Supplementary Information for

Molecular Profiling of 888 Pediatric Tumors Informs Future Precision Trials and Data Sharing Initiatives in Pediatric Cancer

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Table of Consents

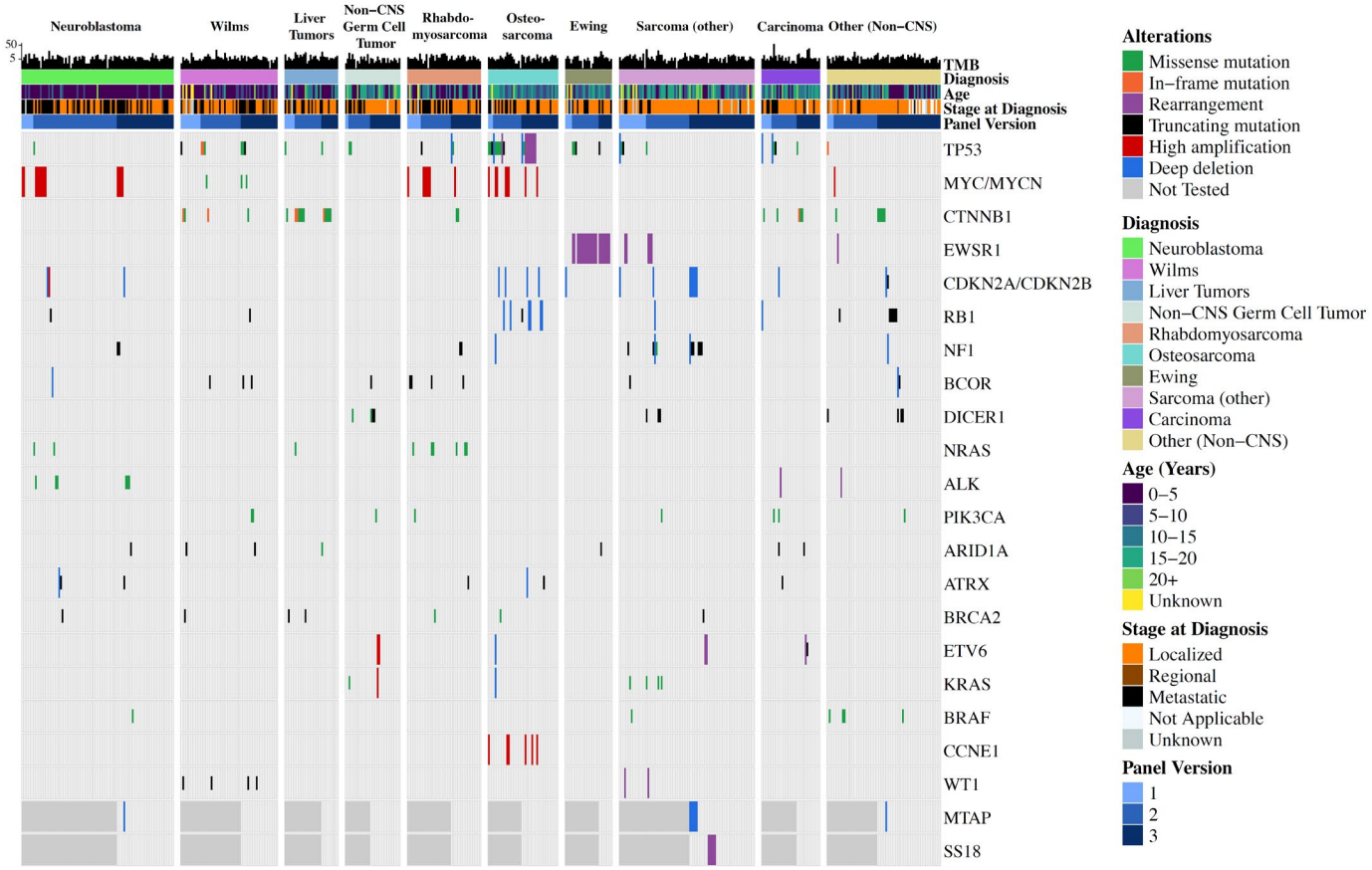
Supplementary Table 1. Frequency of Targeted Therapy Matching Variant by Diagnosis Sub-Group

	Total # of Pts in Group	Matched Pts in Group	Frequency
Glioneuronal Tumor	19	17	89.47%
High Grade Glioma	63	44	69.84%
Pilocytic Astrocytomas	51	33	64.71%
Low Grade Glioma	79	41	51.90%
Rhabdomyosarcoma	44	18	40.91%
CNS Germ Cell Tumor	10	4	40.00%
Carcinoma	35	11	31.43%
Sarcoma (other)	81	22	27.16%
Medulloblastoma	55	14	25.45%
Neuroblastoma	91	22	24.18%
Osteosarcoma	42	10	23.81%
Other (Non-CNS)	68	16	23.53%
Meningioma	9	2	22.22%
Liver Tumors	32	6	18.75%
Non-CNS Germ Cell Tumor	33	6	18.18%
Other (CNS)	51	8	15.69%
Ependymoma	39	6	15.38%
Wilms	58	7	12.07%
Ewing	28	2	7.14%

Supplementary Table 2. Activating PIK3CA Gene Alterations and ARID1A Inactivating Alterations Present in Cohort

Gene	Protein Change	DNA Change	Diagnosis Group	Diagnosis Name
ARID1A	p.Q2037*	c.6109C>T	Carcinoma	Transitional cell carcinoma
ARID1A	p.R1742Sfs*21	c.5226_5249delAACGCTACT GGATCCTGGGAGGTTinsTC	Carcinoma	Adenocarcinoma, metastatic
ARID1A	p.Q543*	c.1627C>T	Ewing	Ewing sarcoma
ARID1A	p.Q1552*, p.W1670*	c.4654C>T, c.5010G>A	High Grade Glioma	Glioblastoma
ARID1A	p.Y815*	c.2445T>A	High Grade Glioma	Glioblastoma
ARID1A	p.G2087E	c.6260G>A	Liver Tumors	Hepatoblastoma
ARID1A	p.G2087V	c.6260G>T	Medulloblastoma	Medulloblastoma
ARID1A	p.G277Afs*111	c.828_862delAGGCGGCCCC TCCGCGGCCGGCGGGGGA ACTCCCC	Neuroblastoma	Neuroblastoma
ARID1A	p.E2250Rfs*28	c.6746_6747insA	Wilms	Wilms Tumor
ARID1A	p.E1774*	c.5320G>T	Wilms	Wilms Tumor
PIK3CA	p.H1047R	c.3140A>G	Carcinoma	Adenocarcinoma
PIK3CA	p.E542K	c.1624G>A	Carcinoma	Transitional cell carcinoma
PIK3CA	p.E542K	c.1624G>A	Ependymoma	Ependymoma, anaplastic
PIK3CA	p.R38H	c.113G>A	High Grade Glioma	Glioblastoma
PIK3CA	p.E542K, p.R88Q	c.1624G>A, c.263G>A	High Grade Glioma	Astrocytoma anaplastic
PIK3CA	p.R93Q, p.T1025A, p.C378W	c.278G>A, c.3073A>G, c.1134T>G	High Grade Glioma	Glioblastoma
PIK3CA	p.R88Q, p.Y1021H	c.263G>A, c.3061T>C	High Grade Glioma	Glioblastoma
PIK3CA	p.E545K	c.1633G>A	Low Grade Glioma	Astrocytoma, Low Grade
PIK3CA	p.H1047L	c.3140A>T	Medulloblastoma	Medulloblastoma
PIK3CA	p.E542K	c.1624G>A	Medulloblastoma	Medulloblastoma
PIK3CA	p.E545K	c.1633G>A	Medulloblastoma	Medulloblastoma
PIK3CA	p.E542K	c.1624G>A	Non-CNS Germ Cell Tumor	Germinoma
PIK3CA	p.H1047R	c.3140A>G	Other (CNS)	CNS embryonal tumor
PIK3CA	p.E545K	c.1633G>A	Other (Non-CNS)	Epithelioid hemangioendothelioma
PIK3CA	p.E545K	c.1633G>A	Rhabdomyosarcoma	Embryonal rhabdomyosarcoma
PIK3CA	p.C420R	c.1258T>C	Sarcoma (other)	Myxoid liposarcoma
PIK3CA	p.C420R	c.1258T>C	Wilms	Wilms Tumor
PIK3CA	p.N1044Y, p.M1043I	c.3130A>T, c.3129G>T	Wilms	Wilms Tumor

Supplementary Figure 1. OncoPrint showing most common oncogenic alterations in the Extracranial solid tumors (n=512) across the entire analytic cohort



Supplementary Figure 2. OncoPrint showing most common oncogenic alterations in the CNS tumors (n=376) across the entire analytic cohort