

Supplemental Figures for:
 Targetable BRAF and RAF1 alterations in advanced pediatric cancers
 Andrew Rankin et al.

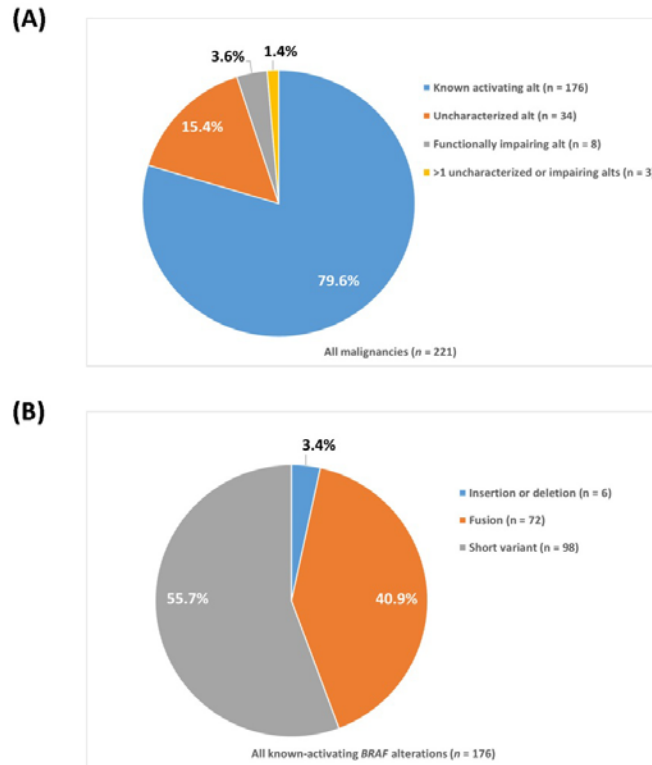


Figure S1. Distribution of *BRAF* alteration types in pediatric cancers according to known functional status **(A)**, and by alteration type within the cohort bearing a known-activating alteration **(B)**. Abbreviations: alt, alteration

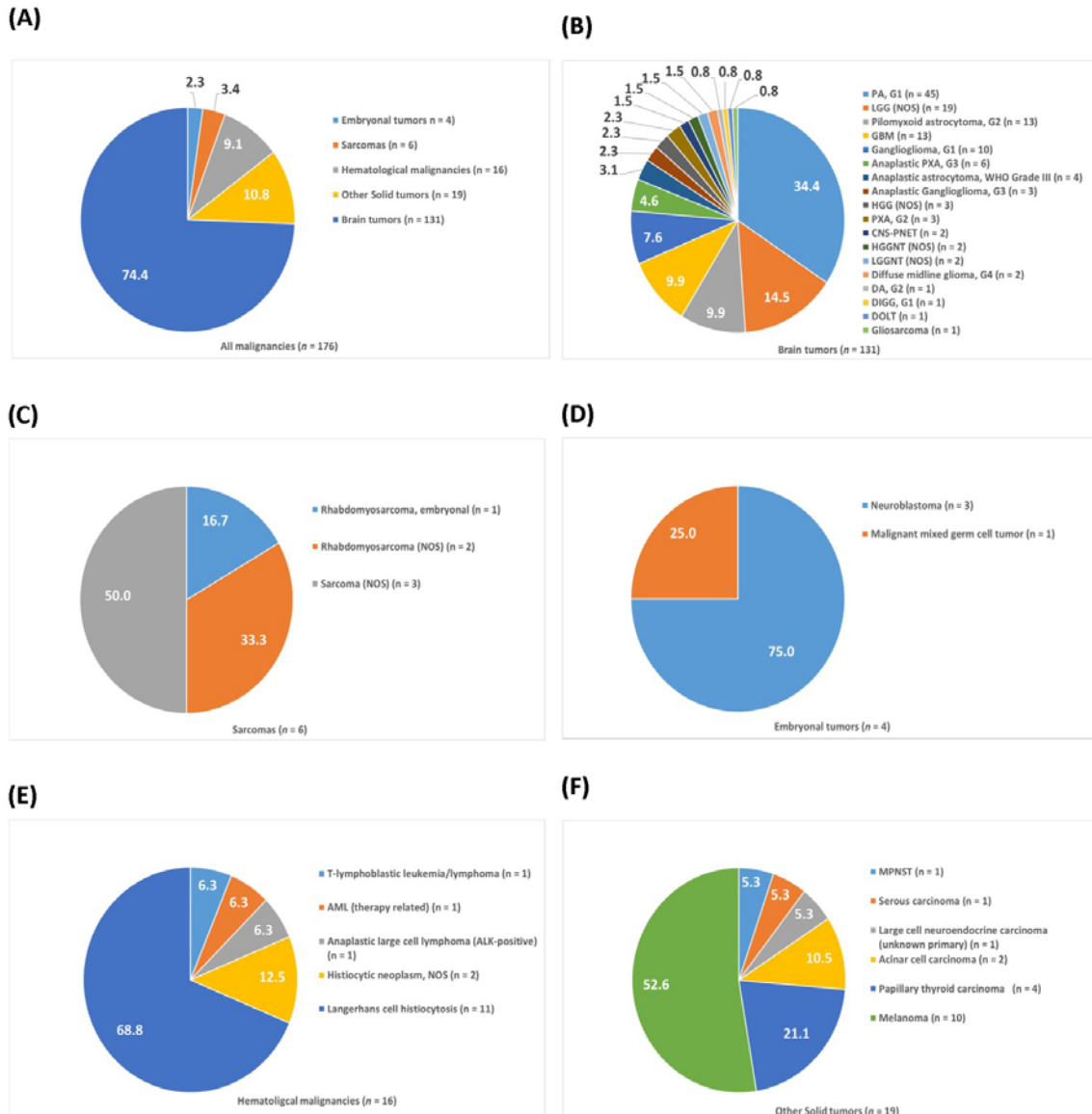
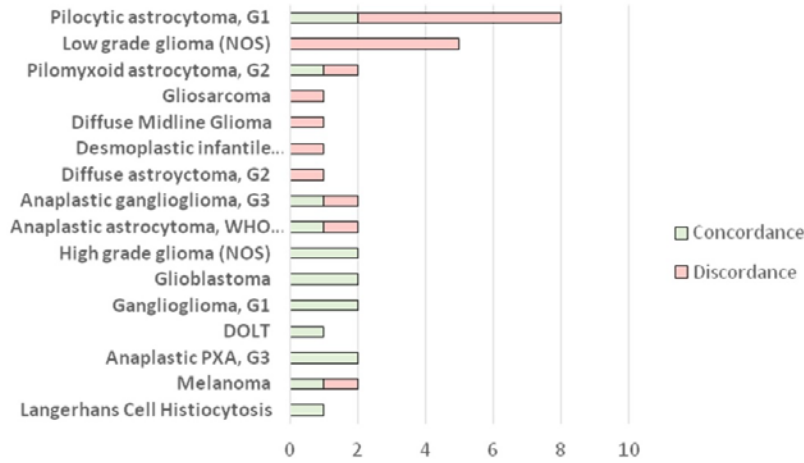


Figure S2. Distribution of cancer types with known-activating *BRAF* alteration. **(A)** Samples were grouped into one of five major categories. Each major category was subsequently divided into multiple subcategories pertaining to diagnosis. **(B)** Brain tumors contained 18 subtypes, **(C)** Sarcomas contained 3 subtypes, **(D)** Embryonal tumors contained 2 subtypes, **(E)** Hematological malignancies contained 5 subtypes, and **(F)** other solid tumors included 6 subtypes. Abbreviations: CNS-PNET, central nervous system-primitive neuroectodermal tumor; DA, diffuse astrocytoma; DIGG, desmoplastic infantile ganglioglioma; DOLT, disseminated oligodendroglial-like leptomenigeal tumor; GBM, glioblastoma; HGG, high grade glioma; HGGNT, high grade glioneuronal tumor; LGG, low-grade glioma; LGGNT, low grade glioneuronal tumor; MPNST, malignant peripheral nerve sheath tumor; NOS, not otherwise specified; PA, pilocytic astrocytoma; PXA, pleomorphic xanthoastrocytoma

(A)

Prior BRAF Testing Concordance with CGP testing



(B)

Number of patients with BRAF mutation identified with CGP

Disease	Alteration identified by CGP	Prior BRAF testing methodology	Prior BRAF testing result
Pilocytic astrocytoma, G1	KIAA1549-BRAF	Unknown methodology for BRAF fusion and V600E	Positive for BRAF fusion; Negative for BRAF V600E
Pilocytic astrocytoma, G1	KIAA1549-BRAF	FISH and Pyrosequencing for KIAA1549-BRAF	Positive for BRAF fusion
Pilocytic astrocytoma, G1	KIAA1549-BRAF	IHC for V600E	Indeterminate for BRAF V600E
Pilocytic astrocytoma, G1	KIAA1549-BRAF	IHC for V600E	Negative for BRAF V600E
Pilocytic astrocytoma, G1	KIAA1549-BRAF	PCR for V600E	Negative for BRAF V600E
Pilocytic astrocytoma, G1	KIAA1549-BRAF	IHC for V600E and NGS panel including BRAF	Negative for BRAF V600E or other BRAF mutation
Pilocytic astrocytoma, G1	KIAA1549-BRAF	IHC for V600E	Negative for BRAF V600E
Pilocytic astrocytoma, G1	QKI-RAF1	IHC for V600E	Negative for BRAF V600E
Disease	Alteration identified by CGP	Prior BRAF testing methodology	Prior BRAF testing result
Low grade glioma (NOS)	V600E	FISH for BRAF rearrangement	Negative for BRAF rearrangement
Low grade glioma (NOS)	T599_V600insT	Multigene sequencing hotspot panel including BRAF	Negative for BRAF mutation
Low grade glioma (NOS)	V600E	FISH for BRAF rearrangement	Negative for BRAF rearrangement
Low grade glioma (NOS)	KIAA1549-BRAF	NGS gene panel including BRAF	Negative for BRAF mutation
Low grade glioma (NOS)	KIAA1549-BRAF	Hotspot testing for V600E	Negative for BRAF V600E

Figure S3. Comparison of BRAF molecular testing results (A) Concordance/discordance of prior BRAF molecular testing with CGP across pediatric malignancy. (B) Detailed analysis of prior BRAF molecular testing in PA and LGG (NOS). Abbreviations: CGP, comprehensive genomic profiling; DOLT, disseminated oligodendroglial-like leptomeningeal tumor; NOS, not otherwise specified; PA, pilocytic astrocytoma; PXA, pleomorphic xanthoastrocytoma; WHO, world health organization.