Supplemental Figures and Table for Mannakee et al. "Sensitive and specific post-call filtering of genetic variants in xenograft and primary tumors"

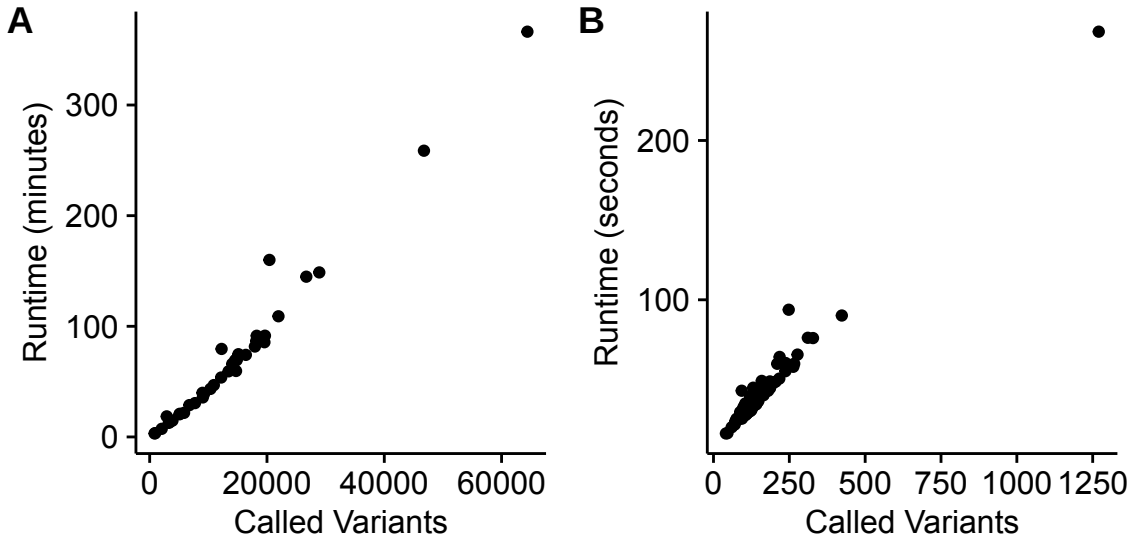

Figure S1: `mapexr` timing for A: xenografts and B: primary tumors. Shown are results from running on 4 cores and filtering all MuTect 1.1.1 calls for each sample. Run time is linear in the number of input variants, roughly one minute per 250 variants. One strategy for reducing run time is to first filter to keep only variants of interest, such as non-synonymous coding variants.

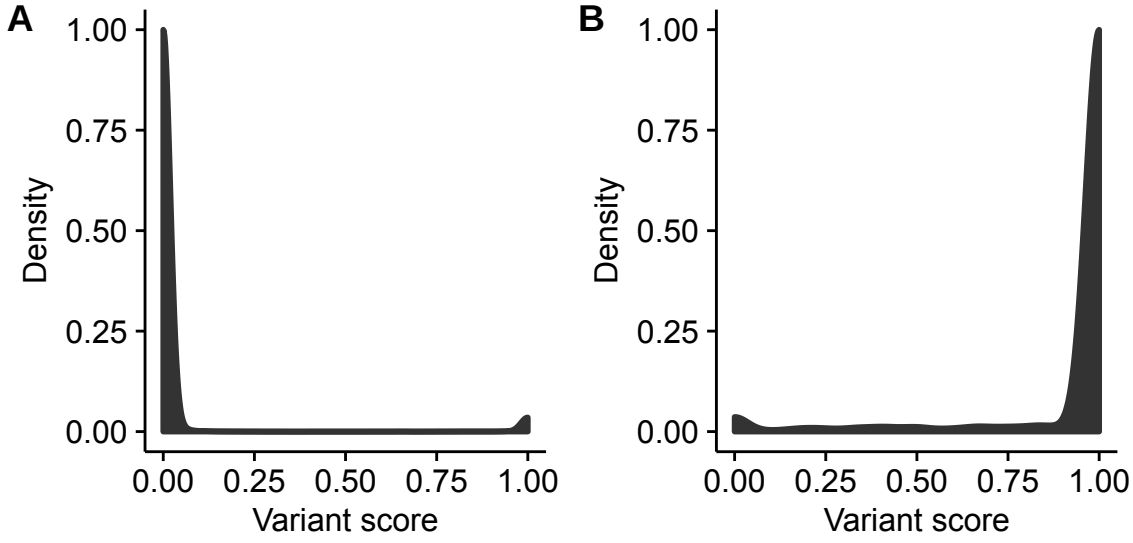

Figure S2: Distribution of MAPEX variant scores when using MuTect 1.1.1 for calling. A: n=34 PDX samples and B: n=93 primary samples.

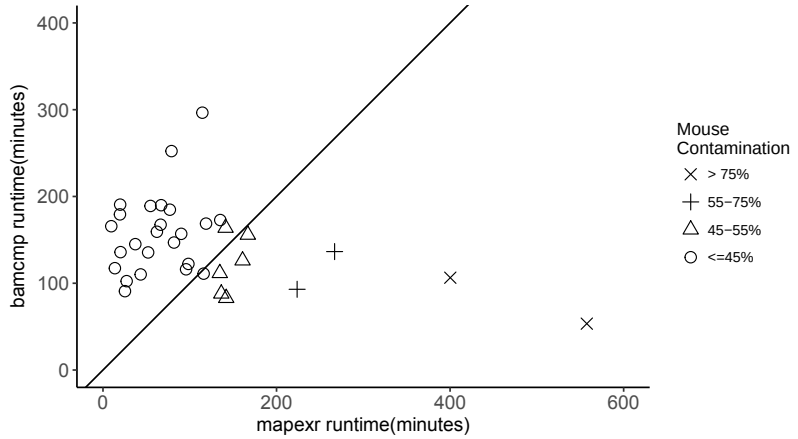

Figure S3: Comparison of the post-alignment run time between `bamcmp` and `mapexr`. The comparison was run on 4 cores. Except at extreme levels of mouse contamination, `mapexr` is faster than `bamcmp`.

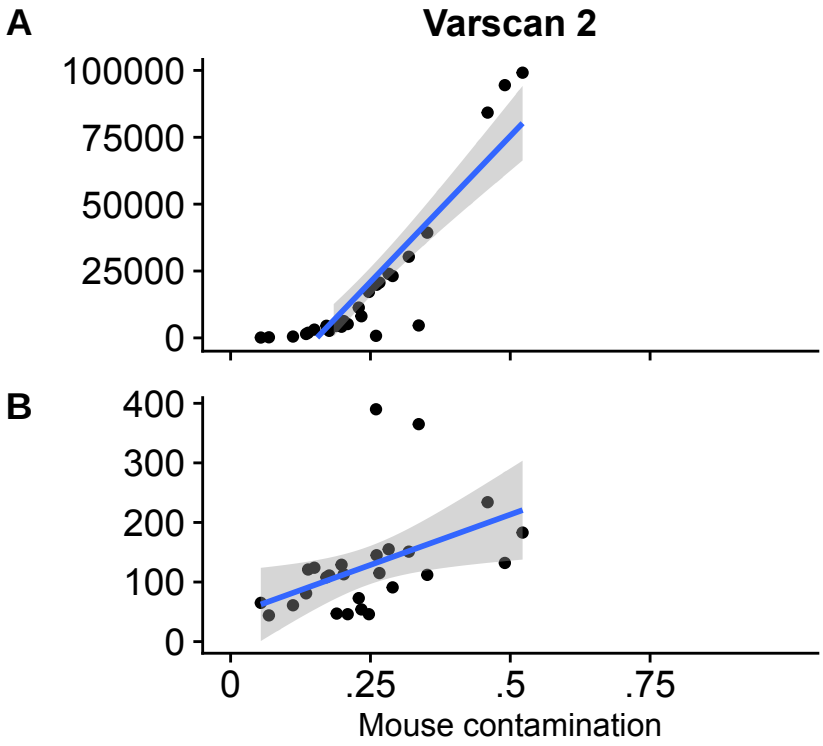

Figure S4: Xenograft analysis for Varscan 2 without additional post-calling filters. Without post-calling filters, Varscan 2 generates a very large number of calls, and the number of variants called after MAPEX filtering is positively correlated with mouse contamination. (Two samples are not included because the unfiltered callset was over 200,000 variants, and thus too large for `mapexr` to run in a reasonable time.)

Table S1: MAPEX removes many potentially spurious PDX variants and retains almost all likely real variants that are also found in the primary.

	Total variants in PDX		Primary variants in PDX		
PDX	Before MAPEX	After MAPEX	Before MAPEX	After MAPEX	Fraction retained by MAPEX
EMC1229x1a1	2086	30	7	7	1.00
EMC828o3a5	1734	46	27	27	1.00
EMC828x2a3	1417	45	28	28	1.00
EMC828x2b2	1461	50	29	29	1.00
EMC828x3b1	228	37	29	29	1.00
EMC129x2b1	688	31	28	28	1.00
EMC1222o2a1	162	62	38	38	1.00
EMC1222o2a2	415	55	38	37	0.97
EMC1222o2a3	556	58	39	38	0.97
EMC1222o2a3duodenalMet	814	54	37	36	0.97
EMC1222o2a3omentalMet	390	50	38	37	0.97
EMC1222o2a3peritonealMet	379	57	38	37	0.97
EMC1222o2a3skinMet	951	59	38	37	0.97
EMC1222o2a3spleenMet	1508	62	38	37	0.97
EMC1222x1b1	639	52	39	39	1.00
EMC1222x3a1	545	69	38	37	0.97
EMC1222x3c2	157	64	38	38	1.00
EMC226o1a5	1495	78	64	64	1.00
EMC226o1a5met	2820	77	63	62	0.98
EMC226x1a1	1229	71	64	64	1.00
EMC226x1a2	1468	72	67	66	0.99
EMC26o1a2	1828	30	17	17	1.00
EMC29o1a1	6559	38	24	24	1.00
EMC29o1a1liverMet	4744	42	28	28	1.00
EMC29o1a1liverMet_1	2981	42	28	28	1.00
EMC29o1a1peritonealMet	1421	45	29	29	1.00
EMC29o1a1spleenMet	1154	43	28	28	1.00
EMC29o1a2	1983	41	27	27	1.00
EMC519x1a1	926	23	14	14	1.00
EMC93o2a3	1122	81	45	45	1.00
EMC93o2a3periMet	2074	65	44	44	1.00
EMC93o2a3spleenMet	2330	91	45	45	1.00
EMC93x1a1	988	92	45	45	1.00