ACC	Liver	ACC	Adrenal	151	Y	
289	MO_1378	52	F	Caucasian	Serous Ovarian Cancer	SOC	Lymph Node	OV	Ovary	23	Y	
290	MO_1379	69	F	Caucasian	Adenocarcinoma, NOS	ADNOS	Abdom. Mass	MISC	Unknown	36	Y	
291	MO_1380	67	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Liver	ESCA	Esophagus	19	Y	
292	MO_1381	55	M	Caucasian	Extraskeletal Myxoid Chondrosarcoma	EMCHS	Lung	SARC	Thigh	252	Y	
293	MO_1382	57	F	Caucasian	Synovial Sarcoma	SYNS	Lung	SARC	Buttock	26	Y	
294	MO_1383	58	F	Caucasian	Adenocarcinoma, NOS	ADNOS	Liver	MISC	Unknown	1	N	
295	MO_1384	59	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Bone	BRCA	Breast	60	Y	
296	MO_1385	49	M	Caucasian	Adenoid Cystic Carcinoma	ACYC	Submandible	SECR	Submandibular Glan	140	Y	Melanoma / Pap. Thyroid
297	MO_1386	49	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Skin	BRCA	Breast	16	Y	
298	MO_1387	39	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Bone	BRCA	Breast	32	Y	
299	MO_1388	44	M	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Brain	CHOL	Bile Duct	10	Y	
300	MO_1390	40	F	African Am.	Adenoid Cystic Carcinoma	ACYC	Brain	SECR	Skull Base	28	Y	
301	MO_1391	47	M	Caucasian	Myxoid/Round-Cell Liposarcoma	MRLS	Mesenteric Mass	SARC	Thigh	49	Y	
302	MO_1393	62	F	Caucasian	Serous Ovarian Cancer	SOC	Liver	OV	Ovary	33	Y	
303	MO_1394	52	F	Caucasian	High-Grade Sarcoma		Retroperitoneum	SARC	Retroperitoneum	53	Y	
304	MO_1395	58	F	Caucasian	Esophageal Adenocarcinoma	ESCA	Liver	ESCA	Esophagus	1	N	
305	MO_1396	68	F	Caucasian	Anaplastic Thyroid Cancer	THAP	Thyroid	THCA	Thyroid	3	Y	
306	MO_1397	51	M	Caucasian	Poorly Differentiated Non-Small Cell Lung Cancer	NSCLCPD	Lymph Node	LUNG	Lung	21	Y	
307	MO_1399	59	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Bone	BRCA	Breast	45	Y	
308	MO_1400	52	F	Caucasian	Esophageal Squamous Cell Carcinoma	ESCC	Liver	HNSC	Esophagus	10	Y	
309	MO_1402	53	F	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Liver	17	Y	
310	MO_1403	60	F	Caucasian	Dedifferentiated Liposarcoma	DDLS	Abdom. Mass	SARC	Abdomen	77	Y	
311	MO_1404	77	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Abdom. Mass	SARC	Uterus	23	Y	
312	MO_1407	74	F	Caucasian	Poorly Differentiated Carcinoma, NOS	PDC	Lymph Node	MISC	Unknown	29	Y	
313	MO_1408	70	M	Caucasian	Adenoid Cystic Carcinoma	ACYC	Lung	SECR	Parotid Gland	146	Y	
314	MO_1410	66	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	32	Y	
315	MO_1411	38	F	African Am.	Breast Invasive Lobular Carcinoma	ILC	Chest Wall	BRCA	Breast	18	Y	
316	MO_1412	63	F	Caucasian	Cutaneous Melanoma	SKCM	Lymph Node	SKCM	Skin	120	Y	
317	MO_1415	46	F	African Am.	Breast Invasive Ductal Carcinoma	IDC	Skin Punch	BRCA	Breast	19	Y	
318	MO_1416	39	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Liver	ESCA	Esophagus	1	N	
319	MO_1418	55	F	African Am.	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	9	Y	
320	MO_1419	66	F	Caucasian	Sarcomatoid Carcinoma		Peritoneal Nodule	MISC	Unknown	11	Y	
321	MO_1420	64	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	40	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
322	MO_1421	56	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	24	Y	
323	MO_1423	31	M	Caucasian	Adamantinoma		Lung	MISC	Tibia	163	Y	
324	MO_1424	64	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	18	Y	
325	MO_1425	47	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Lymph Node	BRCA	Breast	56	Y	
326	MO_1426	66	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Brain	BRCA	Breast	27	Y	
327	MO_1427	55	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Chest Wall	BRCA	Breast	197	Y	
328	MO_1428	63	F	Caucasian	Adenocarcinoma, NOS	ADNOS	Liver	MISC	Unknown	9	Y	
329	MO_1433	50	M	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	7	Y	
330	MO_1434	56	F	Caucasian	Adrenocortical Carcinoma	ACC	Liver	ACC	Adrenal	42	Y	
331	MO_1435	58	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Liver	BRCA	Breast	192	Y	
332	MO_1437	67	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	3	Y	
333	MO_1438	33	F	Caucasian	Alveolar Soft Part Sarcoma	ASPS	Thigh	SARC	Thigh	5	Y	
334	MO_1439	32	F	Caucasian	Metaplastic Breast Cancer	MBC	Liver	BRCA	Breast	55	Y	
335	MO_1442	53	M	Caucasian	Adrenocortical Carcinoma	ACC	Abdom. Mass	ACC	Adrenal	10	Y	
336	MO_1443	63	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	10	Y	
337	MO_1444	60	F	Hispanic	Breast Invasive Ductal Carcinoma	IDC	Psoas Muscle	BRCA	Breast	84	Y	
338	MO_1446	58	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	7	Y	
339	MO_1447	58	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	10	Y	
340	MO_1448	65	M	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Liver	31	Y	
341	MO_1449	22	M	Caucasian	Ewing Sarcoma	ES	Lung	SARC	Ankle	34	Y	
342	MO_1452	60	F	Caucasian	Ovarian Adenocarcinoma		Lymph Node	OV	Ovary	47	Y	
343	MO_1453	53	M	Caucasian	Esophageal Squamous Cell Carcinoma	ESCC	Lymph Node	HNSC	Esophagus	18	Y	
344	MO_1454	81	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Liver	BRCA	Breast	1	N	
345	MO_1455	65	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Bone	BRCA	Breast	165	Y	
346	MO_1458	71	F	Caucasian	Serous Ovarian Cancer	SOC	Omentum	MISC	Ovary	2	N	Myxofibrosarcoma
347	MO_1459	66	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Lymph Node	ESCA	Esophagus	26	Y	
348	MO_1460	64	M	Caucasian	Prostate Neuroendocrine Carcinoma	PRNE	Liver	PRAD	Prostate	29	Y	
349	MO_1462	20	F	Caucasian	Fibrolamellar Carcinoma	FLC	Liver	HCC	Liver	3	Y	
350	MO_1464	68	F	Caucasian	Serous Ovarian Cancer	SOC	Thoracic Fluid	OV	Fallopian Tube	1	N	
351	MO_1465	42	F	Caucasian	Glioblastoma Multiforme	GBM	Brain	GBM	Brain	5	Y	
352	MO_1466	74	F	Caucasian	Pancreatic Neuroendocrine Tumor	PANET	Liver	PAAD	Pancreas	57	Y	
353	MO_1469	65	M	African Am.	Prostate Neuroendocrine Carcinoma	PRNE	Pelvic Mass	PRAD	Prostate	84	Y	
354	MO_1472	66	M	Caucasian	Prostate Neuroendocrine Carcinoma	PRNE	Lymph Node	PRAD	Prostate	26	Y	
355	MO_1473	76	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	167	Y	
356	MO_1474	49	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lung	BRCA	Breast	12	Y	
357	MO_1475	27	F	Caucasian	Myxofibrosarcoma	MFS	Lung	SARC	Abdomen	20	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
358	MO_1476	71	M	Caucasian	Esophageal Squamous Cell Carcinoma	ESCC	Liver	HNSC	Esophagus	1	N	
359	MO_1477	56	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Liver	ESCA	Esophagus	1	N	
360	MO_1478	62	M	Caucasian	Pancreatic Neuroendocrine Tumor	PANET	Lymph Node	PAAD	Pancreas	10	Y	
361	MO_1479	55	M	Caucasian	Rhabdomyosarcoma	RMS	Lung	SARC	Leg	18	Y	
362	MO_1480	59	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Liver	ESCA	Esophagus	4	Y	
363	MO_1481	49	M	Caucasian	Soft Tissue Myoepithelial Carcinoma	STMYEC	Lung	SECR	Unknown	23	Y	
364	MO_1482	59	M	Caucasian	Prostate Neuroendocrine Carcinoma	PRNE	Liver	PRAD	Prostate	77	Y	
365	MO_1483	49	M	Caucasian	Undifferentiated Pleomorphic Sarcoma	MFH	Lung	SARC	Thigh	20	Y	
366	MO_1484	49	F	Caucasian	Myoepithelial Carcinoma	MYEC	Lung	SECR	Parotid Gland	33	Y	
367	MO_1485	66	M	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Unknown	3	N	
368	MO_1486	66	F	Caucasian	Pancreatic Adenocarcinoma	PAAD	Liver	PAAD	Pancreas	8	Y	
369	MO_1487	31	M	Caucasian	Sex Cord Stromal Tumor	TSCST	Lymph Node	MISC	Testes	3	N	
370	MO_1488	66	M	Caucasian	Head and Neck Neuroendocrine Carcinoma	HNNE	Abdom. Mass	MISC	Larynx	15	Y	
371	MO_1489	71	M	Caucasian	Esophageal Squamous Cell Carcinoma	ESCC	Liver	HNSC	Esophagus	25	Y	
372	MO_1490	74	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	130	Y	
373	MO_1491	65	F	Caucasian	Adenosarcoma		Liver	MISC	Pelvis	19	Y	
374	MO_1492	59	M	Caucasian	Prostate Adenocarcinoma	PRAD	Neck Mass	PRAD	Prostate	81	Y	
375	MO_1493	66	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Pelvic Mass	ESCA	Esophagus	30	Y	
376	MO_1494	52	F	South Asian	Pancreatic Adenocarcinoma	PAAD	Liver	PAAD	Pancreas	11	Y	
377	MO_1495	72	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	168	Y	
378	MO_1496	58	M	Caucasian	Prostate Neuroendocrine Carcinoma	PRNE	Lymph Node	PRAD	Prostate	1	N	
379	MO_1499	73	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	52	Y	
380	MO_1500	67	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Liver	ESCA	Esophagus	1	N	
381	MO_1502	71	M	Caucasian	Adenoid Cystic Carcinoma	ACYC	Lung	SECR	Salivary Gland	28	Y	
382	MO_1503	43	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	13	Y	
383	MO_1506	58	M	Caucasian	Esophageal Adenocarcinoma	ESCA	Lymph Node	ESCA	Esophagus	22	Y	
384	MO_1507	58	F	Caucasian	Neuroendocrine Tumor, NOS	NETNOS	Liver	MISC	Unknown	6	Y	
385	MO_1509	63	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Bone	BRCA	Breast	28	Y	
386	MO_1510	64	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	43	Y	
387	MO_1511	69	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	17	Y	
388	MO_1513	61	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	240	Y	
389	MO_1514	74	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	64	Y	
390	MO_1515	55	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	105	Y	
391	MO_1516	58	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	153	Y	
392	MO_1517	75	M	Caucasian	Prostate Adenocarcinoma	PRAD	Adrenal	PRAD	Prostate	67	Y	
393	MO_1518	63	F	Caucasian	Poorly Differentiated Carcinoma, NOS	PDC	Liver	MISC	Unknown	2	N	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
394	MO_1520	53	M	Hispanic	Esophageal Adenocarcinoma	ESCA	Shoulder	ESCA	Esophagus	12	Y	
395	MO_1521	66	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	224	Y	
396	MO_1522	66	F	Caucasian	Collecting Duct Renal Cell Carcinoma	CDRDD	Lymph Node	KDNY	Kidney	8	Y	
397	MO_1524	59	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Lymph Node	BRCA	Breast	29	Y	
398	MO_1525	63	M	Caucasian	Osteosarcoma	OS	Pleural Mass	SARC	Thigh	120	Y	Solitary Fibrous Tumor
399	MO_1527	58	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Hip Lesion	BRCA	Breast	62	Y	
400	MO_1528	63	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	7	Y	
401	MO_1529	48	F	Caucasian	Pancreatic Neuroendocrine Tumor	PANET	Liver	PAAD	Pancreas	2	Y	
402	MO_1530	71	M	Caucasian	Renal Clear Cell Carcinoma	CCRCC	Liver	KDNY	Kidney	91	Y	
403	MO_1532	48	M	Caucasian	Salivary Carcinoma	SACA	Lymph Node	SECR	Salivary Gland	84	Y	
404	MO_1533	59	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Subq Nodule	BRCA	Breast	57	Y	
405	MO_1534	31	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	55	Y	
406	MO_1536	55	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	11	Y	
407	MO_1537	45	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	27	Y	
408	MO_1540	50	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Bone	BRCA	Breast	27	Y	
409	MO_1541	71	M	South Asian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	14	Y	
410	MO_1542	67	M	Caucasian	Poorly Differentiated Carcinoma, NOS	PDC	Lymph Node	MISC	Unknown	2	N	
411	MO_1543	61	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	132	Y	
412	MO_1547	66	F	Caucasian	Salivary Carcinoma, Other	OSACA	Lymph Node	SECR	Parotid	30	Y	
413	MO_1550	61	F	African Am.	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Liver	27	Y	
414	MO_1551	72	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	20	Y	
415	MO_1552	41	F	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Liver	15	Y	
416	MO_1553	56	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	93	Y	
417	MO_1555	70	F	Caucasian	Angiosarcoma	ANGS	Subq Nodule	SARC	Back	39	Y	
418	MO_1556	59	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	107	Y	
419	MO_1557	66	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	149	Y	
420	MO_1558	77	F	Caucasian	Lung Adenocarcinoma	LUAD	Lymph Node	LUNG	Lung	25	Y	
421	MO_1562	60	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Axillary Mass	BRCA	Breast	21	Y	
422	MO_1563	68	M	Caucasian	Squamous Cell Carcinoma, NOS	SCCNOS	Omental Mass	MISC	Unknown	2	N	
423	ES_5001	65	F	South Asian	Breast Invasive Ductal Carcinoma	IDC	Brain	BRCA	Breast	26	Y	
424	ES_5004	33	F	Caucasian	Colon Adenocarcinoma	COAD	Abdom. Wall	COLO	Colon	34	Y	
425	ES_5005	27	F	Caucasian	Cervical Neuroendocrine Tumor	CENE	Cervix	MISC	Cervix	1	N	
426	TP_2001	70	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	39	Y	
427	TP_2002	59	F	Caucasian	Adenocarcinoma, NOS	ADNOS	Peritoneal Fluid	MISC	Unknown	98	Y	Breast Ductal Carcinoma
428	TP_2004	52	M	Caucasian	Breast Invasive Carcinoma, NOS	BRCNOS	Bone	BRCA	Breast	17	Y	
429	TP_2008	26	F	Caucasian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Liver	16	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
430	TP_2009	58	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	21	Y	
431	TP_2010	64	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	66	Y	
432	TP_2011	56	F	Caucasian	Renal Cell Carcinoma	RCC	Liver	KDNY	Kidney	180	Y	
433	TP_2013	58	M	East Asian	Angiosarcoma	ANGS	Liver	SARC	Scalp	27	Y	
434	TP_2014	70	F	African Am.	Uterine Endometrioid Carcinoma	UEC	Omentum	MISC	Unknown	36	Y	
435	TP_2015	53	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	143	Y	
436	TP_2016	32	F	Caucasian	Extrahepatic Cholangiocarcinoma	EHCH	Lymph Node	CHOL	Bile Duct	23	Y	
437	TP_2017	51	M	Caucasian	Colon Adenocarcinoma	COAD	Abdom. Mass	COLO	Colorectal	84	Y	
438	TP_2018	72	M	Caucasian	Penile Squamous Cell Carcinoma	PSCC	Thigh Mass	HNSC	Penis	13	Y	
439	TP_2019	49	M	Caucasian	Cutaneous Melanoma	SKCM	Subq Nodule	SKCM	Skin	3	Y	
440	TP_2020	55	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	39	Y	
441	TP_2021	56	M	Caucasian	Urethral Urothelial Carcinoma	UCU	Lymph Node	BLCA	Ureter	61	Y	
442	TP_2023	23	F	Caucasian	Undifferentiated High-Grade Sarcoma	SARCNOS	Thigh Mass	SARC	Thigh	3	Y	
443	TP_2024	56	F	Caucasian	Small Cell Lung Cancer	SCLC	Liver	LUNG	Lung	59	Y	Breast Ductal Carcinoma
444	TP_2025	64	F	African Am.	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	112	Y	
445	TP_2027	68	M	Caucasian	Cutaneous Melanoma	SKCM	Subq Nodule	SKCM	Skin	54	Y	
446	TP_2028	72	F	Caucasian	Sebaceous Carcinoma	SEBA	Subq Nodule	SECR	Orbit Of Eye	48	Y	
447	TP_2029	45	M	Caucasian	Colon Adenocarcinoma	COAD	Abdom. Mass	COLO	Colorectal	17	Y	
448	TP_2032	74	M	Caucasian	Prostate Adenocarcinoma	PRAD	Peritoneal Nodule	PRAD	Prostate	123	Y	Papillary Thyroid
449	TP_2034	50	M	East Asian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	14	Y	
450	TP_2037	49	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	176	Y	
451	TP_2038	64	F	South Asian	Intrahepatic Cholangiocarcinoma	IHCH	Liver	CHOL	Liver	18	Y	
452	TP_2042	70	M	Caucasian	Lung Adenocarcinoma	LUAD	Lung	MISC	Lung	10	Y	
453	TP_2043	62	M	Caucasian	Solitary Fibrous Tumor	SFT	Lung	SARC	Lung	106	Y	Prostate Carcinoma
454	TP_2047	52	M	Caucasian	Pancreatic Adenocarcinoma	PAAD	Lung	PAAD	Pancreas	24	Y	
455	TP_2050	61	M	Caucasian	Seminal Vesicle Carcinoma		Abdom. Mass	MISC	Seminal Vesicle	5	Y	
456	TP_2052	52	F	Caucasian	Poorly Differentiated Non-Small Cell Lung Cancer	NSCLCPD	Adrenal	LUNG	Lung	16	Y	
457	TP_2054	70	M	South Asian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	33	Y	
458	TP_2055	41	F	East Asian	Atypical Meningioma	ATM	Brain	MISC	Skull Base	58	Y	
459	TP_2056	46	F	Caucasian	Glioblastoma Multiforme	GBM	Brain	GBM	Brain	7	Y	
460	TP_2058	62	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Bladder	BLCA	Bladder	0	N	
461	TP_2059	71	M	Caucasian	Extramammary Paget Disease	EMPD	Lymph Node	MISC	Scrotum	18	Y	
462	TP_2060	72	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	17	Y	
463	TP_2061	65	M	Caucasian	Prostate Carcinosarcoma		Pelvic Mass	PRAD	Prostate	61	Y	
464	TP_2064	72	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	114	Y	
465	TP_2065	52	F	Caucasian	Glioblastoma Multiforme	GBM	Brain	GBM	Brain	3	Y	

SUPPLEMENTARY TABLE 1. DEMOGRAPHICS and CLINICAL DETAILS cont.

CASE	ID	AGE	GENDER	POPULATION	CANCER TYPE	ONCOTREE CODE	BIOPSY SITE	ANALYSIS COHORT	PRIMARY SITE	INTERVAL (mo)	PRIOR THERAPY	OTHER CANCER HISTORY
466	TP_2067	66	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Pelvic Mass	SARC	Uterus	7	Y	
467	TP_2069	66	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	29	Y	
468	TP_2070	64	F	Caucasian	Uterine Leiomyosarcoma	ULMS	Pelvic Mass	SARC	Uterus	48	Y	
469	TP_2071	52	F	East Asian	Clear Cell Ovarian Cancer	CCOV	Pelvic Mass	OV	Ovary	12	Y	
470	TP_2072	38	M	African Am.	Solitary Fibrous Tumor	SFT	Spinal Mass	SARC	Spinal Canal	5	Y	
471	TP_2073	52	F	Caucasian	Pleural Mesothelioma	PLMESO	Lymph Node	LUNG	Pleura	17	Y	
472	TP_2074	66	F	Caucasian	Clear Cell Ovarian Cancer	CCOV	Lymph Node	OV	Ovary	21	Y	
473	TP_2075	43	F	Caucasian	Solitary Fibrous Tumor	SFT	Lacrimal Gland	SARC	Eyelid	11	Y	
474	TP_2077	68	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	84	Y	
475	TP_2078	86	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	172	Y	
476	TP_2079	67	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	69	Y	
477	TP_2080	57	M	Caucasian	Prostate Adenocarcinoma	PRAD	Prostate	PRAD	Prostate	2	Y	
478	TP_2081	63	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	37	Y	
479	TP_2083	67	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	171	Y	
480	TP_2086	74	M	Caucasian	Pancreatic Adenocarcinoma	PAAD	Liver	PAAD	Pancreas	53	Y	
481	TP_2087	59	F	Caucasian	Serous Ovarian Cancer	SOC	Colon	OV	Ovary	29	Y	
482	TP_2090	37	M	Caucasian	Prostate Adenocarcinoma	PRAD	Bone	PRAD	Prostate	12	Y	
483	TP_2091	58	M	Caucasian	Glioblastoma Multiforme	GBM	Brain	GBM	Brain	5	Y	
484	TP_2093	64	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	12	Y	
485	TP_2096	54	M	Caucasian	Prostate Adenocarcinoma	PRAD	Lymph Node	PRAD	Prostate	60	Y	
486	TP_2098	78	M	Caucasian	Myoepithelial Carcinoma	MYEC	Gluteal Mass	SECR	Parotid Gland	88	Y	
487	TP_2100	66	F	Caucasian	Esophageal Squamous Cell Carcinoma	ESCC	Liver	HNSC	Esophagus	1	N	
488	TP_2101	46	M	Caucasian	Oral Cavity Squamous Cell Carcinoma	OCSC	Lung	HNSC	Tongue	29	Y	
489	TP_2102	44	M	Caucasian	Undifferentiated Pleomorphic Sarcoma	MFH	Arm	SARC	Thigh	61	Y	
490	TP_2106	59	F	Caucasian	Pancreatic Adenocarcinoma	PAAD	Bone	PAAD	Pancreas	53	Y	
491	TP_2109	48	F	Caucasian	Breast Invasive Lobular Carcinoma	ILC	Lymph Node	BRCA	Breast	1	N	
492	TP_2118	45	F	African Am.	Breast Invasive Ductal Carcinoma	IDC	Lymph Node	BRCA	Breast	16	Y	
493	TP_2119	59	M	Caucasian	Dedifferentiated Chondrosarcoma	DDCHS	Liver	SARC	Thigh	108	Y	
494	TP_2120	64	F	Caucasian	Glioblastoma Multiforme	GBM	Brain	GBM	Brain	1	N	
495	TP_2122	67	F	Caucasian	Metaplastic Breast Cancer	MBC	Lymph Node	BRCA	Breast	9	Y	
496	TP_2123	25	M	Caucasian	Ependymoma	EPM	Brain	MISC	Brain	197	Y	
497	TP_2130	70	M	Caucasian	Sinonasal Squamous Cell Carcinoma	SNSC	Sphenoid Sinus	HNSC	Sinus	11	Y	
498	TP_2131	77	M	Caucasian	Bladder Urothelial Carcinoma	BLCA	Liver	BLCA	Bladder	7	Y	
499	TP_2141	43	F	Caucasian	Breast Invasive Ductal Carcinoma	IDC	Liver	BRCA	Breast	36	Y	
500	TP_2156	75	M	Caucasian	Prostate Adenocarcinoma	PRAD	Liver	PRAD	Prostate	156	Y	

Supplementary Table 2. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1001	90%	54%	Roche-v2	131	129	299	61.47	4.86	94531888	291363
MO_1002	90%	38%	Roche-v2	130	123	92	61.08	1.51	118581455	361278
MO_1005	80%	<30%	Roche-v2	121	105	72	61.92	1.16	86654440	360457
MO_1007	30%	30%	Roche-v2	151	115	135	65.24	2.07	95766816	195997
MO_1008	NA	<30%	Roche-v2	121	117	37	60.59	0.61	99286728	350949
MO_1011	50%	81%	Roche-v2	112	75	84	62.75	1.34	59625334	314898
MO_1012	50%	54%	Roche-v2	116	79	1800	61.95	29.06	55461509	66952
MO_1013	80%	43%	Roche-v2	166	110	411	65.48	6.28	59486854	250438
MO_1014	80%	39%	Roche-v2	139	157	268	64.44	4.16	55264227	184216
MO_1015	80%	54%	Roche-v2	177	106	136	65.14	2.09	54634232	258158
MO_1016	50%	58%	Roche-v2	190	103	512	66.13	7.74	58697128	316136
MO_1017	80%	<30%	Roche-v2	184	106	71	65.92	1.08	72256976	333222
MO_1020	35%	36%	Roche-v2	132	98	135	62.5	2.16	63228565	257456
MO_1022	35%	38%	Roche-v2	91	51	44	55.64	0.79	90939341	370756
MO_1023	60%	30%	Roche-v2	94	48	40	57.44	0.7	89992313	176179
MO_1024	70%	87%	Roche-v2	106	68	279	58.57	4.76	96672782	361640
MO_1025	90%	94%	Roche-v2	167	122	84	65.58	1.28	104349123	373016
MO_1026	88%	43%	Roche-v2	140	98	152	64.96	2.34	91201493	369676
MO_1027	50%	62%	Roche-v2	183	113	459	66.42	6.91	107092664	374530
MO_1028	90%	90%	Agilent-50	182	85	480	78.57	6.11	71729868	329375
MO_1030	NA	84%	Agilent-v4	27	114	44	31.36	1.4	118303657	295487
MO_1031	78%	66%	Agilent-v4	150	110	738	75.21	9.81	95094288	366535
MO_1032	70%	54%	Agilent-50	145	105	512	74.92	6.83	101844372	368788
MO_1033	70%	87%	Agilent-50	144	112	121	73.18	1.65	97261191	397484
MO_1034	90%	30%	Agilent-v4	20	93	20	16.44	1.22	96537233	431138
MO_1035	80%	84%	Agilent-v4	67	99	77	68.56	1.12	88843652	365169
MO_1036	30%	53%	Agilent-v4	212	101	103	77.79	1.32	99528975	340142
MO_1037	88%	87%	Agilent-v4	151	99	111	72.43	1.53	95037099	362410
MO_1038	70%	88%	Agilent-v4	125	107	1626	69.5	23.39	69497081	235497
MO_1039	80%	58%	Agilent-v4	130	82	87	74.72	1.16	98201462	360542
MO_1040	90%	69%	Agilent-v4	147	99	126	71.37	1.77	87418303	313817
MO_1042	60-65%	30%	Agilent-v4	148	87	216	75.99	2.84	85845575	353716
MO_1043	40%	30%	Agilent-v4	134	146	46	63.29	0.73	117883170	361024
MO_1044	85%	61%	Agilent-v4	151	143	52	74.67	0.7	125947729	391600
MO_1045	30%	40%	Agilent-v4	165	117	112	75.37	1.49	96812161	272078
MO_1046	40%	40%	Agilent-v4	124	136	513	69.64	7.37	92647625	328359
MO_1047	30%	61%	Agilent-v4	131	146	132	73.34	1.8	95319762	335507
MO_1048	70%	31%	Agilent-v4	129	146	1391	73.55	18.91	86288073	354521
MO_1049	85%	73%	Agilent-v4	115	123	254	68.57	3.7	99537629	329002
MO_1050	55%	33%	Agilent-v4	119	122	222	71.53	3.1	90340925	357700
MO_1051	60%	59%	Agilent-v4	100	131	726	74.66	9.72	64494180	317307

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1052	55%	58%	Agilent-v4	112	91	162	66.53	2.43	80701118	19953
MO_1053	85%	80%	Agilent-v4	100	130	304	66.14	4.6	92914636	359709
MO_1055	75%	48%	Agilent-v4	153	112	6308	76.58	82.37	119502376	354233
MO_1058	30%	30%	Agilent-v4	149	109	163	71.19	2.29	100773918	340338
MO_1059	65%	85%	Agilent-v4	148	121	160	71.64	2.23	95791838	351633
MO_1060	55%	69%	Agilent-v4	156	113	131	75.57	1.73	94242216	348443
MO_1061	65-80%	30%	Agilent-v4	152	118	76	77.2	0.98	95314795	369781
MO_1062	40%	30%	Agilent-v4	177	101	99	74.49	1.33	100911022	313613
MO_1063	80%	73%	Agilent-v4	125	100	247	74.27	3.33	94455968	349835
MO_1064	85%	78%	Agilent-v4	149	103	52	69.58	0.75	99265802	352226
MO_1065	75%	62%	Agilent-v4	158	100	411	74.02	5.55	102344255	365257
MO_1066	55-85%	85%	Agilent-v4	184	127	185	83.96	2.2	70502363	315588
MO_1067	100%	53%	Agilent-v4	141	88	247	72.99	3.38	100337185	351747
MO_1068	100%	30%	Agilent-v4	161	94	1622	71.01	22.84	97070828	364407
MO_1069	75%	83%	Agilent-v4	157	108	210	64.12	3.28	98420734	360053
MO_1070	50%	41%	Agilent-v4	165	107	1301	72.21	18.02	101310008	357566
MO_1072	20%	52%	Agilent-v4	196	108	898	79.29	11.33	41325957	279652
MO_1073	85%	74%	Agilent-v4	142	122	287	75.58	3.8	77328772	312563
MO_1074	60%	43%	Agilent-v4	144	120	165	78.2	2.11	110819626	393415
MO_1075	20%	<30%	Agilent-v4	158	107	33	72.74	0.45	73665360	266462
MO_1076	80%	45%	Agilent-v4	148	109	78	70.15	1.11	63407637	289794
MO_1077	50%	87%	Agilent-v4	163	118	168	71.54	2.35	66234849	339559
MO_1079	80%	31%	Agilent-v4	151	110	359	73.8	4.86	86866282	329368
MO_1080	85%	64%	Agilent-v4	91	114	162	70.99	2.28	57592119	308098
MO_1084	NA	81%	Agilent-v4	154	110	147	71.82	2.05	75313086	304511
MO_1085	85%	64%	Agilent-v4	147	116	62	73.7	0.84	67372776	300521
MO_1086	55%	58%	Agilent-v4	139	109	57	71.22	0.8	62578345	296737
MO_1087	30%	48%	Agilent-v4	143	112	424	69.5	6.1	72090068	329238
MO_1088	55-75%	55%	Agilent-v4	156	123	45	72.14	0.62	64766948	278989
MO_1089	70%	92%	Agilent-v4	177	93	84	75.37	1.11	80824857	303226
MO_1090	62%	30%	Agilent-v4	95	113	127	74.83	1.7	65756082	383634
MO_1091	85%	90%	Agilent-v4	179	132	250	72.89	3.43	67631968	315303
MO_1092	27%	48%	Agilent-v4	191	87	660	75.18	8.78	60338111	318501
MO_1093	55%	41%	Agilent-v4	161	111	86	73.9	1.16	66627961	319387
MO_1094	85%	85%	Agilent-v4	161	94	100	74.58	1.34	59697790	308559
MO_1095	55%	40%	Agilent-v4	159	111	101	73.09	1.38	51558531	304286
MO_1096	0%	66%	Agilent-v4	159	126	129	72.22	1.79	65794188	293871
MO_1097	85%	90%	Agilent-v4	170	112	429	75.26	5.7	74576951	320084
MO_1098	32%	88%	Agilent-v4	168	110	157	69.02	2.27	66160019	318384
MO_1099	40%	81%	Agilent-v4	176	129	2169	72.22	30.03	63154458	324400
MO_1100	80-90%	92%	Agilent-v4	192	107	96	78.22	1.23	68170809	306225

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1102	90%	55%	Agilent-v4	116	106	1837	75.76	24.25	70161320	314078
MO_1106	40%	36%	Agilent-v4	198	123	805	72.73	11.07	70624284	325700
MO_1107	75%	32%	Agilent-v4	162	113	221	76.46	2.89	68335780	319789
MO_1108	62%	66%	Agilent-v4	179	120	479	72.52	6.61	68959333	338011
MO_1109	80%	93%	Agilent-v4	174	118	4029	76.34	52.78	69741295	355728
MO_1111	70%	30%	Agilent-v4	162	123	3904	77.09	50.64	65259954	326505
MO_1112	20%	30%	Agilent-v4	119	145	52	77.89	0.67	59110634	266918
MO_1114	90%	87%	Agilent-v4	188	132	157	75.65	2.08	70540196	300179
MO_1116	40-60%	30%	Agilent-v4	184	136	557	76.75	7.26	66268348	274747
MO_1117	80-85%	85%	Agilent-v4	141	109	181	79.94	2.26	62631484	295820
MO_1118	85-90%	92%	Agilent-v4	182	116	99	74.65	1.33	62077601	312529
MO_1119	90%	79%	Agilent-v4	172	121	338	79.46	4.25	73719894	295123
MO_1123	80%	35%	Agilent-v4	174	108	109	79.97	1.36	64925011	266469
MO_1124	90%	95%	Agilent-v4	121	74	152	72.09	2.11	62498875	310818
MO_1125	75-90%	60%	Agilent-v4	125	45	776	72.24	10.74	60400552	285710
MO_1126	50-60%	68%	Agilent-v4	176	123	200	79.12	2.53	45915587	280281
MO_1128	80-85%	74%	Agilent-v4	173	116	129	75.79	1.7	64268634	272490
MO_1129	85%	63%	Agilent-v4	157	103	112	79.98	1.4	70848490	291387
MO_1130	13%	43%	Agilent-v4	157	120	102	77.25	1.32	89071125	300590
MO_1131	90%	80%	Agilent-v4	164	113	90	75.6	1.19	72360405	282940
MO_1132	3-5%	40%	Agilent-v4	170	132	169	77.96	2.17	74833596	317610
MO_1133	80%	93%	Agilent-v4	171	113	93	77.41	1.2	60069940	278648
MO_1135	63-65%	58%	Agilent-v4	166	135	543	78.32	6.93	63508081	274856
MO_1136	80-85%	30%	Agilent-v4	182	132	118	80.17	1.47	77159735	267746
MO_1137	90%	32%	Agilent-v4	182	125	344	78.2	4.4	67930905	301342
MO_1138	80%	50%	Agilent-v4	237	105	129	79.49	1.62	43953848	260656
MO_1139	0%	30%	Agilent-v4	159	97	103	77.97	1.32	NA	NA
MO_1140	80%	95%	Agilent-v4	157	140	179	72	2.49	42196014	233094
MO_1141	60%	71%	Agilent-v4	176	115	800	72.19	11.08	47498009	271491
MO_1142	35-50%	35%	Agilent-v4	197	120	76	75.16	1.01	NA	NA
MO_1146	75%	35%	Agilent-v4	177	133	7691	73.94	104.02	60849094	297111
MO_1147	35%	30%	Agilent-v4	174	130	46	76.88	0.6	80695465	316114
MO_1148	85%	98%	Agilent-v4	180	120	94	78	1.21	61278552	287827
MO_1149	45-75%	63%	Agilent-v4	168	139	61	75.09	0.81	66606905	308953
MO_1150	NA	55%	Agilent-v4	188	138	148	79.89	1.85	NA	NA
MO_1152	75%	33%	Agilent-v4	183	131	124	75.24	1.65	68461266	297799
MO_1153	80-90%	57%	Agilent-v4	198	130	1150	73.68	15.61	65432669	317172
MO_1155	45-65%	90%	Agilent-v4	188	135	62	80.67	0.77	78454689	294663
MO_1157	75-85%	90%	Agilent-v4	180	137	154	76.95	2	73522643	300851
MO_1158	63%	54%	Agilent-v4	190	152	128	79.64	1.61	72136490	327574
MO_1159	80-85%	85%	Agilent-v4	190	138	252	78.95	3.19	68475707	290116

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1160	65-70%	70%	Agilent-v4	194	146	5387	78.85	68.32	77278378	355476
MO_1161	80%	82%	Agilent-v4	184	145	156	80.52	1.94	61678612	295351
MO_1162	7-45%	63%	Agilent-v4	198	136	166	76.24	2.18	83447148	324569
MO_1163	65-75%	82%	Agilent-v4	175	136	1530	75.46	20.28	60547356	324529
MO_1164	75%	37%	Agilent-v4	191	153	134	77.8	1.72	65349000	314475
MO_1165	45%	74%	Agilent-v4	176	123	157	72.9	2.15	58791548	310224
MO_1166	37-45%	30%	Agilent-v4	200	139	423	72.33	5.85	73916404	323293
MO_1167	80%	31%	Agilent-v4	183	127	113	77.52	1.46	60134261	313311
MO_1168	63-65%	65%	Agilent-v4	169	135	117	66.11	1.77	73689804	242686
MO_1170	50%	62%	Agilent-v4	167	127	105	78.11	1.34	56795974	301152
MO_1171	60%	59%	Agilent-v4	158	134	101	76.93	1.31	61897626	364136
MO_1172	15%	48%	Agilent-v4	200	141	101	83.42	1.21	72865750	308916
MO_1175	50-70%	37%	Agilent-v4	169	131	284	80.14	3.54	42415609	274117
MO_1176	70-80%	83%	Agilent-v4	174	126	168	74.84	2.24	40692914	273442
MO_1177	10-30%	49%	Agilent-v4	170	126	207	74.77	2.77	45393687	292232
MO_1178	70%	55%	Agilent-v4	174	133	1692	80.23	21.09	44385718	280120
MO_1179	5%	30%	Agilent-v4	162	131	165	74.62	2.21	45319650	290372
MO_1180	55-63%	81%	Agilent-v4	162	143	68	77.38	0.88	43743139	261961
MO_1181	65-73%	75%	Agilent-v4	203	112	208	74.88	2.78	44312081	274339
MO_1182	80%	76%	Agilent-v4	185	115	200	77.83	2.57	44218716	277729
MO_1183	85%	58%	Agilent-v4	209	106	4520	77.81	58.09	49347329	275330
MO_1184	45%	56%	Agilent-v4	157	134	287	78.04	3.68	43835260	276040
MO_1185	NA	81%	Agilent-v4	158	114	203	75.84	2.68	47142667	265647
MO_1187	60-75%	69%	Agilent-v4	154	129	432	72.22	5.98	39669648	275909
MO_1188	67-90%	30%	Agilent-v4	132	84	873	74.34	11.74	40942758	252229
MO_1189	80%	43%	Agilent-v4	183	96	721	77.66	9.28	62904603	290624
MO_1190	80%	77%	Agilent-v4	146	88	1500	74.94	20.02	47516336	289148
MO_1192	70%	67%	Agilent-v4	174	116	116	77.55	1.5	42038509	265457
MO_1193	73%	63%	Agilent-v4	156	124	52	76.16	0.68	109380616	351336
MO_1194	63%	32%	Agilent-v4	147	106	159	74.67	2.13	66116968	323519
MO_1195	63-85%	54%	Agilent-v4	194	140	226	78.93	2.86	61074049	305091
MO_1196	45-50%	34%	Agilent-v4	181	120	101	76.65	1.32	43966431	272644
MO_1197	45-90%	68%	Agilent-v4	151	115	1006	73.47	13.69	40558290	263572
MO_1198	45-55%	48%	Agilent-v4	139	105	930	72.07	12.9	41307702	289278
MO_1200	65%	30%	Agilent-v4	159	125	167	76.5	2.18	48201927	290377
MO_1201	10%	47%	Agilent-v4	195	131	94	78.23	1.2	64573400	290421
MO_1202	55-65%	52%	Agilent-v4	174	126	166	81.23	2.04	66690987	317987
MO_1203	55-60%	30%	Agilent-v4	190	136	123	75.6	1.63	66909881	298070
MO_1204	10-15%	58%	Agilent-v4	192	127	577	78.1	7.39	66588925	300798
MO_1206	70-80%	84%	Agilent-v4	179	123	532	73.83	7.21	69744643	303762
MO_1208	90%	71%	Agilent-v4	181	103	195	78.05	2.5	70866789	316160

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1209	30%	30%	Agilent-v4	186	110	1580	78.94	20.02	56906950	303538
MO_1210	85-90%	70%	Agilent-v4	176	110	92	80.87	1.14	64231867	265499
MO_1211	70-75%	85%	Agilent-v4	192	108	60	82.8	0.72	63834470	305049
MO_1213	55%	74%	Agilent-v4	175	127	101	77.07	1.31	52146710	279393
MO_1214	NA	<30%	Agilent-v4	164	116	223	79.67	2.8	52099578	274939
MO_1215	45-73%	87%	Agilent-v4	167	124	302	78.3	3.86	50277867	320571
MO_1217	65-75%	30%	Agilent-v4	172	138	2978	81.06	36.74	89474941	346416
MO_1219	35%	30%	Agilent-v4	308	219	150	85.18	1.76	46003592	279124
MO_1220	45-63%	34%	Agilent-v4	226	96	1171	83.08	14.1	54119326	328693
MO_1221	4-5%	78%	Agilent-v4	196	103	130	81.85	1.59	44733586	266814
MO_1222	45-50%	<30%	Agilent-v4	145	102	51	78.01	0.65	55239889	265444
MO_1223	30-35%	39%	Agilent-v4	160	102	646	79.45	8.13	43968644	265445
MO_1224	50-70%	48%	Agilent-v4	151	107	537	79.78	6.73	43566698	277469
MO_1226	50%	46%	Agilent-v4	161	96	238	80.97	2.94	44834789	279670
MO_1227	50%	76%	Agilent-v4	154	100	1023	80.85	12.65	49156975	268550
MO_1228	70%	68%	Agilent-v4	165	117	4795	81.66	58.72	45750654	278955
MO_1229	13-23%	65%	Agilent-v4	166	119	83	80.88	1.03	45673682	267427
MO_1230	50-55%	53%	Agilent-v4	169	117	106	81.73	1.3	47128821	276452
MO_1231	55-75%	<30%	Agilent-v4	170	112	114	78.7	1.45	72871182	308604
MO_1232	37-50%	47%	Agilent-v4	164	126	498	80.18	6.21	49279541	286917
MO_1233	55-60%	93%	Agilent-v4	149	107	63	78.31	0.8	49268156	279630
MO_1236	15%	45%	Agilent-v4	180	105	635	78.55	8.08	61779667	337093
MO_1237	70-75%	55%	Agilent-v4	157	130	104	74.75	1.39	70501005	311273
MO_1239	80-90%	84%	Agilent-v4	143	106	553	77.04	7.18	58907627	299189
MO_1240	13%	67%	Agilent-v4	190	99	104	79.83	1.3	65314138	279041
MO_1241	65-75%	80%	Agilent-v4	163	109	124	78.61	1.58	50112628	295695
MO_1244	65-75%	94%	Agilent-v4	160	103	121	77.13	1.57	66805500	295504
MO_1245	70-75%	84%	Agilent-v4	180	114	89	79.96	1.11	66483549	303323
MO_1247	80-85%	82%	Agilent-v4	166	127	93	79.92	1.16	69326289	306634
MO_1248	60-70%	62%	Agilent-v4	179	107	143	81.48	1.75	69097056	331632
MO_1249	60-70%	30%	Agilent-v4	179	116	180	80.81	2.23	64086703	292125
MO_1250	50%	79%	Agilent-v4	145	92	227	80.14	2.83	64464392	299154
MO_1251	80%	48%	Agilent-v4	167	127	153	81.07	1.89	67752009	298836
MO_1252	65-80%	88%	Agilent-v4	159	112	186	80.49	2.31	54812082	295386
MO_1253	35%	30%	Agilent-v4	169	107	298	85.19	3.5	60400747	302176
MO_1256	75-80%	39%	Agilent-v4	168	116	818	79.07	10.35	66908687	313571
MO_1260	15-35%	71%	Agilent-v4	175	118	1292	80.31	16.09	57956333	300139
MO_1262	60%	84%	Agilent-v4	183	123	181	79.7	2.27	62492158	285841
MO_1263	15-23%	30%	Agilent-v4	172	134	146	75.76	1.93	69585210	325315
MO_1264	55-65%	30%	Agilent-v4	178	109	165	80.79	2.04	72249637	295287
MO_1265	20-50%	85%	Agilent-v4	182	118	315	78.53	4.01	66299066	292436

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1266	27-65%	38%	Agilent-v4	176	122	1325	78.6	16.86	68827669	316570
MO_1267	45%	42%	Agilent-v4	198	130	382	81.71	4.68	69212038	322263
MO_1268	65-70%	31%	Agilent-v4	215	126	416	82.7	5.03	65865018	316065
MO_1269	67-80%	63%	Agilent-v4	186	131	989	76.35	12.95	72488499	304109
MO_1271	40-73%	34%	Agilent-v4	173	114	2175	82.06	26.5	54953683	300842
MO_1272	9%	36%	Agilent-v4	164	112	108	77.37	1.4	77940007	297461
MO_1274	30-55%	78%	Agilent-v4	170	124	206	82.91	2.48	60779866	323610
MO_1276	10-27%	30%	Agilent-v4	172	116	144	82.87	1.74	74957138	328406
MO_1277	10-70%	86%	Agilent-v4	163	111	144	80.84	1.78	65713039	285947
MO_1278	27-37%	<30%	Agilent-v4	128	104	43	81.14	0.53	59390751	313834
MO_1279	5-9%	30%	Agilent-v4	156	121	467	79.66	5.86	69381090	244065
MO_1283	60-65%	93%	Agilent-v4	160	105	102	81.04	1.26	62110325	323264
MO_1284	75-83%	81%	Agilent-v4	163	105	119	80.69	1.47	69181891	314641
MO_1285	50-65%	42%	Agilent-v4	148	103	79	80.61	0.98	64508797	311497
MO_1286	65-70%	67%	Agilent-v4	159	125	178	83.21	2.14	64329811	320631
MO_1287	73-85%	71%	Agilent-v4	154	127	251	81.56	3.08	66830105	302998
MO_1288	15-25%	30%	Agilent-v4	160	105	512	83.33	6.14	63849582	313380
MO_1289	90%	58%	Agilent-v4	159	130	181	83.41	2.17	62919242	291503
MO_1290	65%	81%	Agilent-v4	153	124	335	81.22	4.12	60591879	350551
MO_1292	70-85%	68%	Agilent-v4	171	90	229	83.32	2.75	52799955	298090
MO_1294	73%	38%	Agilent-v4	135	109	549	80.88	6.79	59616935	328031
MO_1295	23-63%	30%	Agilent-v4	154	108	63	80.84	0.78	68454199	313574
MO_1296	65-67%	62%	Agilent-v4	144	117	195	82.94	2.35	57880123	300381
MO_1297	57-80%	75%	Agilent-v4	157	112	108	82.85	1.3	67608957	321750
MO_1298	85%	96%	Agilent-v4	153	123	264	82.74	3.19	63566916	304800
MO_1300	70%	71%	Agilent-v4	162	110	971	81.91	11.85	64209106	305925
MO_1301	75%	74%	Agilent-v4	158	105	324	81.74	3.96	58525759	308676
MO_1302	NA	36%	Agilent-v4	151	98	336	79.26	4.24	58535434	322275
MO_1304	10-20%	39%	Agilent-v4	155	106	4243	83.71	50.69	66353420	307189
MO_1305	73-90%	75%	Agilent-v4	153	114	102	81.41	1.25	70598159	309650
MO_1306	25-30%	51%	Agilent-v4	175	111	233	82.97	2.81	65259132	318371
MO_1307	40-80%	47%	Agilent-v4	162	112	11764	83.67	140.6	62438948	305418
MO_1309	45%	30%	Agilent-v4	164	97	491	80.85	6.07	61827432	297750
MO_1310	22%	30%	Agilent-v4	157	103	144	82.5	1.75	64320430	282139
MO_1312	45%	35%	Agilent-v4	163	107	159	82.21	1.93	63731471	302033
MO_1313	4-13%	78%	Agilent-v4	172	116	157	79.99	1.96	72135138	344773
MO_1315	13%	39%	Agilent-v4	98	120	135	72.15	1.87	102948295	350576
MO_1316	85%	85%	Agilent-v4	93	109	144	75.73	1.9	114982323	339571
MO_1317	65-85%	67%	Agilent-v4	104	115	271	73.54	3.69	123821158	363279
MO_1318	85%	77%	Agilent-v4	90	108	254	72.54	3.5	120990896	357082
MO_1319	90%	83%	Agilent-v4	171	122	87	82.78	1.05	64659472	296618

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1320	63%	68%	Agilent-v4	183	114	173	82.75	2.09	58935388	320223
MO_1322	37%	30%	Agilent-v4	160	118	151	82.17	1.84	69325277	304115
MO_1323	40-45%	68%	Agilent-v4	178	99	90	82.91	1.09	53217319	274629
MO_1324	50-55%	64%	Agilent-v4	182	98	222	82.89	2.68	65143184	323491
MO_1325	45-65%	30%	Agilent-v4	167	110	600	83.24	7.21	69317369	286048
MO_1328	45-55%	78%	Agilent-v4	152	103	911	78.27	11.64	60499715	311228
MO_1329	25-60%	30%	Agilent-v4	157	93	88	83.35	1.06	63823168	281169
MO_1330	55-80%	40%	Agilent-v4	137	100	963	79.81	12.07	57175313	300951
MO_1331	55-65%	62%	Agilent-v4	163	152	382	79.15	4.83	55484872	306867
MO_1333	55-65%	75%	Agilent-v4	165	134	540	80.9	6.68	54450321	326928
MO_1335	55-70%	71%	Agilent-v4	178	151	213	80.63	2.64	44182085	300404
MO_1336	0%	50%	Agilent-v4	150	122	120	78.43	1.53	53626008	331418
MO_1337	45-50%	84%	Agilent-v4	175	134	148	82.02	1.8	56351772	324544
MO_1338	80-85%	77%	Agilent-v4	194	125	342	82.76	4.13	50856182	326496
MO_1339	55-65%	63%	Agilent-v4	189	150	178	82.04	2.17	49586311	310507
MO_1340	NA	82%	Agilent-v4	187	126	472	85.35	5.53	71417273	320731
MO_1341	10-17%	52%	Agilent-v4	178	163	76	82.76	0.92	48320993	289888
MO_1342	45%	81%	Agilent-v4	175	126	313	82.58	3.79	58477872	342646
MO_1343	7%	64%	Agilent-v4	44	99	208	60.67	3.43	61702138	228563
MO_1344	35-85%	91%	Agilent-v4	158	128	102	82.73	1.23	38970748	281593
MO_1345	70-75%	83%	Agilent-v4	173	124	544	81.36	6.69	49498016	288482
MO_1346	85%	51%	Agilent-v4	172	139	201	83.35	2.41	49167765	280412
MO_1347	45-70%	30%	Agilent-v4	177	134	16107	83.98	191.8	57699120	333225
MO_1355	55-63%	78%	Agilent-v4	149	94	282	81.27	3.47	63111865	285160
MO_1357	55%	30%	Agilent-v4	141	95	1289	80.98	15.92	60299683	281613
MO_1359	70-75%	77%	Agilent-v4	129	112	388	78.53	4.94	61143664	314136
MO_1360	55%	68%	Agilent-v4	124	106	318	80.12	3.97	66823973	306081
MO_1361	45-70%	40%	Agilent-v4	157	121	235	84.08	2.8	69535887	271817
MO_1362	45%	30%	Agilent-v4	99	104	114	83.08	1.37	NA	NA
MO_1363	80-85%	54%	Agilent-v4	161	124	7062	84.89	83.19	40537192	264796
MO_1364	50-70%	72%	Agilent-v4	196	138	243	84.88	2.86	53783417	289279
MO_1366	75-80%	67%	Agilent-v4	210	136	785	85.38	9.19	43592957	261690
MO_1367	55%	30%	Agilent-v4	200	115	293	85.62	3.42	56559375	287397
MO_1369	30-33%	81%	Agilent-v4	194	167	149	85.74	1.74	59799088	302409
MO_1370	85-90%	90%	Agilent-v4	216	173	400	85.26	4.69	56037056	307833
MO_1371	55-63%	64%	Agilent-v4	182	165	96	85.59	1.12	62053059	287960
MO_1372	55-73%	88%	Agilent-v4	233	137	276	85.94	3.21	53580211	329768
MO_1373	10-50%	30%	Agilent-v4	133	102	254	83.05	3.06	61584423	254895
MO_1374	60%	42%	Agilent-v4	216	131	802	86.07	9.32	44800506	269759
MO_1375	45-67%	68%	Agilent-v4	186	144	427	84.77	5.04	48408517	283389
MO_1376	40%	38%	Agilent-v4	207	167	227	85.89	2.64	43080945	263101

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1377	30-60%	47%	Agilent-v4	147	99	126	83.8	1.5	67241167	279519
MO_1378	40-60%	54%	Agilent-v4	162	108	282	84.73	3.33	55642892	266816
MO_1379	35-40%	43%	Agilent-v4	212	150	94	85.81	1.1	75370031	329374
MO_1380	10-15%	36%	Agilent-v4	260	140	484	85.98	5.63	84180118	367159
MO_1381	20-40%	<30%	Agilent-v4	197	166	66	85.32	0.77	68106742	356553
MO_1382	60-80%	92%	Agilent-v4	225	169	119	85.52	1.39	66846965	322147
MO_1383	20%	30%	Agilent-v4	158	121	139	84.58	1.64	69370813	311310
MO_1384	30-45%	36%	Agilent-v4	228	139	208	86.13	2.41	76578426	337191
MO_1385	40%	60%	Agilent-v4	211	152	102	85.96	1.19	70476601	346637
MO_1386	13%	30%	Agilent-v4	240	163	62	86.38	0.72	70890227	359851
MO_1387	12%	30%	Agilent-v4	222	191	90	85.56	1.05	65195190	298862
MO_1388	45%	<30%	Agilent-v4	208	196	269	85.85	3.13	66755212	324034
MO_1390	85%	93%	Agilent-v4	187	171	94	85.74	1.1	64071981	318848
MO_1391	70-80%	82%	Agilent-v4	203	189	111	86.1	1.29	60375495	302988
MO_1393	80-85%	61%	Agilent-v4	222	169	341	85.06	4.01	70967982	342409
MO_1394	80-85%	<30%	Agilent-v4	224	190	106	85.44	1.24	62605217	307507
MO_1395	10-25%	40%	Agilent-v4	217	177	424	85.53	4.96	70254322	354672
MO_1396	75%	30%	Agilent-v4	182	161	443	85.05	5.21	66900422	141566
MO_1397	12-20%	35%	Agilent-v4	238	180	1147	86.11	13.32	55683672	317700
MO_1399	40%	60%	Agilent-v4	213	176	494	85.38	5.79	64188965	180824
MO_1400	70-80%	88%	Agilent-v4	270	122	397	85.5	4.64	72427064	365651
MO_1402	70%	32%	Agilent-v4	138	144	109	79.69	1.37	63077006	331598
MO_1403	60-70%	61%	Agilent-v4	242	148	90	85.93	1.05	58594643	300703
MO_1404	75-85%	79%	Agilent-v4	242	162	112	85.83	1.3	62332072	297032
MO_1407	30-75%	40%	Agilent-v4	223	160	387	85.2	4.54	72207398	317885
MO_1408	17-25%	84%	Agilent-v4	207	139	138	83.69	1.65	73044047	348534
MO_1410	40-60%	45%	Agilent-v4	242	145	212	85.84	2.47	54679480	297223
MO_1411	60%	30%	Agilent-v4	183	142	302	85.36	3.54	64416293	339159
MO_1412	30-60%	30%	Agilent-v4	198	151	1740	84.63	20.56	67408200	313310
MO_1415	30%	30%	Agilent-v4	227	153	133	84.83	1.57	65787078	340536
MO_1416	40-80%	93%	Agilent-v4	245	145	401	83.3	4.81	67628356	347099
MO_1418	23-55%	38%	Agilent-v4	155	121	190	82.97	2.29	76425785	353069
MO_1419	55-70%	48%	Agilent-v4	197	159	1554	85.53	18.17	66969227	313876
MO_1420	40%	78%	Agilent-v4	220	161	204	85.23	2.39	65496962	321797
MO_1421	4%	30%	Agilent-v4	228	154	189	84.76	2.23	77573705	341507
MO_1423	35-75%	62%	Agilent-v4	222	149	135	85.4	1.58	69597963	324323
MO_1424	80-85%	89%	Agilent-v4	202	150	131	85.37	1.53	65411872	310056
MO_1425	85%	87%	Agilent-v4	204	139	677	84.43	8.02	65970793	328241
MO_1426	50%	76%	Agilent-v4	216	146	308	85.34	3.61	79400024	381779
MO_1427	55-65%	79%	Agilent-v4	201	127	160	84.49	1.89	60513434	327249
MO_1428	33-45%	58%	Agilent-v4	207	140	203	84.03	2.42	65723343	342503

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1433	50-65%	39%	Agilent-v4	157	113	1210	82.75	14.62	71152623	340040
MO_1434	80-85%	63%	Agilent-v4	358	254	218	86.35	2.52	71008757	342023
MO_1435	80%	69%	Agilent-v4	163	97	396	82.22	4.82	63100713	312845
MO_1437	50-85%	59%	Agilent-v4	173	127	245	84.83	2.89	70372807	348240
MO_1438	80%	48%	Agilent-v4	213	129	61	85.79	0.71	76520135	319396
MO_1439	35-55%	76%	Agilent-v4	199	152	197	83.72	2.35	65027491	338020
MO_1442	55-85%	86%	Agilent-v4	198	138	596	84.84	7.02	62112746	312392
MO_1443	0%	39%	Agilent-v4	180	143	172	85.21	2.02	55788253	287191
MO_1444	35-55%	76%	Agilent-v4	189	125	4046	83.23	48.61	67099453	338701
MO_1446	63%	80%	Agilent-v4	187	158	268	84.94	3.16	71315253	328734
MO_1447	70%	84%	Agilent-v4	193	143	330	84.55	3.9	64752468	310530
MO_1448	65-70%	63%	Agilent-v4	192	143	187	85.26	2.19	69253425	340159
MO_1449	65%	<30%	Agilent-v4	199	150	95	85.1	1.12	67747945	332143
MO_1452	25-45%	32%	Agilent-v4	223	133	265	85.08	3.11	66520789	341881
MO_1453	40-45%	58%	Agilent-v4	192	115	453	84.78	5.34	61914545	315969
MO_1454	55-70%	72%	Agilent-v4	188	118	131	84.98	1.54	69698907	304958
MO_1455	10%	62%	Agilent-v4	201	125	1004	84.76	11.85	65599632	295405
MO_1458	70-80%	60%	Agilent-v4	186	137	200	84.83	2.36	57990396	311045
MO_1459	40-65%	30%	Agilent-v4	216	144	622	85.71	7.26	56676996	298033
MO_1460	80-85%	83%	Agilent-v4	238	133	144	85.87	1.68	66411800	345506
MO_1462	70%	<30%	Agilent-v4	195	127	44	85.21	0.52	65450001	327546
MO_1464	NA	41%	Agilent-v4	196	160	197	85.21	2.31	63393025	334481
MO_1465	65%	51%	Agilent-v4	151	121	135	84.32	1.6	66214074	243315
MO_1466	70-85%	82%	OncoSeq-v2	559	405	8	8.37	0.96	64091861	333060
MO_1469	45%	76%	Agilent-v4	222	126	165	85.57	1.93	61377194	342681
MO_1472	45-60%	62%	Agilent-v4	221	122	201	85.56	2.35	64440420	326675
MO_1473	0%	41%	Agilent-v4	180	122	304	84.35	3.6	72957053	312491
MO_1474	65-80%	31%	Agilent-v4	169	135	140	84.47	1.66	66480059	310780
MO_1475	15-65%	<30%	Agilent-v4	179	121	51	84.71	0.6	62431161	317230
MO_1476	75-85%	85%	Agilent-v4	184	148	588	84.95	6.92	66237248	324557
MO_1477	40-70%	84%	Agilent-v4	187	159	369	85.12	4.34	63699693	332050
MO_1478	5-25%	36%	Agilent-v4	214	134	136	85.77	1.59	58376259	291847
MO_1479	70%	94%	Agilent-v4	217	129	219	84.86	2.58	62223560	317362
MO_1480	50-55%	51%	Agilent-v4	187	150	437	85.02	5.14	64617171	298838
MO_1481	20-60%	54%	Agilent-v4	188	161	7147	84.68	84.4	61522122	301635
MO_1482	75-90%	85%	Agilent-v4	201	153	106	84.54	1.25	71620306	345330
MO_1483	80-85%	58%	Agilent-v4	196	137	181	85.17	2.13	61882273	297915
MO_1484	25%	52%	Agilent-v4	191	132	81	85.18	0.95	68545103	343379
MO_1485	45-65%	66%	Agilent-v4	187	135	139	85.21	1.63	64956785	299665
MO_1486	60-65%	40%	Agilent-v4	218	140	245	84.64	2.89	68431874	310967
MO_1487	25-30%	30%	Agilent-v4	202	135	74	85.59	0.86	61101353	316678

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1488	50-65%	70%	Agilent-v4	203	132	288	85.11	3.38	67164265	321227
MO_1489	40-60%	68%	Agilent-v4	197	141	1088	84.61	12.86	67047919	370825
MO_1490	0%	61%	Agilent-v4	184	141	437	85.3	5.12	65491955	303543
MO_1491	40-85%	46%	Agilent-v4	195	121	178	85.37	2.08	69526975	295697
MO_1492	25-80%	53%	Agilent-v4	167	134	161	84.25	1.91	65145521	323914
MO_1493	0-10%	30%	Agilent-v4	181	141	286	85.15	3.36	61965773	318077
MO_1494	15-55%	30%	Agilent-v4	189	152	197	85.48	2.3	61945565	305730
MO_1495	60-70%	62%	Agilent-v4	209	143	261	85.16	3.06	65033093	300431
MO_1496	55-60%	91%	Agilent-v4	226	136	123	85.1	1.45	74132721	313037
MO_1499	NA	54%	Agilent-v4	197	166	152	84.83	1.79	74134362	353016
MO_1500	35-50%	45%	Agilent-v4	209	166	503	84.54	5.95	71778231	372942
MO_1502	70-80%	78%	Agilent-v4	208	149	86	85.43	1.01	75795131	342727
MO_1503	25%	44%	Agilent-v4	229	135	297	85.62	3.47	75688195	354084
MO_1506	70-75%	87%	Agilent-v4	206	146	888	84.72	10.48	100902960	377993
MO_1507	55-65%	87%	Agilent-v4	182	128	514	84.04	6.12	74752454	344906
MO_1509	75%	74%	Agilent-v4	210	145	471	85.08	5.54	92814871	321019
MO_1510	50-60%	71%	Agilent-v4	191	117	189	84.21	2.24	56928066	321092
MO_1511	60-70%	49%	Agilent-v4	174	153	149	84.87	1.76	60636368	325450
MO_1513	80%	65%	Agilent-v4	254	142	127	86.11	1.47	62303019	298175
MO_1514	35-75%	59%	Agilent-v4	210	140	425	85.21	4.99	63606413	312175
MO_1515	60-65%	59%	Agilent-v4	241	151	628	86.07	7.3	64966212	317505
MO_1516	50-65%	58%	Agilent-v4	214	158	225	85.52	2.63	56096075	290113
MO_1517	50-75%	59%	Agilent-v4	182	132	312	83.35	3.74	63185071	330503
MO_1518	30-65%	85%	Agilent-v4	212	142	122	85.33	1.43	70829594	343411
MO_1520	15-50%	35%	Agilent-v4	227	141	586	85.32	6.87	65478214	363050
MO_1521	60%	<30%	Agilent-v4	216	134	35	84.75	0.41	65167429	283875
MO_1522	35-40%	<30%	Agilent-v4	210	148	219	85.26	2.57	69943817	343640
MO_1524	80%	45%	Agilent-v4	197	143	492	85.09	5.78	73547481	337962
MO_1525	4-20%	30%	Agilent-v4	214	154	166	85.72	1.94	59685375	337000
MO_1527	0-4%	41%	Agilent-v4	219	156	575	85.5	6.73	67747306	317700
MO_1528	65-80%	68%	Agilent-v4	216	131	281	85.17	3.3	70273082	361002
MO_1529	40-45%	57%	Agilent-v4	193	136	183	85.2	2.15	71727060	391471
MO_1530	45-85%	32%	Agilent-v4	192	138	427	85.01	5.02	71718647	355529
MO_1532	80-85%	72%	Agilent-v4	188	152	115	85.31	1.35	51480339	277815
MO_1533	80-85%	58%	Agilent-v4	213	138	2383	85.65	27.82	44357701	257136
MO_1534	65%	51%	Agilent-v4	186	126	442	84.02	5.26	51355668	293090
MO_1536	70-75%	69%	OncoSeq-v2	447	331	17	8.36	2.03	54258769	293700
MO_1537	4-30%	30%	Agilent-v4	185	119	121	83.65	1.45	56713064	319170
MO_1540	5%	40%	Agilent-v4	203	163	333	84.13	3.96	59973189	290231
MO_1541	75-80%	84%	Agilent-v4	191	171	311	84.47	3.68	58892407	286763
MO_1542	25-55%	33%	OncoSeq-v2	585	363	83	8.41	9.87	58517314	288961

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
MO_1543	20-35%	36%	Agilent-v4	215	182	174	85.52	2.03	50750127	326191
MO_1547	35-65%	48%	OncoSeq-v2	501	356	198	8.38	23.62	51495743	300688
MO_1550	35-40%	41%	OncoSeq-v2	550	395	30	8.37	3.58	60329845	275297
MO_1551	70-75%	75%	Agilent-v4	215	114	187	85.95	2.18	53929741	289505
MO_1552	60-75%	61%	OncoSeq-v2	497	340	46	8.34	5.52	63172992	294289
MO_1553	70-75%	87%	Agilent-v4	216	135	159	85.98	1.85	54177123	283167
MO_1555	75-80%	85%	OncoSeq-v2	521	412	37	8.33	4.44	53160473	286006
MO_1556	70-80%	90%	Agilent-v4	223	128	223	85.25	2.62	51219164	274740
MO_1557	30-70%	45%	Agilent-v4	151	84	219	82.64	2.65	32534220	264032
MO_1558	30-60%	30%	Agilent-v4	228	131	667	85.96	7.76	41317055	278724
MO_1562	32-50%	62%	Agilent-v4	182	100	207	84	2.46	72600531	326447
MO_1563	40-60%	39%	Agilent-v4	191	113	187	85.07	2.2	86207945	344492
ES_5001	80%	93%	Agilent-v4	70	110	431	66.04	6.53	108678555	392265
ES_5004	7%	47%	Agilent-v4	211	105	136	78.22	1.74	77155093	332154
ES_5005	70%	41%	Agilent-v4	156	124	115	70.75	1.63	60849175	319315
TP_2001	75%	38%	Agilent-v4	185	116	101	77.09	1.31	71564753	308117
TP_2002	NA	61%	Agilent-v4	168	118	488	75.07	6.5	62671388	332746
TP_2004	25%	40%	Agilent-v4	188	134	101	74.24	1.36	73051280	339314
TP_2008	50%	45%	Agilent-v4	170	127	109	73.26	1.49	85697987	328946
TP_2009	NA	46%	Agilent-v4	175	115	239	80.64	2.96	71645321	334972
TP_2010	85%	72%	Agilent-v4	163	106	142	75.74	1.87	65449150	301678
TP_2011	25%	55%	Agilent-v4	157	116	1061	75.31	14.09	69183622	320615
TP_2013	22%	<30%	Agilent-v4	166	143	105	81.62	1.29	118458877	354986
TP_2014	35%	30%	Agilent-v4	165	132	161	78.91	2.04	72265360	312818
TP_2015	85%	55%	Agilent-v4	129	139	177	77.37	2.29	69117913	106788
TP_2016	60%	30%	Agilent-v4	167	125	301	80.7	3.73	69481306	309791
TP_2017	65%	36%	Agilent-v4	166	118	729	81.53	8.94	81078831	330320
TP_2018	90%	63%	Agilent-v4	212	122	259	79.15	3.27	71796490	313959
TP_2019	95%	95%	Agilent-v4	169	119	762	80.53	9.46	93852337	334927
TP_2020	0-10%	42%	Agilent-v4	157	100	120	71.88	1.67	63978100	298832
TP_2021	40%	46%	Agilent-v4	171	102	291	75.41	3.86	70497669	228011
TP_2023	70%	80%	Agilent-v4	178	131	41	76.05	0.54	65750007	228607
TP_2024	55%	87%	Agilent-v4	192	121	215	77.83	2.76	64981716	185909
TP_2025	80%	57%	Agilent-v4	193	119	198	75.74	2.61	69576928	192718
TP_2027	90%	64%	Agilent-v4	214	117	978	79.55	12.29	63401949	271509
TP_2028	80%	93%	Agilent-v4	180	115	119	77.91	1.53	59669738	301061
TP_2029	0-40%	48%	Agilent-v4	170	121	286	78.16	3.66	64836773	289615
TP_2032	90%	57%	Agilent-v4	186	137	132	76.38	1.73	64054499	275506
TP_2034	7%	51%	Agilent-v4	146	135	119	72.17	1.65	52240518	280936
TP_2037	50%	30%	Agilent-v4	77	134	112	72.19	1.55	47164474	329653
TP_2038	35%	56%	Agilent-v4	187	127	134	78.79	1.7	45770815	305625

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
TP_2042	50%	74%	Agilent-v4	207	100	177	83.06	2.13	49432316	312414
TP_2043	80%	<30%	Agilent-v4	173	108	91	81.31	1.12	55312866	308910
TP_2047	55%	30%	Agilent-v4	201	107	107	79.5	1.35	66535750	341233
TP_2050	25-45%	54%	Agilent-v4	218	103	629	85.05	7.4	68070928	322798
TP_2052	45%	<30%	Agilent-v4	161	100	512	79.71	6.42	62283997	321316
TP_2054	20-27%	46%	Agilent-v4	172	108	296	83.67	3.54	72532198	331168
TP_2055	70-80%	<30%	Agilent-v4	174	118	52	84.19	0.62	64161020	295380
TP_2056	85%	87%	Agilent-v4	133	108	159	80.75	1.97	61444179	344106
TP_2058	55%	58%	Agilent-v4	189	133	438	81.51	5.37	54021575	344794
TP_2059	50%	30%	Agilent-v4	158	131	284	83.4	3.41	62090254	293092
TP_2060	7-20%	30%	Agilent-v4	156	118	252	82.71	3.05	58546355	306748
TP_2061	40%	77%	Agilent-v4	167	122	170	82.48	2.06	72459487	331496
TP_2064	75%	39%	Agilent-v4	159	128	148	84.05	1.76	67563765	263761
TP_2065	65%	57%	Agilent-v4	231	192	140	85.79	1.63	65177350	346965
TP_2067	80%	79%	Agilent-v4	190	141	373	83.57	4.46	60766330	351241
TP_2069	45-55%	54%	Agilent-v4	219	131	348	85.16	4.09	59059586	326729
TP_2070	75%	84%	Agilent-v4	208	129	133	84.6	1.57	58874184	309778
TP_2071	4-13%	77%	Agilent-v4	218	158	123	85.67	1.44	70261727	330171
TP_2072	85%	81%	Agilent-v4	171	156	120	83.96	1.43	65395646	425756
TP_2073	25-35%	30%	Agilent-v4	252	140	156	85.88	1.82	62180109	308232
TP_2074	35%	<30%	Agilent-v4	171	136	99	84.76	1.17	70943366	410170
TP_2075	75%	95%	Agilent-v4	183	135	97	84.89	1.14	61983147	321621
TP_2077	75%	85%	Agilent-v4	183	134	147	84.78	1.73	64235821	301240
TP_2078	70-85%	84%	Agilent-v4	177	115	229	83.65	2.74	72504949	300877
TP_2079	25-30%	96%	Agilent-v4	171	136	154	83.94	1.83	67601786	274037
TP_2080	40%	30%	Agilent-v4	213	124	100	85.94	1.16	65450505	355743
TP_2081	67%	76%	Agilent-v4	183	124	204	84.66	2.41	74284933	329195
TP_2083	40-70%	75%	Agilent-v4	175	132	310	84.47	3.67	81625345	342018
TP_2086	15-30%	43%	Agilent-v4	204	144	167	85.32	1.96	73266420	348723
TP_2087	45%	39%	Agilent-v4	187	117	317	83.59	3.79	59468954	49868
TP_2090	0-5%	<30%	Agilent-v4	195	140	37	85.27	0.43	66786595	286163
TP_2091	40%	71%	Agilent-v4	207	127	158	85.75	1.84	69232215	344279
TP_2093	70-85%	90%	Agilent-v4	204	131	130	84.75	1.53	65978329	304752
TP_2096	65-90%	89%	Agilent-v4	196	138	220	84.96	2.59	68027818	304573
TP_2098	55-65%	65%	Agilent-v4	213	129	173	84.58	2.05	70084934	345634
TP_2100	40%	37%	Agilent-v4	155	92	598	84.16	7.11	73827612	345942
TP_2101	50-60%	52%	Agilent-v4	190	130	762	85.21	8.94	69851252	318827
TP_2102	75-90%	60%	Agilent-v4	205	142	2532	85.33	29.67	58118079	308309
TP_2106	32%	30%	Agilent-v4	207	152	399	85.14	4.69	70413919	319722
TP_2109	85%	69%	Agilent-v4	178	116	131	84.59	1.55	83858431	361238
TP_2118	80-90%	57%	Agilent-v4	210	152	461	85.18	5.41	65219752	296778

Supplementary Table 2 cont. Sample Sequencing Statistics

Case	Tumor Content (Pathology)	Tumor Content (Sequencing)	Capture Platform	Mean Coverage (Tumor Exome)	Mean Coverage (Normal Exome)	Number of Mutations	Effective Target Size (Mb)	Mutation Rate (Mutations/Mb)	Transcriptome # of Reads	Splice Junctions Covered
TP_2119	85%	50%	Agilent-v4	202	149	180	85.02	2.12	73982949	312235
TP_2120	85%	70%	Agilent-v4	205	148	285	85.32	3.34	91423874	370941
TP_2122	35-55%	31%	Agilent-v4	212	152	1009	85.48	11.8	65551318	330912
TP_2123	60%	52%	Agilent-v4	206	144	47	85.24	0.55	66038352	346038
TP_2130	60%	46%	Agilent-v4	178	112	332	83.55	3.97	60413113	319113
TP_2131	75-90%	43%	Agilent-v4	189	122	1492	84.71	17.61	55910037	299759
TP_2141	70%	67%	OncoSeq-v2	515	357	19	8.37	2.27	58569522	306156
TP_2156	65%	78%	Agilent-v4	222	124	291	85.76	3.39	52008436	320799

Supplementary Table 4. Pathogenic Germline Variants in the MET500 cohort.

StudyID	Cancer	Gene	Variant	Protein Change	Normal (Var. Freq)	Tumor (Var. Freq)	dbSNP	ClinVar Allele ID	ClinVar Significance
MO_1210	Hepatocellular carcinoma	*APC*	c.4634C>G	p.S1545*	51%	50%	rs863225356	214726	Likely pathogenic
MO_1328	Penile Squamous Cell Carcinoma	*BRCA1*	c.4065_4068delTCAA	p.N1355fs	52%	100%	rs80357508	32713	Pathogenic
MO_1107	Breast Invasive Ductal Carcinoma	*BRCA1*	c.5266dupC	p.Q1756fs	41%	46%	rs397507246	32716	Pathogenic
MO_1378	Serous Ovarian Cancer	*BRCA1*	c.5266dupC	p.Q1756fs	30%	49%	rs397507246	32716	Pathogenic
MO_1232	Prostate Adenocarcinoma	*BRCA1*	c.5266dupC	p.Q1756fs	37%	59%	rs397507246	32716	Pathogenic
MO_1268	Mullerian Poorly Differentiated Carcinoma	*BRCA1*	c.5449G>T	p.E1817*	47%	63%	rs80356868	70250	Pathogenic
MO_1175	Carcinoma of unknown primary	*BRCA2*	c.36dupT	p.E13fs	35%	57%	rs80359393	66177	Pathogenic
MO_1399	Breast Invasive Ductal Carcinoma	*BRCA2*	c.2025delA	p.T675fs	35%	48%	rs398122737	97243	Pathogenic
TP_2141	Breast Invasive Ductal Carcinoma	*BRCA2*	c.3545_3546delTT	p.F1182fs	37%	42%	rs80359388	46402	Pathogenic
TP_2118	Breast Invasive Ductal Carcinoma	*BRCA2*	c.4127_4130delGAAA	p.G1376fs	60%	100%	rs397507323	46436	Pathogenic
MO_1013	Prostate Adenocarcinoma	*BRCA2*	c.4478_4481delAAAG	p.E1493fs	60%	100%	rs80359454	66321	Pathogenic
MO_1176	Prostate Adenocarcinoma	*BRCA2*	c.4472_4475delTGAA	p.L1491fs	68%	100%	rs80359452	46462	Pathogenic
TP_2054	Prostate Adenocarcinoma	*BRCA2*	c.5645C>A	p.S1882*	44%	63%	s80358785	46540	Pathogenic
MO_1288	Breast Invasive Ductal Carcinoma	*BRCA2*	c.5722_5723delCT	p.L1908fs	36%	44%	rs80359530	24359	Pathogenic
MO_1506	Esophageal Adenocarcinoma	*BRCA2*	c.8878C>T	p.Q2960*	48%	95%	rs80359140	67362	Pathogenic
MO_1248	Serous Ovarian Cancer	*BRIP1*	c.-31+498_187del	p.I32fs	78%	100%			see footnote 1
MO_1283	Embryonal Rhabdomyosarcoma	*DICER1*	c.2233C>T	p.R745*	49%	46%			see footnote 2
TP_2002	Adenocarcinoma, NOS	*FANCA*	c.1115_1118delTTGG	p.V372fs	51%	100%	rs397507552	18479	Pathogenic
MO_1048	Colon Adenocarcinoma	*MLH1*	c.199G>A	p.G67R	49%	54%	rs63750206	95466	Pathogenic
MO_1102	Thymic Squamous Carcinoma	*MLH1*	c.589-2A>G	Splice acc. p.Q197	50%	75%	rs267607767	95765	Pathogenic
MO_1079	Sarcomatoid Carcinoma	*MSH2*	c.1906G>C	p.A636P	62%	72%	rs63750875	16803	Pathogenic
MO_1347	Extrahepatic Cholangiocarcinoma	*MSH2*	c.2494G>T	p.E832*	44%	40%	rs863225396	214595	Likely pathogenic
TP_2029	Colon Adenocarcinoma	*MUTYH*	c.1187G>A, c.536A>G	p.G396D, p.Y179C	48%, 44%	44%, 45%	rs36053993	20333	Pathogenic
MO_1411	Breast Invasive Lobular Carcinoma	*PALB2*	c.3323delA	p.Y1108fs	39%	53%	rs180177135	132244	Pathogenic
MO_1527	Breast Invasive Ductal Carcinoma	*PALB2*	c.758dupT	p.S254fs	38%	40%	rs515726126	132279	Pathogenic/Likely pathogenic
MO_1124	Prostate Adenocarcinoma	*RAD51D*	c.264-1G>A	Splice acc. p.S88	50%	51%			see footnote 3
MO_1168	Leiomyosarcoma	*RB1*	c.1363C>T	p.R455*	82%	0%	rs121913302	132347	Pathogenic/Likely pathogenic
MO_1008	Prostate Adenocarcinoma	*APC*	c.3920T>A	p.I1307K	49%	49%	rs1801155	15861	Pathogenic, VUS, risk factor
ES_5004	Colon Adenocarcinoma	*APC*	c.3920T>A	p.I1307K	39%	74%	rs1801155	15861	Pathogenic, VUS, risk factor
MO_1138	High-Grade Serous Ovarian Cancer	*APC*	c.3920T>A	p.I1307K	47%	50%	rs1801155	15861	Pathogenic, VUS, risk factor
MO_1157	Uterine Leiomyosarcoma	*APC*	c.3920T>A	p.I1307K	49%	59%	rs1801155	15861	Pathogenic, VUS, risk factor
MO_1172	Pancreatic Adenocarcinoma	*APC*	c.3920T>A	p.I1307K	54%	57%	rs1801155	15861	Pathogenic, VUS, risk factor
MO_1221	Prostate Adenocarcinoma	*ATM*	c.7630-2A>C	Splice acc. p.L2544	44%	91%	rs587779866	132904	Pathogenic
MO_1061	Thymoma	*CHEK2*	c.247delC	p.Q83fs	27%	26%	rs587782766	152565	Pathogenic/Likely pathogenic
MO_1125	Poorly Differentiated NSCLC	*CHEK2*	c.283C>T	p.R95*	49%	73%	rs587781269	150486	Pathogenic

Supplementary Table 4 cont. Pathogenic Germline Variants in the MET500 cohort.

StudyID	Cancer	Gene	Variant	Protein Change	Normal (Var. Freq)	Tumor (Var. Freq)	dbSNP	ClinVar Allele ID	ClinVar Significance
MO_1076	Dermatofibrosarcoma protuberans	*CHEK2*	c.433C>T	p.R145W	44%	44%	rs137853007	20631	Pathogenic/Likely pathogenic
MO_1400	Esophageal Squamous Cell Carcinoma	*CHEK2*	c.444+1G>A	Splice don. p.R191	47%	32%	rs121908698	133532	Pathogenic/Likely pathogenic
MO_1355	Breast Invasive Ductal Carcinoma	*CHEK2*	c.470T>C	p.I157T	52%	87%	rs17879961	20630	Pathogenic, Likely Path, VUS, risk factor
MO_1361	Bladder Urothelial Carcinoma	*CHEK2*	c.470T>C	p.I157T	45%	42%	rs17879961	20630	Pathogenic, Likely Path, VUS, risk factor
MO_1423	Adamantinoma	*CHEK2*	c.470T>C	p.I157T	49%	71%	rs17879961	20630	Pathogenic, Likely Path, VUS, risk factor
MO_1562	Breast Invasive Ductal Carcinoma	*CHEK2*	c.470T>C	p.I157T	47%	55%	rs17879961	20630	Pathogenic, Likely Path, VUS, risk factor
TP_2098	Myoepithelial Carcinoma	*CHEK2*	c.1100delC	p.T367fs	25%	10%	rs555607708	133499	Pathogenic
MO_1319	Gastrointestinal Stromal Tumor	*HOXB13*	c.251G>A	p.G84E	45%	48%	rs138213197	133488	Pathogenic, risk factor
MO_1347	Extrahepatic Cholangiocarcinoma	*HOXB13*	c.251G>A	p.G84E	46%	44%	rs138213197	133488	Pathogenic, risk factor
MO_1434	Adrenocortical Carcinoma	*HOXB13*	c.251G>A	p.G84E	52%	83%	rs138213197	133488	Pathogenic, risk factor
MO_1171	Teratoma with Malignant Transformation	*MITF*	c.952G>A	p.E318K	45%	54%	rs149617956	38747	Pathogenic, VUS
MO_1183	Cutaneous Melanoma	*MITF*	c.952G>A	p.E318K	45%	46%	rs149617956	38747	Pathogenic , VUS
MO_1375	Esophageal Adenocarcinoma	*MITF*	c.952G>A	p.E318K	48%	11%	rs149617956	38747	Pathogenic, VUS
TP_2020	Prostate Adenocarcinoma	*MITF*	c.952G>A	p.E318K	49%	47%	rs149617956	38747	Pathogenic, VUS
TP_2021	Urethral Urothelial Carcinoma	*MITF*	c.952G>A	p.E318K	42%	52%	rs149617956	38747	Pathogenic, VUS
MO_1183	Cutaneous Melanoma	*MUTYH*	c.536A>G	p.Y179C	50%	45%	rs34612342	20332	Pathogenic
MO_1370	Undifferentiated Pleomorphic Sarcoma	*MUTYH*	c.536A>G	p.Y179C	47%	2%	rs34612342	20332	Pathogenic
TP_2109	Breast Invasive Lobular Carcinoma	*MUTYH*	c.536A>G	p.Y179C	50%	46%	rs34612342	20332	Pathogenic
MO_1044	Adenoid Cystic Carcinoma	*MUTYH*	c.1187G>A	p.G396D	48%	48%	rs36053993	20333	Pathogenic
MO_1383	Adenocarcinoma, NOS	*MUTYH*	c.1187G>A	p.G396D	47%	64%	rs36053993	20333	Pathogenic
MO_1435	Breast Invasive Lobular Carcinoma	*MUTYH*	c.1187G>A	p.G396D	44%	64%	rs36053993	20333	Pathogenic
MO_1447	Prostate Adenocarcinoma	*MUTYH*	c.1187G>A	p.G396D	48%	60%	rs36053993	20333	Pathogenic
MO_1480	Esophageal Adenocarcinoma	*MUTYH*	c.1187G>A	p.G396D	48%	60%	rs36053993	20333	Pathogenic
MO_1333	Embryonal Carcinoma	*NBN*	c.1142delC	p.P381fs	37%	34%	rs587781969	151445	Pathogenic
MO_1150	Lung Adenocarcinoma	*NBN*	c.171+1G>A	Splice don. p.L57	46%	75%			see footnote 4
MO_1271	Breast Invasive Ductal Carcinoma	*RAD50*	c.326_329delCAGA	p.T109fs	47%	48%	rs587780155	133474	Pathogenic
MO_1361	Bladder Urothelial Carcinoma	*RAD50*	c.2299_2311delGACATAGAAGAAC	p.D767fs	46%	42%			see footnote 5

1. Striking family history of early onset breast and uterine cancer. BRCA1/2 testing in the family is negative. LOH in the tumor specimen. Similar ClinVar alleles 222555 and 186242 assigned Pathogenic and Likely Pathogenic.
2. Similar truncating alleles in ClinVar 248860, 248888, 248889, and 248858 judged Pathogenic. Multiple reports of germline truncating mutations of DICER1 in embryonal rhabdomysarcoma. Somatic DICER1 p.E1813G in tumor.
3. Altered splicing evident in transcriptome. Nearby truncating ClinVar alleles 184846, 180808, 242729, 181162 judged Pathogenic. Early onset prostate cancer. Extensive family history of cancer.
4. Altered splicing evident in transcriptome. Nearby truncating ClinVar alleles 182903, 151680, 233710, 182901 judged Pathogenic. LOH in tumor.
5. Nearby truncating ClinVar alleles 233359, 221579, 182596 judged Pathogenic. History of multiple cancers.

Supplementary Table 5. Germline Mutations in Metastatic Cancer as Compared with the General Population

Gene	Metastatic Cancer Pathogenic Allele Count	Metastatic Cancer Total Allele Count	EXAC* Pathogenic Allele Count	EXAC* Total Allele Count	Metastatic Cancer vs. Exome Aggregation Consortium			
					Relative Risk[#]	95% CI	P Value	Bonferroni[$]
APC	6	1000	23	106186	27.7	9.2-70.1	<.0001	0.0019
ATM	1	1000	149	106203	0.7	0.02-4.0	1	1
BRCA1	5	1000	98	102751	5.2	1.7-12.7	0.003	0.057
BRCA2	9	1000	152	106203	6.3	2.8-12.3	<.0001	0.0019
BRIP1	1	1000	100	106194	1.1	0.03-6.1	0.61	1
CHEK2	9	1000	313	103578	3	1.4-5.8	0.004	0.076
DICER1	1	1000	10	106208	10.6	0.2-74.8	0.1	1
FANCA	1	1000	137	105327	0.8	0.02-4.4	1	1
HOXB13	3	1000	30	106206	10.6	2.1-34.2	0.004	0.076
MITF	5	1000	126	106205	4.2	1.3-10.1	0.008	0.152
MLH1	2	1000	12	106210	17.7	1.9-79.5	0.007	0.133
MSH2	2	1000	143	102030	1.4	0.2-5.3	0.65	1
MUTYH	9	1000	725	106205	1.3	0.6-2.5	0.44	1
NBN	2	1000	31	106166	6.9	0.8-27	0.04	0.76
PALB2	2	1000	49	106209	4.3	0.5-16.6	0.08	1
RAD50	2	1000	52	106163	4.1	0.5-15.6	0.09	1
RAD51D	1	1000	28	106209	3.8	0.1-23	0.24	1
RB1	1	1000	2	106177	53.1	0.9-994	0.03	0.57
Overall	62	1000	2180	105579	3	2.3-3.9	<.0001	0.0019

* Data are for individuals in the Exome Aggregation Cohort excluding the individuals in TCGA studies.

[#] Relative Risk as calculated by Fisher's 2-sided binomial test.

$ Bonferroni adjusted P-value

Supplementary Table 6. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
ES_5001	NF1-17q21.1	30	NM_000267.3	35	17q21.1	na	Breast Invasive Ductal Carcinoma
	Junction sequence	GCTGGGACTTCCAAAGCTGGGAATCCTATTTTTTATTATGTTGCACGGAG			CCCAGGAAGAGGATCTGCAGCCACAACCAGGCCAGCAGCAGCAAGATGAC		
MO_1005	NAB2-STAT6	628	NM_005967.3	6	NM_003153.4	17	Solitary Fibrous Tumor
	Junction sequence	CCGCGTGGGCCGCCTCAGCCCCTGTGTGCCTGCGAAGCCACCTCTCGCAG			CTGAACAGATGGGTAAGGATGGCAGGGGTTATGTCCCAGCTACCATCAAG		
MO_1008	EIF4A2-ETV5	935	NM_001967.3	3	NM_004454.2	6	Prostate Adenocarcinoma
	Junction sequence	TGAGAAGCCTTCCGCTATTCAGCAGAGAGCTATTATTCCCTGTATTAAAG			TGGTGCTTCATGCCCCACCTCCAACCAAGATCAAACGGGAGCTGCACAGC		
MO_1013	KDM6A-20q13.13	8	NM_021140.3	2	20q13.13	na	Prostate Adenocarcinoma
	Junction sequence	TCGTGAGATTTCATGAAGATGGCGCCAGGACGAAGGCCCTACTGGGCAAG			GTCTTCAAGGAGAGATGCTGATTGGACATCTATGAATAGATGGGTTTCCG		
MO_1013	PTEN-3q21.3	21	NM_000314.6	3	3q21.3	na	Prostate Adenocarcinoma
	Junction sequence	GTAAGGTTTTTGGATTCAAAGCATAAAAACCATTACAAGATATACAATCT			ATTGTGGTTGTTTCAAAGTTTTTGTATTATAATTGCCCCTACAGGGAACA		
MO_1015	TMPRSS2-ERG	209	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1015	TP53-SMYD4	13	NM_000546.5	1	NM_052928.2	6	Prostate Adenocarcinoma
	Junction sequence	TCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGG			GACCTAAAGGGAGCATCGTTACCGACAGCAGGCAGGTGCGCCTTGCCACA		
MO_1020	PVT-SLC30A4	115	NR_003367.3	1	NM_013309.5	3	Prostate Adenocarcinoma
	Junction sequence	ATGTTGGCGGTCCCTGTGACCTGTGGAGACACGGCCAGATCTGCCCTCCA			GTGGATACATTGCAAATAGCCTAGCAATCATGACAGATGCACTTCATATG		
MO_1023	EWSR1-NR4A3	831	NM_005243.3	12	NM_173200.2	4	Extraskeletal Myxoid Chondrosarcoma
	Junction sequence	GTCCTATGAAGACCCACCCACTGCCAAGGCTGCCGTGGAATGGTTTGATG			ATATGCCCTGCGTCCAAGCCCAATATAGCCCTTCCCCTCCAGGTTCCAGT		
MO_1027	ACLY-NF1	3	NM_001096.2	25	NM_000267.3	56	Extrahepatic Cholangiocarcinoma
	Junction sequence	TGAAGAAGGAAGGGAAGCTGATCATGGGCATTGGTCACCGAGTGAAGTCG			CAAACACAAATTCCAGACTATGCTGAGCTTATTGTTAAGTTTCTTGATGC		
MO_1036	FGFR2-BICC1	70	NM_000141.4	17	NM_001080512.2	3	Extrahepatic Cholangiocarcinoma
	Junction sequence	AGCAGTTGGTAGAAGACTTGGATCGAATTCTCACTCTCACAACCAATGAG			ATCATGGAGGAAACAAATACGCAGATTGCTTGGCCATCAAAACTGAAGAT		
MO_1037	EWSR1-WT1	68	NM_005243.3	7	NM_000378.4	7	Desmoplastic Small-Round-Cell Tumor
	Junction sequence	CCAAGCTCCAAGTCAATATAGCCAACAGAGCAGCAGCTACGGGCAGCAGA			GTGAGAAACCATACCAGTGTGACTTCAAGGACTGTGAACGAAGGTTTTCT		
MO_1039	FGFR2-BICC1	1277	NM_000141.4	17	NM_001080512.2	3	Intrahepatic Cholangiocarcinoma
	Junction sequence	AGCAGTTGGTAGAAGACTTGGATCGAATTCTCACTCTCACAACCAATGAG			ATCATGGAGGAAACAAATACGCAGATTGCTTGGCCATCAAAACTGAAGAT		
MO_1040	TMPRSS2-ERG	1358	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1042	NF1-NRF1	59	NM_000267.3	1	NM_005011.4	3	Adrenocortical Carcinoma
	Junction sequence	ACAGGCCGGTGGAATGGGTCCAGGCCGTGGTCAGCCGCTTCGACGAGCAG			GTCCTGTGGGAATGGCCGCTGCTGCTGCTGTGGCAACAGGAAAGAAACGG		
MO_1043	EWSR1-ATF1	77	NM_005243.3	8	NM_005171.4	4	Salivary Clear Cell Carcinoma
	Junction sequence	CGTGGAGGCATGAGCAGAGGTGGGCGGGGAGGAGGACGCGGTGGAATGGG			AAAAATTTTGAAAGACTTATCTTCTGAAGATACACGGGGCAGAAAAGGAG		
MO_1044	MYB-NFIB	593	NM_005375.3	14	NM_001282787.1	10	Adenoid Cystic Carcinoma
	Junction sequence	TCAAAGCATTTACAGTACCTAAAAACAGGTCCCTGGCGAGCCCCTTGCAG			CTGAGGATTTGTGACTGGACCATGAATCAAAACGGCAGGCATTTATACCC		
MO_1049	KDM6A-Xp11.3	15	NM_021140.3	2	Xp11.3	na	Bladder Squamous Cell Carcinoma
	Junction sequence	TCGTGAGATTTCATGAAGATGGCGCCAGGACGAAGGCCCTACTGGGCAAG			CCCATTTCTCACAGGTCCACTGACATATTACTTCGGCTCTTCTGAAAGAT		
MO_1051	FGFR2-AFF3	69	NM_000141.4	17	NM_002285.2	7	Breast Invasive Ductal Carcinoma
	Junction sequence	AGCAGTTGGTAGAAGACTTGGATCGAATTCTCACTCTCACAACCAATGAG			GAGAGTAGATCTGGAGAAACCAACAGCTGTGTTGAAGAAATAATCCGGGT		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1059	APC-EEF1DP3	35	NM_001127511.2	1	BU599490	2	Pancreatic Neuroendocrine Tumor
	Junction sequence	AGAGCCCGGGCGGCGCTCGTACTTCTGGCCACTGGGCGAGCGTCTGGCAG			ATGAAAAGATTCTGAAGAATAGAGATCTTGAACATAGCATGGTGCCAGAC		
MO_1060	CTNNA1-KDM3B	172	NM_001903.4	6	NM_016604.3	16	High-Grade Serous Ovarian Cancer
	Junction sequence	ACCAGGGTGGAGGAGGAGGAGAACTGGCATATGCACTCAATAACTTTGAC			GGAGTGAAGAGCAAGGCCAGCCTACCCAACTTTCTTGACCACATCATTGC		
MO_1064	MYB-NFIB	4	NM_005375.3	15	NM_001282787.1	11	Adenoid Cystic Carcinoma
	Junction sequence	TGTAAGAAATAGTTTTATAAAAAATTATATTTTTATTCAGTAATTTAATT			AAGGAACAAAAAAGTAAATCCTGTTTTCATTTTATCTCCCCTTTTAAAAC		
MO_1065	CTNNA1-KDM3B	47	NM_001903.4	1	NM_016604.3	16	Breast Invasive Ductal Carcinoma
	Junction sequence	CCCGTCTGCTTCGGGCCTCTGGAATTTAGCGCTCGCCCAGCTAGCCGCAG			GGAGTGAAGAGCAAGGCCAGCCTACCCAACTTTCTTGACCACATCATTGC		
MO_1066	SMARCA1-Xq25	80	NM_003069.4	19	Xq25	na	Prostate Adenocarcinoma
	Junction sequence	AGCTCCTGGAAAAGGAAATTCTTTATTATCGGAAGACAATAGGCTATAAG			GGTTGTATGCACTGGTGAGCCATCTGATCCTTAATGTCATCTACTAGGTA		
MO_1066	TMPRSS2-ERG	108	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1069	ANKRD11-FANCA	102	NM_000135.2	43	NM_013275.5	intron 2	Breast Invasive Lobular Carcinoma
	Junction sequence	AGCCGTGGGCTGGCATCCCAGCGCTGTCTCCTCTCTTTGATCTTTGCATG			GTCACAGAGGGGCTCGGTGGCCCAGGTGGTGGTTCCGCCTCCAGGGGCAG		
MO_1069	NF1-RP11-353N14.5	6	NM_000267.3	1	NR_110850.1	4	Breast Invasive Lobular Carcinoma
	Junction sequence	ACAGGCCGGTGGAATGGGTCCAGGCCGTGGTCAGCCGCTTCGACGAGCAG			AGTGAGAAAGCCGAGGCCCAGAGAGGTCAAGGAACCTGCTCAAGGTCACG		
MO_1069	CTNNA1-KDM3B	86	NM_001903.4	3	NM_016604.3	10	Breast Invasive Lobular Carcinoma
	Junction sequence	GTTTCTCAAGGAGGAGCTTGTGGCTGCTGTAGAAGATGTTCGAAAACAAG			GTTGATCTTCACTCGAAAAGGGGTACTCCGTGTGGAGGGGTTTTTAAGCC		
MO_1074	PTEN-BTAF	188	NM_000314.6	2	NM_003972.2	2	Prostate Adenocarcinoma
	Junction sequence	GCAGAAAGACTTGAAGGCGTATACAGGAACAATATTGATGATGTAGTAAG			GCTAGATCGCCTTTTTATTTTACTGGATACTGGCACTACTCCTGTTACAA		
MO_1076	COL1A1-PDGFB	743	NM_000088.3	20	NM_002608.3	2	Dermatofibrosarcoma Protuberans
	Junction sequence	AACCTGGTGCTCCTGGCAGCAAAGGAGACACTGGTGCTAAGGGAGAGCCT			GGGGACCCCATTCCCGAGGAGCTTTATGAGATGCTGAGTGACCACTCGAT		
MO_1084	ACPP-PIK3CB	283	NM_001099.4	2	NM_006219.2	1	Prostate Adenocarcinoma
	Junction sequence	ACCCCATAAAGGAATCCTCATGGCCACAAGGATTTGGCCAACTCACCCAG			GGCCCCGTGGTTATGAATGTGCTTCAGTTTCATAATGCCTCCTGCTATGG		
MO_1084	TMPRSS2-ERG	1653	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1085	NBPF1-IGF1R	173	NM_017940.4	1	NM_000875.4	3	Gastrointestinal Stromal Tumor
	Junction sequence	GGCTGCCCTGTGAATGGGAAGTTACGCGAAGTCCACCCAGCGTTTCTGAG			TGTGCCCAAGCACGTGTGGGAAGCGGGCGTGCACCGAGAACAATGAGTGC		
MO_1086	KDM2B-DNAH10	96	NM_032590.4	11	NM_207437.3	39	Undifferentiated Malignant Neoplasm
	Junction sequence	GTGTCCCCGAGGGCATCGAGGACCCCCAGGCACTCCTGGAGGGTGTGAAG			GTATATTTTATTTGATGGTGATGTGGATGCTCTATGGGTGGAAAACATGA		
MO_1086	NCOR2-SLC12A7	41	NM_006312.5	2	NM_006598.2	2	Undifferentiated Malignant Neoplasm
	Junction sequence	CAGGTCTCCCTGAGTCTTTGAGGACACAGCCTCGCTGGAGGCAGTTTCTG			GAGATGGAAATCCAAGAGAAAACAGCCCATTCCTCAACAATGTCGAGGTG		
MO_1088	EWSR1-NR4A3	800	NM_005243.3	12	NM_173200.2	4	Extraskeletal Myxoid Chondrosarcoma
	Junction sequence	GTCCTATGAAGACCCACCCACTGCCAAGGCTGCCGTGGAATGGTTTGATG			ATATGCCCTGCGTCCAAGCCCAATATAGCCCTTCCCCTCCAGGTTCCAGT		
MO_1090	MRPL21-KDM2A	217	NM_181515.1	4	NM_012308.2	3	Breast Invasive Ductal Carcinoma
	Junction sequence	TTGGAAATGAACTAGACCTTGCGTGTGGAGAGAGAATTCGACTGGAGAAG			CGTGGTACCATGCGACGACGCTATGAAGATGATGGCATTTCAGATGATGA		
MO_1093	TMPRSS2-ERG	6	NM_005656.3	2	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	ACCTATCATTACTCGATGCTGTTGATAACAGCAAGATGGCTTTGAACTCA			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1094	KIAA1549-BRAF	80	NM_020910.2	10	NM_004333.4	9	Prostate Adenocarcinoma
	Junction sequence	AGCTAGACTTTCAGCCTGACACTGTGGCCAACATTCAGCAGCGTCAGAAG			GACTTGATTAGAGACCAAGGATTTCGTGGTGATGGAGGATCAACCACAGG		
MO_1094	NCOR1-RNF43	81	NM_006311.3	19	NM_017763.5	3	Prostate Adenocarcinoma
	Junction sequence	TGAAGATATTGAAGCCTCCAATGAAGAAGAAAATCCAGAAGACAGCGAAG			TCCCACCCGCTGTACCTGTGCAATGCCAGTGATGACGACAATCTGGAGCC		
MO_1095	KDM5A-ATN1	93	NM_001042603.2	27	NM_001007026.1	5	Prostate Adenocarcinoma
	Junction sequence	AGAATGCTGTGTGCGCAGCACAGAACTGCCAAAGGCCCTGCAAGGACAAG			CAGGAACTCCCTCGGCCACAGTCTCCCTCCGATCTGGATAGCTTGGACGG		
MO_1095	TMPRSS2-ERG	147	NM_005656.3	2	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	ACCTATCATTACTCGATGCTGTTGATAACAGCAAGATGGCTTTGAACTCA			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1096	UBN2-BRAF	129	NM_173569.3	3	NM_004333.4	11	Prostate Adenocarcinoma
	Junction sequence	TAGGCTTTGGCTATGATGAGACAGATCCATTTATTGATAACTCAGAGGCT			AAAACACTTGGTAGACGGGACTCGAGTGATGATTGGGAGATTCCTGATGG		
MO_1107	KAT6A-FGFR1	38	NM_006766.4	5	NM_023110.2	2	Breast Invasive Ductal Carcinoma
	Junction sequence	AGGTTTTCACATGGAGTGTTGTGATCCGCCACTCACCCGTATGCCAAAAG			GGTCAGTTTGAAAAGGAGGATCGAGCTCACTGTGGAGTATCCATGGAGAT		
MO_1111	ARID1B-KIF26B	26	NM_017519.2	4	NM_018012.3	3	Lung Adenocarcinoma
	Junction sequence	ACCATGAAGACTTGAACTTAATACAGCAAGAAAGACCATCAAGTTTACCA			GACCCTGCTTTCTCGGCTGTGATTCACGACAAACTCCAGGTCCCCAACAC		
MO_1112	TMPRSS2-ERG	38	NM_005656.3	4	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1112	TRIM68-ARID1B	8	NM_018073.7	7	NM_017519.2	19	Prostate Adenocarcinoma
	Junction sequence	GTCTGAGGACAGAAAACGTGTGCACTATGGAGACACCAACCAGAAACTGC			CAGACTCACTTTGAGAGCAAGATGGAAATTCCTCCTCGCAGGCGCCCACC		
MO_1114	TMPRSS2-ERG	173	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1114	ZFHX3-LMF1	353	NM_006885.3	3	NM_022773.2	11	Prostate Adenocarcinoma
	Junction sequence	GGCTGCACACGGTCAACTCCAGGCACGAGGCCAGCCTGAAGTTGTACAAG			GTGGGTCCGAGGAGAGCACTACAGGTACAAGTTCAGCCGTCCTGGGGGCA		
MO_1118	NCOR1-PKD1L1	69	NM_006311.3	40	NM_138295.3	54	Prostate Neuroendocrine Carcinoma
	Junction sequence	CCAGGTTCAAGGGTCTCTCCAGAAAATCTTGTGGACAAATCCAGGGGAAG			CTGGTGGGGGCACTGATGCTGGCCGCCCTCTCCCACCTGCACCGATTTCT		
MO_1118	TMPRSS2-ERG	6	NM_001135099.1	1	NM_004449.4	4	Prostate Neuroendocrine Carcinoma
	Junction sequence	CCCTGCCCCGCCCGGAGGTGAAAGCGGGTGTGAGGAGCGCGGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1124	KMT2C-LIPJ	34	NM_170606.2	2	NM_001010939.2	2	Prostate Adenocarcinoma
	Junction sequence	CAGCATGGATGGGCTGGAGACAACAGAAACAGAAACGATTGTGGAAACAG			TATAATATGCTTTTTCTTAGCTTTCCTATGACTCTACTTAGCAACTTTTG		
MO_1124	TMPRSS2-ERG	64	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1126	GLIS3-NF1	11	NM_152629.3	intron 3	NM_000267.3	31	Breast Invasive Ductal Carcinoma
	Junction sequence	CCACCTCATCTAACTCCCTCAATTTTCTAGGCCATAAAAATACAGGCCAG			GTGGTTAGCCAGCGTTTCCCTCAGAACAGCATCGGTGCAGTAGGAAGTGC		
MO_1133	SS18-SSX1	145	NM_001007559.2	10	NM_001278691.1	7	Synovial Sarcoma
	Junction sequence	AGCCTGGACCACCACAGCCACCCCAGCAGAGGCCTTATGGATATGACCAG			ATCATGCCCAAGAAGCCAGCAGAGGACGAAAATGATTCGAAGGGAGTGTC		
MO_1136	DNAJB1-PRKACA	1070	NM_006145.2	1	NM_002730.3	2	Fibrolamellar Carcinoma
	Junction sequence	GCTCAGCGACCCGCGCAAGCGCGAGATCTTCGACCGCTACGGGGAGGAAG			TGAAAGAATTCTTAGCCAAAGCCAAAGAAGATTTTCTTAAAAAATGGGAA		
MO_1146	NF1-6p24.1	5	NM_000267.3	8	6p24.1	na	Cutaneous Melanoma
	Junction sequence	TAATCCAGGATATATCCAAAGACGTGGTTGATGAAAACAACATGAATAAG			ATTTATCTATGGGCAGGACTTCGAGGAGGCTTCCCTTAATCAGAGTCTTA		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1146	KRAS-LYRM5	6	NM_004985.4	4	NM_001001660.2	3	Cutaneous Melanoma
	Junction sequence	AGCAAGAAGTTATGGAATTCCTTTTATTGAAACATCAGCAAAGACAAGAC			AGCTGCTGTATCTTGGACGAGACTATCCAAAAGGAGCAGACTATTTTAAA		
MO_1149	ASPSCR1-TFE3	33	NM_024083.3	7	NM_006521.5	6	Alveolar Soft Part Sarcoma
	Junction sequence	AGGAGCAGGAGCGGGAGCGGGATCCCCAGCAGGAGCAGGAGCGGGAGCGG			CTGCCTGTGTCAGGGAATCTGCTTGATGTGTACAGTAGTCAAGGCGTGGC		
MO_1155	MYB-NFIB	382	NM_005375.3	13	NM_001282787.1	8	Adenoid Cystic Carcinoma
	Junction sequence	GTCTGAATACCCAACTGTTCACGCAGACCTCGCCTGTGGCAGATGCACCG			CCTAACGGCAGTGGTCAAGTAGTAGGGAAAGTGCCTGGCCATTTCACTCC		
MO_1157	TP53-17p11.2	744	NM_000546.5	9	NM_001145045.1	5	Uterine Leiomyosarcoma
	Junction sequence	CCCCAGCCAAAGAAGAAACCACTGGATGGAGAATATTTCACCCTTCAGGT			GGTGGGCCAGAGTTGGTCCATGAGTCCAGGCCACAGTTTGTCAATTCCTG		
MO_1159	AXIN1-12q13.2	22	NM_003502.3	3	12q13.2	na	Breast Invasive Ductal Carcinoma
	Junction sequence	CAGAGCCTGTCCAGCGATGCAGACACCCTGTCCCTCACGGACAGCAGCGT			AGACTACACTGAGGAGTATGACAAGTTTTCAGCTTGAGAAGGGCTTGCAT		
MO_1159	KDM4B-DOCK6	247	NM_015015.2	18	NM_020812.3	10	Breast Invasive Ductal Carcinoma
	Junction sequence	AGCGCCACCCTGTGGACATCAGCGCCATCCCCGAGCAGCGGTGGAAGCTG			TTGGAGAAGGTGCTTCAGCAAGGGGACATCAGTGAGTGCTGTGAGCCTTA		
MO_1161	NCOR2-KIRREL3	44	NM_006312.5	2	NM_032531.3	2	Prostate Adenocarcinoma
	Junction sequence	CAGGTCTCCCTGAGTCTTTGAGGACACAGCCTCGCTGGAGGCAGTTTCTG			AGCTGGGCCTCCAGAAGAGAGGATGCTGTCTGGTGCTGGGCTACATGGCC		
MO_1161	TMPRSS2-ERG	119	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1167	ARID2-2q34	14	NM_152641.2	5	2q34	na	Breast Invasive Ductal Carcinoma
	Junction sequence	TCCTAAAATCATCACTTTACTACTTGCTAATGCCGGGGTGTTTGACGACA			ATTTTACTCATCCAGGAAATGAACTGCCAGAATATGTGATGAGACTAGAA		
MO_1176	TMPRSS2-ERG	93	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1177	NF2-OSBP2	103	NM_000268.3	1	NM_030758.3	3	Lung Squamous Cell Carcinoma
	Junction sequence	TCACCGTGAGGATCGTCACCATGGACGCCGAGATGGAGTTCAATTGCGAG			ATGACTCTGGGGACGACGACGAGGCTACCACCCCAGCCGACAAGAGCGAG		
MO_1179	TMPRSS2-ERG	93	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1180	EWSR1-NR4A3	547	NM_005243.3	12	NM_173200.2	4	Extraskeletal Myxoid Chondrosarcoma
	Junction sequence	GTCCTATGAAGACCCACCCACTGCCAAGGCTGCCGTGGAATGGTTTGATG			ATATGCCCTGCGTCCAAGCCCAATATAGCCCTTCCCCTCCAGGTTCCAGT		
MO_1188	PTEN-SGMS1	136	NM_000314.6	intron 1	NM_147156.3	intron 1	Breast Invasive Ductal Carcinoma
	Junction sequence	AATAAAACTTCAGTTCATGCTTGAAATTTAAGTATTGTTGTGATGCCAGA			GGTTATGTTGGTGGAATACCTCCCCTAATGCTGGTTTTAAATAGCATAAA		
MO_1189	TP53-CELSR1	29	NM_000546.5	9	NM_014246.1	19	Poorly Differentiated Non-Small Cell Lung Cancer
	Junction sequence	CTCCCCAGCCAAAGAAGAAACCACTGGATGGAGAATATTTCACCCTTCAG			GACGTCATCCACTCGGGCAGCGCCCTCCTGGCCCCAGCCACCAGGGCGGC		
MO_1190	NF1-TSPAN18	162	NM_000267.3	1	NM_130783.4	2	Breast Invasive Lobular Carcinoma
	Junction sequence	ACAGGCCGGTGGAATGGGTCCAGGCCGTGGTCAGCCGCTTCGACGAGCAG			GTGAGCATCTCCTGGACCACCCTCAAGCTTCAGGTGAGCTGAGCTTCTAA		
MO_1192	TMPRSS2-ERG	237	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1198	XPR-NF1	19	NM_004736.3	2	NM_000267.3	48	Bladder Urothelial Carcinoma
	Junction sequence	TTTCAAGGATATGCTGTATTCAGCTCAGGACCAGGCACCTTCTGTGGAAG			GGTACAGGCATCCTTCACCTGCTATTGTTGCAAGAACAGTCAGAATTTTA		
MO_1198	NF1-BCAS3	6	NM_000267.3	1	NM_017679.3	23	Bladder Urothelial Carcinoma
	Junction sequence	ACAGGCCGGTGGAATGGGTCCAGGCCGTGGTCAGCCGCTTCGACGAGCAG			GTACCTTTGACAGGAGCGTGACCCTGCTGGAGGTGTGCGGGAGCTGGCCT		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1202	GRHL2-RSPO2	18	NM_024915.3	8	NM_178565.4	2	Prostate Adenocarcinoma
	Junction sequence	TTGCATATAATGCTGTTTCCTTTACCTGGGACGTGAATGAAGAGGCGAAG			GTTCGTGGCGGAGAGATGCTGATCGCGCTGAACTGACCGGTGCGGCCCGG		
MO_1202	TMPRSS2-ERG	125	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1203	FGFR2-KIAA1967	486	NM_000141.4	17	NM_021174.5	4	Intrahepatic Cholangiocarcinoma
	Junction sequence	AGCAGTTGGTAGAAGACTTGGATCGAATTCTCACTCTCACAACCAATGAG			GGTGGGGAGAAACAGCGGGTCTTCACTGGTATTGTTACCAGCTTGCATGA		
MO_1208	NOTCH2-DENND5B	25	NM_024408.3	11	NM_144973.3	intron 1	Undifferentiated Pleomorphic Sarcoma
	Junction sequence	CATTGACCTGGTCAATGGCTACCAGTGCAACTGCCAGCCAGGCACGTCAG			CAACAAGAAACAAAACAAGAGCAACCCACTGCAACCATAGACTGGCTGCC		
MO_1209	FGFR3-TACC3	231	NM_000142.4	17	NM_006342.2	10	Clear Cell Carcinoma of the Lung
	Junction sequence	AGCAGCTGGTGGAGGACCTGGACCGTGTCCTTACCGTGACGTCCACCGAC			GTGCCAGGCCCACCCCCAGGTGTTCCCGCGCCTGGGGGCCCACCCCTGTC		
MO_1210	SLC12A7-TERT	21	NM_006598.2	8	NM_198253.2	3	Hepatocellular Carcinoma
	Junction sequence	CGTCACCGAAATCCAGGGCATCCCGGGCGCGGCCAGTGGTGTCTTCCTGG			GGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCTGCGTGAGGAGATCCTG		
MO_1211	EWSR1-WT1	275	NM_005243.3	7	NM_000378.4	7	Desmoplastic Small-Round-Cell Tumor
	Junction sequence	CCAAGCTCCAAGTCAATATAGCCAACAGAGCAGCAGCTACGGGCAGCAGA			GTGAGAAACCATACCAGTGTGACTTCAAGGACTGTGAACGAAGGTTTTCT		
MO_1215	TMPRSS2-ERG	3	NM_001135099.1	1	NM_004449.4	3	Prostate Neuroendocrine Carcinoma
	Junction sequence	CCCTGCCCCGCCCGGAGGTGAAAGCGGGTGTGAGGAGCGCGGCGCGGCAG			CCGTCAGGTTCTGAACAGCTGGTAGATGGGCTGGCTTACTGAAGGACATG		
MO_1217	LATS2-13q12.11	57	NM_014572.2	2	13q12.11	na	Undifferentiated Malignant Neoplasm
	Junction sequence	AAGTGAACCGGCAAATGCTGCAGGAACTGGTGAACGCAGGATGCGACCAG			GATGCCAGATCTGATCAAAGGCCTGTCATCCCTTCATCAAGGCCCAGGGT		
MO_1219	RNF139-PVT1	6	NM_007218.3	1	NR_003367.3	2	Prostate Adenocarcinoma
	Junction sequence	CAGCCAAAGCCGGTTCTGCATCGTGCTCCAGATCTTCCTCCGGCTCTTTG			GCCTGATCTTTTGGCCAGAAGGAGATTAAAAAGATGCCCCTCAAGATGGC		
MO_1220	EWSR1-WT1	344	NM_005243.3	9	NM_000378.4	7	Desmoplastic Small-Round-Cell Tumor
	Junction sequence	TTATCCCCCCAGCAGCGCTGGAGAGCGAGGTGGCTTCAATAAGCCTGGTG			GTGAGAAACCATACCAGTGTGACTTCAAGGACTGTGAACGAAGGTTTTCT		
MO_1222	EWSR1-NR4A3	48	NM_005243.3	12	NM_173200.2	2	Extraskeletal Myxoid Chondrosarcoma
	Junction sequence	GTCCTATGAAGACCCACCCACTGCCAAGGCTGCCGTGGAATGGTTTGATG			AGCCCACTGCGGAAGAGGGCAGCCCGGCAAGCCCGGGCCCTGAGCCTGGA		
MO_1229	FUS-DDIT3	2	NM_004960.3	5	NM_001195053.1	2	Myxoid/Round-Cell Liposarcoma
	Junction sequence	GAACCAGTACAACAGCAGCAGTGGTGGTGGAGGTGGAGGTGGAGGTGGAG			TGTTCAAGAAGGAAGTGTATCTTCATACATCACCACACCTGAAAGCAGGT		
MO_1231	PLCD3-NF1	3	NM_133373.4	11	NM_000267.3	2	Stomach Adenocarcinoma
	Junction sequence	CTCAGCCAACTACAGTCCCCAGGAGATGTGGAACTCGGGCTGTCAGCTGG			CTTCCAATAAAAACAGGACAGCAGAACACACATACCAAAGTCAGTACTGA		
MO_1232	CTNNA1-GLRA1	109	NM_001903.4	7	NM_001146040.1	4	Prostate Adenocarcinoma
	Junction sequence	ATGCTGTCCGCCAGGCCCTGCAGGACCTGCTTTCGGAGTACATGGGCAAT			GACTATAGGGTCAACATCTTCCTGCGGCAGCAATGGAACGACCCCCGCCT		
MO_1237	PVT1-CASC8	16	DA022452	1	NR_117099.1	3	Breast Invasive Ductal Carcinoma
	Junction sequence	GAAACCTCGTGGCCTGGTCTCCATTATTTGAGATGAGTTACATCTTGGAG			AGGTGCTTATTTAGCAAATTCAACCTTAAACCTGAGTGCATGGAAACTAT		
MO_1241	TMPRSS2-ERG	238	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1241	TP53-IGFL2	15	NM_000546.5	1	AC007193.6	3	Prostate Adenocarcinoma
	Junction sequence	TCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGG			AGGCTGGAGTGCAGTGGCATGATCTCAGCTGACTACAACCTCCACCTCCC		
MO_1244	TMPRSS2-ERG	324	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1249	TMPRSS2-ERG	520	NM_005656.3	2	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	ACCTATCATTACTCGATGCTGTTGATAACAGCAAGATGGCTTTGAACTCA			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1249	TP53-MYBBP1A	12	NM_000546.5	intron 1	NM_014520.3	11	Prostate Adenocarcinoma
	Junction sequence	GTTCAACTTTGAGTTCGGATGGTCCTAACATCCCCATCATCTACACCCAG			GTTTTGTTTGTTCCACTCGTTCTTTGTCACAAAGAAGCCCACATCCCAGA		
MO_1252	NCOR1-MAPK7	18	NM_006311.3	1	NM_002749.3	4	Dedifferentiated Liposarcoma
	Junction sequence	CACTCCTCAGGCCGGGGCGCACGTCGGCTCCCACGCTTAGCCAGCTCCCG			CTACGTGGTCCTGGACCTGATGGAAAGCGACCTGCACCAGATCATCCACT		
MO_1253	EML4-ALK	39	NM_019063.4	6	NM_004304.4	20	Lung Adenocarcinoma
	Junction sequence	AAAAGTTACCAAAACTGCAGACAAGCATAAAGATGTCATCATCAACCAAG			TGTACCGCCGGAAGCACCAGGAGCTGCAAGCCATGCAGATGGAGCTGCAG		
MO_1260	PRKCE-MSH2	3	NM_005400.2	6	NM_000251.2	8	Prostate Adenocarcinoma
	Junction sequence	CTGTGGGTCCCTGCTCTGGGGACTCTTGCGGCAGGGTTTGCAGTGTAAAG			GAAAACACCAGAAATTATTGTTGGCAGTTTTTGTGACTCCTCTTACTGAT		
MO_1260	TMPRSS2-ERG	147	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1262	TMPRSS2-ETV4	1324	NM_005656.3	1	NM_001986.2	3	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			AAATCGCCCGGAAATGGGAGCTTGCGCGAAGCGCTGATCGGCCCGCTGGG		
MO_1263	TMPRSS2-ERG	20	NM_001135099.1	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	CCCTGCCCCGCCCGGAGGTGAAAGCGGGTGTGAGGAGCGCGGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1264	DNAJB1-PRKACA	1504	NM_006145.2	1	NM_002730.3	2	Fibrolamellar Carcinoma
	Junction sequence	GCTCAGCGACCCGCGCAAGCGCGAGATCTTCGACCGCTACGGGGAGGAAG			TGAAAGAATTCTTAGCCAAAGCCAAAGAAGATTTTCTTAAAAAATGGGAA		
MO_1265	CCDC61-ALK	34	NM_001267723.1	13	NM_004304.4	20	Colon Adenocarcinoma
	Junction sequence	CCACCATCAGAAATCTCTGGCCAACTCCGGGGGCTGGGTCCCCATCAAAG			TGTACCGCCGGAAGCACCAGGAGCTGCAAGCCATGCAGATGGAGCTGCAG		
MO_1267	PARS2-NOTCH2	133	NM_152268.3	1	NM_024408.3	27	Breast Invasive Ductal Carcinoma
	Junction sequence	GCTGGCCCGGCACGGCGGTGGTCTTGCGGGAGGCGTGGGCTGGGATTGCG			CTCTAAAGTCTTTCTGGAAATTGACAACCGCCAGTGTGTTCAAGACTCAG		
MO_1267	PVT1-GSDMB	16	NR_003367.3	3	NM_001042471.1	2	Breast Invasive Ductal Carcinoma
	Junction sequence	GGCTCCCTTGGTGTTCCCCTTTTACTGCCAGGACACTGAGATTTGGAGAG			TTGGTCCAGGCGCAATGTTCAGCGTATTTGAGGAAATCACAAGAATTGTA		
MO_1269	NF1-ASIC2	50	NM_000267.3	35	NM_001094.4	intron 1	Breast Invasive Ductal Carcinoma
	Junction sequence	AAGCTGGGACTTCCAAAGCTGGGAATCCTATTTTTTATTATGTTGCACGG			AGGAAGAAGAGGTCACTCCTGGATCCAGAATAGGAAGAGGAAAAAGTGAC		
MO_1276	AKT1-PHRF1	603	NM_005163.2	5	NM_020901.3	2	Breast Invasive Ductal Carcinoma
	Junction sequence	CAGGGGCTGAAGAGATGGAGGTGTCCCTGGCCAAGCCCAAGCACCGCGTG			AGCTGAGCTCAATGTGCAGCAATGGATGACGACAGCCTGGATGAGCTTGT		
MO_1277	TMPRSS2-ERG	387	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1277	TP53-CDC16	119	NM_000546.5	1	NM_003903.4	12	Prostate Adenocarcinoma
	Junction sequence	TCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGG			CAAAGCCACAACACTTGAGAAAACCTATGGACCTGCATGGATAGCCTATG		
MO_1284	KIF5B-RET	179	NM_004521.2	15	NM_020975.4	12	Lung Adenocarcinoma
	Junction sequence	TAAAAGACCTTGCAGAAATAGGAATTGCTGTGGGAAATAATGATGTAAAG			GAGGATCCAAAGTGGGAATTCCCTCGGAAGAACTTGGTTCTTGGAAAAAC		
MO_1285	EML4-ALK	237	NM_019063.4	13	NM_004304.4	20	Poorly Differentiated Non-Small Cell Lung Cancer
	Junction sequence	TATATGGAGCAAAACTACTGTAGAGCCCACACCTGGGAAAGGACCTAAAG			TGTACCGCCGGAAGCACCAGGAGCTGCAAGCCATGCAGATGGAGCTGCAG		
MO_1286	AKAP13-IGF1R	9	NM_006738.5	1	NM_000875.4	2	Lung Squamous Cell Carcinoma
	Junction sequence	GTGAAGAGTTGTCCCAGCTCGGCCCGCGGGGGAGCCCCGGGAGCCGCACG			TCTGCGGGCCAGGCATCGACATCCGCAACGACTATCAGCAGCTGAAGCGC		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1287	GOSR1-NF1	5	NM_004871.2	4	NM_000267.3	5	Breast Invasive Ductal Carcinoma
	Junction sequence	TGAATGCAGCCCTGATGCATACATTACAGCGGCATAGAGACATATTGCAG			GTTACAGGAATTAACTGTTTGTTCAGAAGACAATGTTGATGTTCATGATA		
MO_1295	EWSR1-WT1	383	NM_005243.3	7	NM_000378.4	7	Desmoplastic Small-Round-Cell Tumor
	Junction sequence	CCAAGCTCCAAGTCAATATAGCCAACAGAGCAGCAGCTACGGGCAGCAGA			GTGAGAAACCATACCAGTGTGACTTCAAGGACTGTGAACGAAGGTTTTCT		
MO_1298	SEC22B-NOTCH2	399	NM_004892.5	1	NM_024408.3	27	Breast Invasive Ductal Carcinoma
	Junction sequence	GAGTGGCGGACGGGCTCCCGCTGGCCGCCTCGATGCAGGAGGACGAACAG			CTCTAAAGTCTTTCTGGAAATTGACAACCGCCAGTGTGTTCAAGACTCAG		
MO_1301	DNAJC1-BRCA1	220	NM_003315.3	1	NM_007294.3	2	Breast Invasive Ductal Carcinoma
	Junction sequence	GTAATGGCGGCGACCGAGCCGGAGCTGCTCGACGACCAAGAGGCGAAGAG			TTCATTGGAACAGAAAGAAATGGATTTATCTGCTCTTCGCGTTGAAGAAG		
MO_1313	ARFGAP3-ATM	231	NM_001142293.1	10	NM_000051.3	23	Soft Tissue Myoepithelial Carcinoma
	Junction sequence	AAAAAGTATAATGATGACAGTGACGATTCATATTTTACTTCCAGCTCAAG			ATTGTTCCAGGACACGAAGGGAGATTCTTCCAGGTTACTGAAAGCACTTC		
MO_1315	KIF5B-RET	303	NM_004521.2	23	NM_020975.4	12	Lung Squamous Cell Carcinoma
	Junction sequence	TCTCCTTTCTTGAAAATAATCTTGAACAGCTCACTAAAGTGCACAAACAG			GAGGATCCAAAGTGGGAATTCCCTCGGAAGAACTTGGTTCTTGGAAAAAC		
MO_1316	TMPRSS2-ERG	379	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1317	ARSG-PPM1D	34	NM_014960.4	11	NM_003620.3	2	Breast Invasive Ductal Carcinoma
	Junction sequence	AGCCCTGCAGACTGTCCGCCTGGAGCGTTACAAGGCCTTCTACATTACCG			CGGAATGGCCAAAGACTATGACGGGTCTTCCTAGCACATCAGGGACAACT		
MO_1317	FAM134C-BRCA1	40	NM_178126.3	1	NM_007294.3	2	Breast Invasive Ductal Carcinoma
	Junction sequence	CGGCCAGCTAGGAGCGCTCTGTGGTGCCTGGGGCTGAACGCGGCTTTCTG			TTCATTGGAACAGAAAGAAATGGATTTATCTGCTCTTCGCGTTGAAGAAG		
MO_1322	NCOR2-RNF123	296	NM_006312.5	3	NM_022064.4	27	Adrenocortical Carcinoma
	Junction sequence	ACCCGCCCCACAGCCTTTCCTACCCAGTGCAGATCGCCCGGACGCACACG			GAGAAGATGCTGGACATCTACTGGCTGCTGCGCGTCTGCCTGCGGACCAT		
MO_1330	KDM6A-RP1-154K9.2	16	NM_021140.3	26	RP1-154K9.2	8	Breast Invasive Ductal Carcinoma
	Junction sequence	ATGGCACGAAATATCAAGGTCTCAGATCCAAAGCTTTTTGAAATGATTAA			GCCTATAGGTTGAGGTTGATCTGAAAGATAGGACTATTTGTGATCCAGAA		
MO_1330	NCOR2-DHX37	84	NM_006312.5	7	NM_032656.3	7	Breast Invasive Ductal Carcinoma
	Junction sequence	TCGAGTCGAAGCACCGCAGCCTGGTGCAGATCATCTACGACGAGAACCGG			GGTCGTCTCCTACCAGATCCGGTATGAAGGAAACGTGACAGAGGAGACCA		
MO_1331	PCNX-RAD51B	84	NM_014982.2	19	NM_002877.5	8	Oral Cavity Squamous Cell Carcinoma
	Junction sequence	GTGTGCTGTATTTTGCTATTCATGTAAGCACAGTCTTCACAGTATTGCAG			GTTATCTTGACGAATCAGATTACAACCCATCTGAGTGGAGCCCTGGCTTC		
MO_1333	NF1-RNF135	5	NM_000267.3	1	NM_032322.3	2	Embryonal Carcinoma
	Junction sequence	ACAGGCCGGTGGAATGGGTCCAGGCCGTGGTCAGCCGCTTCGACGAGCAG			GTGGCAGTAGAGAAGAGCATCACAGAAGTTGCTCAGGAGCTGACAGAGCT		
MO_1337	TMPRSS2-ERG	87	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1339	MYC-PDLIM5	17	NM_002467.4	1	NM_006457.4	8	Prostate Adenocarcinoma
	Junction sequence	TCCTTGCAGCTGCTTAGACGCTGGATTTTTTTCGGGTAGTGGAAAACCAG			TAACTCTCAGGAGCCTTCTCCGCAGTTGGCTTCCTCGGTAGCTTCCACAC		
MO_1342	NCOR1-6p22.1	7	NM_006311.3	14	6p22.1	na	Adenocarcinoma, NOS
	Junction sequence	ATAAAGCCCTCGTCAGAAGGAATTATGGGAAACGCAGAGGCAGAAACCAG			GGCCCAGAAAGGACCTGTTTCCTCAACACCCTGACCAGCACAGAACATTG		
MO_1344	SS18-SSX1	229	NM_001007559.2	10	NM_001278691.1	7	Synovial Sarcoma
	Junction sequence	AGCCTGGACCACCACAGCCACCCCAGCAGAGGCCTTATGGATATGACCAG			ATCATGCCCAAGAAGCCAGCAGAGGACGAAAATGATTCGAAGGGAGTGTC		
MO_1346	KAT6A-KANSL1	19	NM_006766.4	2	NM_015443.3	11	Soft Tissue Myoepithelial Carcinoma
	Junction sequence	CTCTTTCCTGTTTACCTCCAGTGTCCCTTCTTCCACATGAAAAGGATAAG			CAGCAGCCAGTAAGGAGGAGAAGGGGAGAGAGCTCATTTGATATTAACAA		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1359	CREBBP-CRAMP1L	99	NM_004380.2	5	NM_020825.3	2	Breast Invasive Ductal Carcinoma
	Junction sequence	TCCTGTTTGCCTCCCTTTGAAAAATGCCAGTGACAAGCGAAACCAACAAA			GAGCTGAAGGTGGTGGATCATCGTCTGGAAATGTGTCTGGGGTTGCCCCT		
MO_1359	PVT- 8q23.3	36	BM845333	1	8q23.3	na	Breast Invasive Ductal Carcinoma
	Junction sequence	GAAACCTCGTGGCCTGGTCTCCATTATTTGAGATGAGTTACATCTTGGAG			GATCTCCAACTGTTGCACCTTTCTTCAAAGATACGGGCTTCTACAAGGTT		
MO_1360	KDM6A-AC007403.3	39	NM_021140.3	3	AC007403.3	na	Salivary Duct Carcinoma
	Junction sequence	TTCTTTTGTCAATTAGGTCACTTCAACCTCTTATTGGAAGATTATCCAAA			AGTGTTTCCAAACCTGTCCCGAGGCAGAGATGATTGTAAAGAGCCCCTCA		
MO_1361	ATRX-MAGT1	1290	NM_000489.4	1	NM_032121.5	9	Bladder Urothelial Carcinoma
	Junction sequence	CAGAAGCCGACAAGGCGTTCAAGCGAAAACATGACCGCTGAGCCCATGAG			TAATGTGTGTGGCTGGTATTGGACTTGTTGTATTATTCTTCAGTTGGATG		
MO_1364	AXIN-TGFBI	214	NM_003502.3	3	NM_000358.2	12	Breast Invasive Ductal Carcinoma
	Junction sequence	CAGAGCCTGTCCAGCGATGCAGACACCCTGTCCCTCACGGACAGCAGCGT			CATGCTGGTAGCTGCCATCCAGTCTGCAGGACTGACGGAGACCCTCAACC		
MO_1364	LCMT1-CTNNA2	87	NM_016309.2	2	NM_004389.3	3	Breast Invasive Ductal Carcinoma
	Junction sequence	GCACTTTGTGAGACTGTCTAAAGAGAGGAAAGCCCCTGAAATCAACAGAG			GTGACTACACTTGTCAACACAAGCAACAAAGGCCCATCTGGTAAAAAGAA		
MO_1367	ATRX-DACH2	6	NM_000489.4	1	NM_053281.3	6	Oral Cavity Squamous Cell Carcinoma
	Junction sequence	CAGAAGCCGACAAGGCGTTCAAGCGAAAACATGACCGCTGAGCCCATGAG			GACTGGATCTGCCATTTATGATGATGCCTCATCCCCTACTTCCAGTCAGC		
MO_1372	RB1-7p11.2	5	NM_000321.2	3	7p11.2	na	Mullerian Adenocarcinoma
	Junction sequence	ATTTAGAACGATGTGAACATCGAATCATGGAATCCCTTGCATGGCTCTCA			CACTGAAGAAGTGGAGTCTCAGAGGTCACACAGCTGGCATGTGGCAGAAC		
MO_1381	EWSR1-NR4A3	179	NM_005243.3	12	NM_173200.2	4	Extraskeletal Myxoid Chondrosarcoma
	Junction sequence	GTCCTATGAAGACCCACCCACTGCCAAGGCTGCCGTGGAATGGTTTGATG			ATATGCCCTGCGTCCAAGCCCAATATAGCCCTTCCCCTCCAGGTTCCAGT		
MO_1382	SS18-SSX1	261	NM_001007559.2	10	NM_001278691.1	7	Synovial Sarcoma
	Junction sequence	AGCCTGGACCACCACAGCCACCCCAGCAGAGGCCTTATGGATATGACCAG			ATCATGCCCAAGAAGCCAGCAGAGGACGAAAATGATTCGAAGGGAGTGTC		
MO_1384	BCAP29-BRAF	49	NM_018844.3	7	NM_004333.4	11	Breast Invasive Ductal Carcinoma
	Junction sequence	GACTTTCGAAAGAATATGATCAACTCCTGAAAGAACACTCTGAACTTCAG			AAAACACTTGGTAGACGGGACTCGAGTGATGATTGGGAGATTCCTGATGG		
MO_1385	MYBL1-NFIB	170	NM_001080416.3	10	NM_001282787.1	10	Adenoid Cystic Carcinoma
	Junction sequence	TGGCGCTAAAACATACACCACTGAAAACACTACCATTTTCTCCTTCACAG			CTGAGGATTTGTGACTGGACCATGAATCAAAACGGCAGGCATTTATACCC		
MO_1387	NOTCH2-SPAG17	565	NM_024408.3	34	NM_206996.2	intron 48	Breast Invasive Ductal Carcinoma
	Junction sequence	AGTCCCAGCAGATTGGATGAACCGCATGGAGGTGAATGAGACCCAGTACA			TTTGCCATTGAGAAACAATTTAATACCAAATATACAAAGCACCTAGCTTC		
MO_1390	MYB-NFIB	522	NM_005375.3	14	NM_001282787.1	10	Adenoid Cystic Carcinoma
	Junction sequence	TCAAAGCATTTACAGTACCTAAAAACAGGTCCCTGGCGAGCCCCTTGCAG			CTGAGGATTTGTGACTGGACCATGAATCAAAACGGCAGGCATTTATACCC		
MO_1391	FUS-DDIT3	16	NM_004960.3	5	NM_001195053.1	2	Myxoid/Round-Cell Liposarcoma
	Junction sequence	GAACCAGTACAACAGCAGCAGTGGTGGTGGAGGTGGAGGTGGAGGTGGAG			TGTTCAAGAAGGAAGTGTATCTTCATACATCACCACACCTGAAAGCAGGT		
MO_1393	NF1-CCR7	89	NM_000267.3	1	NM_001838.3	3	Serous Ovarian Cancer
	Junction sequence	ACAGGCCGGTGGAATGGGTCCAGGCCGTGGTCAGCCGCTTCGACGAGCAG			GTATGCCTGTGTCAAGATGAGGTCACGGACGATTACATCGGAGACAACAC		
MO_1404	GREB1-NR4A3	1068	NM_014668.3	6	NM_173200.2	2	Uterine Leiomyosarcoma
	Junction sequence	GCCCGTTCCTGGGACGAACCCCAGCATCCTGATGGGAGCTCAGCAGGCAG			AGCCCACTGCGGAAGAGGGCAGCCCGGCAAGCCCGGGCCCTGAGCCTGGA		
MO_1407	TIMM29-SMARCA4	11	NM_138358.2	1	NM_001128849.1	32	Poorly Differentiated Carcinoma, NOS
	Junction sequence	AGAGGCGGGCGACGCGGTAGTGGCGAAGCCGGGAGTGTGGGCGCGGCTGG			CAGTGGACGTCAGCTCAGCGAGGTCTTCATCCAGCTGCCCTCGCGAAAGG		
MO_1410	TMPRSS2-ERG	30	NM_005656.3	3	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	CGGAAAACCCCTATCCCGCACAGCCCACTGTGGTCCCCACTGTCTACGAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1411	CREBBP-NARFL	268	NM_004380.2	2	NM_022493.2	2	Breast Invasive Lobular Carcinoma
	Junction sequence	TGACTGGTCACGCGGGACTGAACACCGCACAGGCAGGAGGCATGGCCAAG			GAGTGCATCAAGCCTGTCAAAGTGGAAAAAAGGGCGGGAAGTGGCGTGGC		
MO_1411	PTEN-20q12.11	20	NM_000314.6	7	20q12.11	na	Breast Invasive Lobular Carcinoma
	Junction sequence	GTGATATCAAAGTAGAGTTCTTCCACAAACAGAACAAGATGCTAAAAAAG			GCACCTGCTCTGAACATGGGGATGTTTTTGTGGACTTTCCTCCTCCCTTG		
MO_1416	PVT1-MYC	44	NR_003367.3	1	NM_002467.4	2	Esophageal Adenocarcinoma
	Junction sequence	ATGTTGGCGGTCCCTGTGACCTGTGGAGACACGGCCAGATCTGCCCTCCA			CAGCCTCCCGCGACGATGCCCCTCAACGTTAGCTTCACCAACAGGAACTA		
MO_1418	RUNX1-ERG	143	NM_001754.4	5	NM_004449.4	intron 1	Breast Invasive Ductal Carcinoma
	Junction sequence	CCAGGTTGCAAGATTTAATGACCTCAGGTTTGTCGGTCGAAGTGGAAGAG			CTCATAAATAGGAGGAAGAATGCGGGTGACATTCCCAAGACTGCAGCAAA		
MO_1420	CRTC3-PTEN	13	NM_022769.4	10	NM_000314.6	9	Prostate Adenocarcinoma
	Junction sequence	GAACAACATCCCAGCTGCTATGACCCACCTGGGTATAAGAAGCTCCTCTG			CTGAAACATTTGATGCTGCCGGTAAACTCCACTTAAGTTTATAACCTGTG		
MO_1421	PVT1-TNFRSF19	135	NR_003367.3	1	NM_018647.3	4	Prostate Adenocarcinoma
	Junction sequence	ATGTTGGCGGTCCCTGTGACCTGTGGAGACACGGCCAGATCTGCCCTCCA			GAATGTGGCTTCGGCTATGGGGAGGATGCACAGTGTGTGACGTGCCGGCT		
MO_1438	ASPSCR1-TFE3	64	NM_024083.3	7	NM_006521.5	6	Alveolar Soft Part Sarcoma
	Junction sequence	AGGAGCAGGAGCGGGAGCGGGATCCCCAGCAGGAGCAGGAGCGGGAGCGG			CTGCCTGTGTCAGGGAATCTGCTTGATGTGTACAGTAGTCAAGGCGTGGC		
MO_1439	PTEN-Xq27.3	183	NM_000314.6	7	Xq27.3	na	Metaplastic Breast Cancer
	Junction sequence	GTGATATCAAAGTAGAGTTCTTCCACAAACAGAACAAGATGCTAAAAAAG			AGACTCTACTCTTCTAACTAGCACAGTGTTCTCCAAAATCATCTGAAGAT		
MO_1446	KDM6B-TP53	6	NM_001080424.1	13	NM_000546.5	intron 1	Prostate Adenocarcinoma
	Junction sequence	CGAAATCCCATCACAGTGATCCGGGGCCTGGCGGGCTCCCTGCGGCTCAG			CCGGTTCCTCTTACTTGGCAGAGGGAGGCTGCTATTCTCCGCCTGCATTT		
MO_1446	RB1-RARB	3	NM_000321.2	17	NM_001290216.2	intron 4	Prostate Adenocarcinoma
	Junction sequence	ATTTAGAACGATGTGAACATCGAATCATGGAATCCCTTGCATGGCTCTCA			GATAAAGCTGGGATATTTCTGAGCCTTGCCATCATTTTTGGTAAGTGATT		
MO_1447	TMPRSS2-ERG	167	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1449	BCOR-CCNB3	2236	NM_017745.5	15	NM_033031.2	5	Ewing Sarcoma
	Junction sequence	CCTCTGTAGAGTGGCTCCACCCCAGTGATCTGGCCTCAGACAACTACTGG			CATAAGCTGGAAGTCACACCAGTAGTAGCCTCTACTACCGTGGTACCAAA		
MO_1459	TGFBR2-PREP	34	NM_003242.5	5	NM_002726.4	2	Esophageal Adenocarcinoma
	Junction sequence	CATGGCTCTGGTGCTCTGGGAAATGACATCTCGCTGTAATGCAGTGGGAG			GTACAGGATTATCATGGTCATAAAATTTGTGACCCTTACGCCTGGCTTGA		
MO_1460	PTEN-10q25.1	10	NM_000314.6	intron 1	10q25.1	na	Prostate Adenocarcinoma
	Junction sequence	TTAAAACTTTCTCTAAAACTGTACTTTTAGTTATGATATGCATAGAAAGC			AAGTCCAGGCAATAATTTTTCAGCGTCTTGATTATCACACAGACAGTGAA		
MO_1462	DNAJB1-PRKACA	2520	NM_006145.2	1	NM_002730.3	2	Fibrolamellar Carcinoma
	Junction sequence	GCTCAGCGACCCGCGCAAGCGCGAGATCTTCGACCGCTACGGGGAGGAAG			TGAAAGAATTCTTAGCCAAAGCCAAAGAAGATTTTCTTAAAAAATGGGAA		
MO_1464	FOXO3-FXR1	35	NM_001455.3	1	NM_005087.3	4	Serous Ovarian Cancer
	Junction sequence	TGCCCTACTTCAAGGATAAGGGCGACAGCAACAGCTCTGCCGGCTGGAAG			GTATATTCAAGAGCAAATGACCAAGAGCCATGTGGGTGGTGGTTGGCTAA		
MO_1466	CPE-GNAS	15	NM_001873.3	1	NM_000516.5	1	Pancreatic Neuroendocrine Tumor
	Junction sequence	GCCCCCAGCAGCGCCGGCGGGCTAAGCCCAGGGCCGGGCAGACAAAAGAG			GCCGCCGCCGCCATGGGCTGCCTCGGGAACAGTAAGACCGAGGACCAGCG		
MO_1472	PVT1-SMARCAD1	69	NR_003367.3	1	NM_020159.4	7	Prostate Neuroendocrine Carcinoma
	Junction sequence	ATGTTGGCGGTCCCTGTGACCTGTGGAGACACGGCCAGATCTGCCCTCCA			GGAGAGGAATCAAATGAGTCTGCAGAATCTAGCAGTAATTGGGAAAAGCA		
MO_1472	TRAP1-CREBBP	75	NM_016292.2	10	NM_004380.2	10	Prostate Neuroendocrine Carcinoma
	Junction sequence	CCAGACCAAGGCCACGGACATCCTGCCCAAGTGGCTGCGCTTCATCCGAG			CCATCCTGGGGTCTCCAGCTAGTGGAATTCAAAACACAATTGGTTCTGTT		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1473	TMPRSS2-ERG	119	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1473	TP53-20q13.31	148	NM_000546.5	1	NM_001013646.3	2	Prostate Adenocarcinoma
	Junction sequence	TCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGG			ATTGTGACATGGTATGGATCTGCAGGCATCTCTGACCTTCGAAGCTTGAG		
MO_1478	SND1-BRAF	152	NM_014390.3	11	NM_004333.4	11	Pancreatic Neuroendocrine Tumor
	Junction sequence	ACATGTTTGAGGCCCGGGAATTTCTTCGAAAAAAGCTTATTGGGAAGAAG			AAAACACTTGGTAGACGGGACTCGAGTGATGATTGGGAGATTCCTGATGG		
MO_1482	CLTC-ETV1	181	NM_004859.3	13	NM_004956.4	7	Prostate Neuroendocrine Carcinoma
	Junction sequence	GTCAACTCAGTCTCTGATTGAACTTTTTGAATCTTTCAAGAGTTTTGAAG			TGGCTTTTCATGGCCTGCCACTGAAAATCAAGAAAGAACCCCACAGTCCA		
MO_1482	RB1-12p13.31	16	NM_000321.2	2	12p13.31	na	Prostate Neuroendocrine Carcinoma
	Junction sequence	AGAGAGCTTGGTTAACTTGGGAGAAAGTTTCATCTGTGGATGGAGTATTG			GAATGGCTGGAGCCGCAGCAGCTACCTTATGACCGTGGGATACAAGCCAA		
MO_1484	LIFR-PLAG1	9	NM_001127671.1	1	NM_002655.2	3	Myoepithelial Carcinoma
	Junction sequence	CTACAGAGCCGGCGGCAGGGGATGGCAAGATAGCGGCGCGGGAGCGTACC			ATTGGCCAAAATGGGAAGGATTGGATTCCACTCTCTTCCACGAAGAGTCA		
MO_1485	RBM39-SMARCB1	81	NM_004902.3	3	NM_003073.4	5	Intrahepatic Cholangiocarcinoma
	Junction sequence	GATGAGAACAAGTTGAGCAGTGCCAACGGCCATGAAGAACGTAGCAAAAA			GTGAAGGCGTCTCGCAGCTTCTGCCCATCGATCTCCATGTCCAGCCGGAT		
MO_1493	CTNNA1-DNAH14	76	NM_001903.4	5	NM_001373.1	56	Esophageal Adenocarcinoma
	Junction sequence	TAAAACCTGAAGTGGATAAGCTGAACATTATGGCAGCCAAAAGACAACAG			AACTTGAAAGAAAAACTTGCCCCAACATGTGTCCAAATCCACAAAAGCAT		
MO_1496	TMPRSS2-ERG	337	NM_005656.3	1	NM_004449.4	4	Prostate Neuroendocrine Carcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1499	SLC45A1-NCOR2	16	NM_001080397.2	8	NM_006312.5	48	Prostate Adenocarcinoma
	Junction sequence	TGTGCACCTTGCCTTACTCGCTGCTCTGCGATTACTATCAGAGTAAGAAG			GTGGCGGCGGGAAGGCCAAGGTCTCTGGCAGACCCAGCAGCCGAAAAGCC		
MO_1499	TMPRSS2-ERG	337	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1502	MYB-NFIB	1412	NM_005375.3	12	NM_001282787.1	8	Adenoid Cystic Carcinoma
	Junction sequence	CTGAGTTTCAAGAAAATGGACCACCCTTACTGAAGAAAATCAAACAAGAG			CCTAACGGCAGTGGTCAAGTAGTAGGGAAAGTGCCTGGCCATTTCACTCC		
MO_1507	TGFBR2-3p24.1	35	NM_003242.5	3	3p24.1	na	Neuroendocrine Tumor, NOS
	Junction sequence	GTGTTCCTGTAGCTCTGATGAGTGCAATGACAACATCATCTTCTCAGAAG			ATTGTCAAGAGAAAAAAGTTACATGTATAAAATCTACAGTAGAATTGGAA		
MO_1509	CDH1-RP11-17E2.2.1	194	NM_004360.4	3	RP11-17E2.2.1	na	Breast Invasive Lobular Carcinoma
	Junction sequence	AAGTCACGCTGAATACAGTGGGGCACCACCACCGCCCCCCGCCCCATCAG			GTCTTCATTTGTTCCTTTGTTACTCATAATGCTTCAGCTCCATTCAACAA		
MO_1510	TMPRSS2-ERG	114	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1511	TMPRSS2-ETV1	879	NM_005656.3	1	NM_004956.4	7	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			TGGCTTTTCATGGCCTGCCACTGAAAATCAAGAAAGAACCCCACAGTCCA		
MO_1514	TMPRSS2-ERG	308	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1517	TMPRSS2-ERG	278	NM_005656.3	1	NM_004449.4	3	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			CCGTCAGGTTCTGAACAGCTGGTAGATGGGCTGGCTTACTGAAGGACATG		
MO_1518	FGFR2-CCDC6	1144	NM_000141.4	17	NM_005436.4	3	Poorly Differentiated Carcinoma, NOS
	Junction sequence	AGCAGTTGGTAGAAGACTTGGATCGAATTCTCACTCTCACAACCAATGAG			TTGCAGCATGAGAAAGCCGAACTAGAACAGCATCTTGAACAAGAGCAGGA		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
MO_1525	RB1-STIM1	79	NM_000321.2	17	NM_003156.3	6	Osteosarcoma
	Junction sequence	ATTTAGAACGATGTGAACATCGAATCATGGAATCCCTTGCATGGCTCTCA			TGACTCGCCATAATCACCTCAAGGACTTCATGCTGGTGGTGTCTATCGTT		
MO_1527	TAOK1-NF1	13	NM_020791.2	6	NM_000267.3	2	Breast Invasive Ductal Carcinoma
	Junction sequence	GGTGCTCTTCAGGGATTAGCCTACTTACATTCTCATACTATGATTCATAG			CTTCCAATAAAAACAGGACAGCAGAACACACATACCAAAGTCAGTACTGA		
MO_1532	POC5-PRKD1	32	NM_001099271.1	10	NM_001330069.1	13	Salivary Carcinoma
	Junction sequence	TTTCTGCTCTTGGTGCAGGATCTGCAGCTACTGCTGCATCAGAAGAAATG			GACATCAGCACAGTATATCAGATTTTTCCTGATGAAGTACTGGGTTCTGG		
MO_1536	FRMD4A-PTEN	71	NM_018027.4	16	NM_000314.6	3	Breast Invasive Ductal Carcinoma
	Junction sequence	CCCTGCGTCAGAGGCTGGAGGAACTGAAGAAGCTGTGTCTCCGAGAAGCT			GTTTTTGGATTCAAAGCATAAAAACCATTACAAGATATACAATCTTTGTG		
MO_1536	NF1-1p22.3	13	NM_000267.3	10	1p22.3	na	Breast Invasive Ductal Carcinoma
	Junction sequence	GCCTTGTTTCTTGCTTTCGTATAAGCCCTCACAACAACCAACACTTTAAG			GTTCTGGGGATTTGAATGGAGACATCTTTGAGGGGCTATGATTCTGCTCC		
MO_1541	KIAA1549-BRAF	62	NM_020910.2	14	NM_004333.4	8	Prostate Adenocarcinoma
	Junction sequence	CTGGACCCCACGGCCAGCGTGCCCTCCGTGTTCATAGAGCCCAGGAAGAG			GCCCCAAATTCTCACCAGTCCGTCTCCTTCAAAATCCATTCCAATTCCAC		
MO_1543	RB1-9p11.2	9	NM_000321.2	17	9p11.2	na	Prostate Adenocarcinoma
	Junction sequence	ATTTAGAACGATGTGAACATCGAATCATGGAATCCCTTGCATGGCTCTCA			GCAAGAAAGCATGCAAACTCTGAAGCACAGTGTAAAACACTTGAAGAGAT		
MO_1543	TMPRSS2-ERG	129	NM_005656.3	2	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	ACCTATCATTACTCGATGCTGTTGATAACAGCAAGATGGCTTTGAACTCA			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
MO_1553	NCOR1-17p11.2	15	NM_006311.3	14	17p11.2	na	Prostate Adenocarcinoma
	Junction sequence	ATAAAGCCCTCGTCAGAAGGAATTATGGGAAACGCAGAGGCAGAAACCAG			GTGAATCCCCTGAGGAATGAATGCCTTGGTATTTGTGACTCCACATAAAT		
MO_1555	NUBPL-NF1	5	NM_025152.2	7	NM_000267.3	9	Angiosarcoma
	Junction sequence	AGGAACTGGAGATGTGCAGTTATCAGTCTCACAGAATATTCCTATAACAG			AAGTTATTTCTGGACAGTCTACGAAAAGCTCTTGCTGGCCATGGAGGAAG		
MO_1556	TMPRSS2-ERG	14	NM_001135099.1	1	NM_004449.4	2	Prostate Adenocarcinoma
	Junction sequence	CCCTGCCCCGCCCGGAGGTGAAAGCGGGTGTGAGGAGCGCGGCGCGGCAG			GTTATTCCAGGATCTTTGGAGACCCGAGGAAAGCCGTGTTGACCAAAAGC		
MO_1562	22p11.2-PTEN	15	22p11.2	na	NM_000314.6	3	Breast Invasive Ductal Carcinoma
	Junction sequence	CAGTTGATAGAAGTCTGGCAACTATCCCAAGTTTAATAAATAAGCAAATG			GTTTTTGGATTCAAAGCATAAAAACCATTACAAGATATACAATCTTTGTG		
MO_1563	FAT1-STPG2	42	NM_005245.3	2	NM_174952.2	10	Squamous Cell Carcinoma, NOS
	Junction sequence	CATTAGAGATGGCTCTGGCGTTGGTGTTTTCAAAATAGGTGAAGAGACAG			GTCCTGCAGCATACAATCCTGTTTTAAGGAAATCTTGCCCCATACCCTTA		
TP_2001	TMPRSS2-ERG	110	NM_001135099.1	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	CCCTGCCCCGCCCGGAGGTGAAAGCGGGTGTGAGGAGCGCGGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
TP_2009	CANT1-ETV4	281	NM_138793.3	intron 1	NM_001986.2	1	Prostate Adenocarcinoma
	Junction sequence	TTATAGCCTTGCTCAGAGTGCAGCGGCAGGCCTGGGGATGGCCTCGGGAG			CTCAGGTACCAGACAGTGATGAGCAGTTTGTTCCTGATTTCCATTCAGAA		
TP_2015	CDH1-LARS	192	NM_004360.4	intron 2	NM_020117.10	17	Breast Invasive Ductal Carcinoma
	Junction sequence	GCGCCCGATCTCGTCTGATCTCGGAAGCTAAGCAGGGTCGGGCCTGGTTA			GTACTTGGATTATGGAGAAGAGAATTGGAAGAAACAGACATCTCAGTGCT		
TP_2020	GPR179-ETV4	951	NM_001004334.3	11	NM_001986.2	5	Prostate Adenocarcinoma
	Junction sequence	AGGCAGGAGGATGACCCAGGGTCTAGGGGAACGGAAAGCTGAGAGAGCAG			CTCAGGTACCAGACAGTGATGAGCAGTTTGTTCCTGATTTCCATTCAGAA		
TP_2023	CIC-CITED1	154	NM_015125.4	20	NM_001144885.1	3	Undifferentiated High-Grade Sarcoma
	Junction sequence	CTGCCCCGCCACTGCCTCCACCCCCAGAGTCGGGGCCTGGACAGCCTGGC			TTATCCAACTTCTGCCAAGGCTCTGAAATGCCAACAACGTCGAGGCCTGC		
TP_2024	ZFHX3-21p11.2	13	NM_006885.3	2	21p11.2	na	Small Cell Lung Cancer
	Junction sequence	CTGGGAAACGGGGCGCGGCTGGAAAGGCGGCCGCCCCCTCGCCCGTCACG			TCGTCTACCAGCCGGACGGCTCCGCGTACATTGTGGAGAGCCTGAGCCAG		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
TP_2028	EZH2-ZNF425	71	NM_004456.4	3	NM_001001661.2	2	Sebaceous Carcinoma
	Junction sequence	AGCCTGTGCACATCCTGACTTCTGTGAGCTCATTGCGCGGGACTAGGGAG			GTAACTGTGACATTTGATGATGTGGCCTTATATTTTTCGGAACAAGAGTG		
TP_2032	SMARCA1-1q32.1	41	NM_003069.4	19	1q32.1	na	Prostate Adenocarcinoma
	Junction sequence	AGCTCCTGGAAAAGGAAATTCTTTATTATCGGAAGACAATAGGCTATAAG			TGGCATTTTTCACTTGAATGATTCTGCTTCGTGCAACATCAGGATAAGCA		
TP_2034	TMPRSS2-ERG	153	NM_005656.3	1	NM_004449.4	2	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GTTATTCCAGGATCTTTGGAGACCCGAGGAAAGCCGTGTTGACCAAAAGC		
TP_2034	TP53-21q22.2	29	NM_000546.5	9	21q22.2	na	Prostate Adenocarcinoma
	Junction sequence	CTCCCCAGCCAAAGAAGAAACCACTGGATGGAGAATATTTCACCCTTCAG			GTAAATCCAATCCTCCAAATGAAGGAAAACAACTACGAAAATATTTTAGG		
TP_2037	TMPRSS2-DSCAM-ERG	135	NM_005656.3	1	NM_001389.3	17	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GCTCCCAAGAAACATTTGCAAAATGGGATTATCCGTGGCTACCAAATAGG		
TP_2037	TP53-NKIRAS2	24	NM_000546.5	1	NM_017595.5	2	Prostate Adenocarcinoma
	Junction sequence	TCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGG			GTTGAAAACTAAGCATGGGGAAGAGCTGCAAGGTGGTCGTGTGTGGCCAG		
TP_2043	NAB2-STAT6	394	NM_005967.3	2	NM_003153.4	2	Solitary Fibrous Tumor
	Junction sequence	GACCTTCATCCAGCAGGGAGGGGACGACGTGCAGCAGCTGTGTGAGGCGG			GCAACCTCCAAGTCCCAGATCATGTCTCTGTGGGGTCTGGTCTCCAAGAT		
TP_2050	NFATC2-EYA2	12	NM_012340.4	5	NM_005244.4	6	Seminal Vesicle Carcinoma
	Junction sequence	CAGTGGCAGAATCGTCTCTTTACAGACTGCATCTAACCCCATCGAGTGCT			GCACAACAGGGTTCTATCAAGGAGGAAATGGACTGGGCAACGCAGCCGGT		
TP_2050	SMARCC1-MAP4	7	NM_003074.3	11	NM_002375.4	11	Seminal Vesicle Carcinoma
	Junction sequence	GCACCTGTATCCCAGCTGAAACGAGAGGCTGAGGTGGGAGTATCACTTGA			GCAACAGCAGCAGCTGTTGTGGTTTTTGCAACAGTCTGAGTGCTCTTGGA		
TP_2052	EML4-ALK	60	ENST00000401738.3	7	NM_004304.4	20	Poorly Differentiated Non-Small Cell Lung Cancer
	Junction sequence	TGTCATCATCAACCAAGCAAAAATGTCAACTCGCGAAAAAAACAGCCAAG			TGTACCGCCGGAAGCACCAGGAGCTGCAAGCCATGCAGATGGAGCTGCAG		
TP_2054	TMPRSS2-ERG	36	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
TP_2059	CDKN2A-9p21.1	4	NM_058195.3	1	9p21.1	na	Extramammary Paget Disease
	Junction sequence	GCTACTGAGGAGCCAGCGTCTAGGGCAGCAGCCGCTTCCTAGAAGACCAG			TGAGAAGAGAAGTACTTTGATAAAATGTGGCTTTCGGCGACCCCACCCTG		
TP_2060	PTEN-PRAMEF2	12	NM_000314.6	4	NM_023014.1	4	Prostate Adenocarcinoma
	Junction sequence	CAATCTTTGTGCTGAAAGACATTATGACACCGCCAAATTTAATTGCAGAG			GTGCCTCCAGAACCCCTTGGAGAACTTGGAATTAACTTGTGGCAACCTAT		
TP_2061	TBL1XR1-PIK3CA	452	NM_024665.5	1	NM_006218.3	2	Prostate Carcinosarcoma
	Junction sequence	TGCCTCCATTCCCGGGAGGGGGGAGCGGCGTTGGAGGCCACCGTTTCCAG			GTTTCTGCTTTGGGACAACCATACATCTAATTCCTTAAAGTAGTTTTATA		
TP_2064	NF1-19q13.2	12	NM_000267.3	35	19q13.2	na	Prostate Adenocarcinoma
	Junction sequence	GCTGGGACTTCCAAAGCTGGGAATCCTATTTTTTATTATGTTGCACGGAG			CGCACACCTGCCGATTCTGGCTGATCTCGGAATACGCTCATGCATCGGGG		
TP_2065	NF2-KCNMB3P1	159	NM_000268.3	1	NM_014407.3	3	Glioblastoma Multiforme
	Junction sequence	TCACCGTGAGGATCGTCACCATGGACGCCGAGATGGAGTTCAATTGCGAG			CATTCGGAGAGAAGAATCAACCTGCACTGCCATCCACACAGATATCATGG		
TP_2067	PTEN-10p12.31	11	NM_000314.6	intron 1	10p12.31	na	Uterine Leiomyosarcoma
	Junction sequence	ATCAGGTGAGGGTAACTACCATGGTTTGTTTGCTATACTGTGTTAGGGTT			ATTACGGTGGGATGACCAGCTTCTTCATGTGCTATGCAAATGTCACACCT		
TP_2069	TMPRSS2-ERG	264	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
TP_2072	BBS9-BRAF	7	NM_014451.3	17	NM_004333.4	4	Solitary Fibrous Tumor
	Junction sequence	CTGCCCCTCTTCAACACCTGGACACCTTGTTAGATGGAACCTACAAGCAG			GTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCTAAAGAAAGCACT		

Supplementary Table 6 cont. Pathogenic Fusions in the Metastatic 500 Cohort

CASE	FUSION	READS	5' ACCESSION	5' EXON	3' ACCESSION	3' EXON	CANCER TYPE
TP_2072	NAB2-STAT6	1831	NM_005967.3	6	NM_003153.4	17	Solitary Fibrous Tumor
	Junction sequence	CCGCGTGGGCCGCCTCAGCCCCTGTGTGCCTGCGAAGCCACCTCTCGCAG			CTGAACAGATGGGTAAGGATGGCAGGGGTTATGTCCCAGCTACCATCAAG		
TP_2073	SAV1-ABHD12D	14	NM_021818.3	4	NM_001206673.1	10	Pleural Mesothelioma
	Junction sequence	ACTGCAGAAATTCCTGACTGGCTTCAGGTTTACGCACGAGCCCCTGTGAA			ATTTACCGGAACATTCCAGGATTTTTACGTACACTTATGGATGCCCTGAG		
TP_2075	NAB2-STAT6	1137	NM_005967.3	6	NM_003153.4	17	Solitary Fibrous Tumor
	Junction sequence	CCGCGTGGGCCGCCTCAGCCCCTGTGTGCCTGCGAAGCCACCTCTCGCAG			CTGAACAGATGGGTAAGGATGGCAGGGGTTATGTCCCAGCTACCATCAAG		
TP_2077	TMPRSS2-ERG	441	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
TP_2079	TMPRSS2-ERG	694	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
TP_2090	DDX17-ETV1	287	NM_006386.4	1	NM_004956.4	9	Prostate Adenocarcinoma
	Junction sequence	ATGCGCGGAGGAGGCTTTGGGGACCGGGACCGGGATCGTGACCGTGGAGG			ATTTCGCCGCCAGCTTTCTGAACCCTGTAACTCCTTTCCTCCTTTGCCGA		
TP_2093	TMPRSS2-ERG	213	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
TP_2096	TMPRSS2-ERG	312	NM_005656.3	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	AGGCGGAGGCGGAGGGCGAGGGGCGGGGAGCGCCGCCTGGAGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		
TP_2102	APC-DPYSL3	10	NM_000038.5	7	NM_001197294.1	2	Undifferentiated Pleomorphic Sarcoma
	Junction sequence	ACATACTTCGTATACGACAGCTTTTACAGTCCCAAGCAACAGAAGCAGAG			GTTCTCCTTTAAGGAAAATTGAGAACCAAGGGCATGAAGAGTTGCCTGGC		
TP_2102	3p26.3-BRAF	5	3p26.3	na	NM_004333.4	4	Undifferentiated Pleomorphic Sarcoma
	Junction sequence	AAAACACCGACAACCCAAAGGATGGGATTTTACGTCAAGACATCTCCCAG			GTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCTAAAGAAAGCACT		
TP_2102	SSH2-TP53	106	NM_001282129.1	1	NM_000546.5	7	Undifferentiated Pleomorphic Sarcoma
	Junction sequence	CGGTCCAGCGGTCACCTACCCCCAGCACCACCTCCAGCCCCTGCGCCTCG			GTTGGCTCTGACTGTACCACCATCCACTACAACTACATGTGTAACAGTTC		
TP_2156	RB1-ELMOD3	20	NM_000321.2	2	NM_001135021.1	12	Prostate Adenocarcinoma
	Junction sequence	AGAGAGCTTGGTTAACTTGGGAGAAAGTTTCATCTGTGGATGGAGTATTG			GAGCGAATCCAGCCACAGACCTGAGAGGCGCAGGCTTCCTTGCCCTCCTG		
TP_2156	TMPRSS2-ERG	2	NM_001135099.1	1	NM_004449.4	4	Prostate Adenocarcinoma
	Junction sequence	CCCTGCCCCGCCCGGAGGTGAAAGCGGGTGTGAGGAGCGCGGCGCGGCAG			GAAGCCTTATCAGTTGTGAGTGAGGACCAGTCGTTGTTTGAGTGTGCCTA		

Supplementary Table 7. Immune Cell Infiltration Analyses

CASE	Biopsy site	Cancer	Cohort	Tumor Content	STROMA Score	Mimm Score	Immune Cluster	APC Cluster	T-cell Cluster	Infiltration Nomination	# TCRb templates	# TCRb clones
TP_2069	Lymph Node	Prostate Adenocarcinoma	PRAD	0.54	39.9	74.8	5	1	1	positive	93459	21684
MO_1183	Subcut. Nodule	Cutaneous Melanoma	SKCM	0.58	67.6	195.4	7	1	1	positive	87642	13200
MO_1135	Rectus Muscle	Bladder Urothelial Ca.	BLCA	0.58	74.8	154.2	5	1	1	positive	66695	3768
MO_1188	Lymph Node	Breast Ductal Carcinoma	BRCA	0.3	-38.4	147.4	5	1	1	positive	274016	33552
MO_1533	Subcut. Nodule	Breast Ductal Carcinoma	BRCA	0.58	8.7	170.1	5	1	1	positive	105473	21099
MO_1146	Subcut. Nodule	Cutaneous Melanoma	SKCM	0.35	60.7	129.5	5	1	1	positive	174078	35432
MO_1374	Breast	Cutaneous Melanoma	SKCM	0.42	6.3	159.1	5	1	1	positive	121675	12557
MO_1187	Liver	Oral Squamous Cell Ca.	HNSC	0.69	-169.4	-180.0	1	0	0	negative	3483	1969
MO_1458	Soft Tissue	Serous Ovarian Cancer	MISC	0.6	-70.6	-152.6	1	0	0	negative	7697	3587
MO_1277	Bone	Prostate Adenocarcinoma	PRAD	0.86	-58.4	-149.0	2	0	0	negative	1111	920
MO_1202	Liver	Prostate Adenocarcinoma	PRAD	0.52	-79.7	-144.1	6	0	0	negative	16901	6285
MO_1482	Liver	Prostate Neuroendocrine	PRAD	0.85	-134.5	-135.5	3	0	0	negative	1695	960
MO_1449	Lung	Ewing Sarcoma	SARC	0.25	-65.8	-187.4	1	0	0	negative	1295	802
MO_1220	Lymph Node	Small-Round-Cell Tumor	SARC	0.34	-64.1	-182.2	6	0	0	negative	4917	2907