Supplementary Materials

1. The tumor growth curves of the studied xenograft models

Xenografts mel Lap and mel Pet can be characterized as cultures with a short latent phase, during which 100% of tumors were achieved (the average volume of mel Lap was 116.8±11.8 mm^3 by the 3rd day and for mel Pet 47.9±15.2 mm^3 by the 7th day). Exponential growth phases were also short and were 18 and 7 days for mel Lap and mel Pet, respectively (average volume of mel Lap was 116.8±11.8 mm^3 and for Mel Pet 47.9±15.2 mm^3).

The stationary phases in these models were also short: for mel Lap and for mel Pet, they were 10 and 7 days, respectively, with the volumes being 331±69.8 mm^3 for mel Lap and 296.8±67.8 mm^3 for mel Pet. The duration of the growth phases of the mel Kas xenograft model was longer than that of mel Lap and mel Pet and lasted 14 days (latent period, Vavg=22.8±5.6 mm^3), 29 days (exponential growth phase, Vavg=261.5±20.7 mm^3), and 2 days (stationary phase, Vavg=325.8±46.6 mm^3).

With the next passage, a trend towards a reduction in the duration of tumor emergence was observed for all models to 2 and 3 days for mel Lap and mel Pet, respectively, and 6 days for mel Pet. By the end of the observation period, mel Lap and mel Pet tumors had reached the following volumes: 139.6±62.0 mm^3 by day 37 after implantation of mel Lap cell suspension and 1321.4±803.6 mm^3 by day 21 after implantation of mel Pet cell suspension. Mel Kas tumors disappeared from the 6th to the 16th day, and the model was considered non-reproducible.

Table S1. Comparison of the duration of growth periods of xenograft models of primary cell cultures mel Kas, mel Lap and mel Pet.

			mel Kas	mel Pet	mel Lap
1st passage	Latent period	24-hour period after transplantation	14	7	3
		Mean volume, mm^3	22.8±5.6	47.9±15.2	116.8±11.8
	Exponential growth phase	24-hour period after transplantation	43	14	21
		Mean volume, mm^3	261.5±20.7	190.7±67.8	241.4±35.8
	Stationary phase	24-hour period after transplantation	45	21	24
		Mean volume, mm^3	325.8±46.6	296.8±67.8	331±69.2
2nd passage	Latent period	24-hour period after transplantation	6	3	2
		Mean volume, mm^3	9.4±4.7	68.8±4.3	101.8±12.2
	Exponential growth phase	24-hour period after transplantation	No (tumor has resolved)	21	34
		Mean volume, mm^3		1321.4±803.6	114.4±66.9
	Stationary phase	24-hour period after transplantation	No (tumor has resolved)	Tumors were harvested in the exponential growth phase	37
		Mean volume, mm^3		Tumors were harvested in the exponential growth phase	139.6±62.0
Tumorigenicity			Yes	Yes	Yes
Reproducibility			No	Yes	Yes

2. Mutation Analysis

Table S2. On-target coverage summary.

Cell line	mel Kas	mel Lap	mel Pet
Mean coverage on target regions, %	96.4	76.3	75.8
Coverage at > 10x depth, %	96.2	95.3	95.2

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Table S3. Single nucleotide variants (SNVs) summary.

	mel Kas	mel Lap	mel Pet
Total SNVs detected	77652	78812	59965
SNVs after filtering	11589	13003	8379
Coding SNVs after filtering	4147	4874	3027
Non-synonymous variants (NS)	2517	3013	1909
Synonymous variants (S)	1630	1861	1118
HC:C/ NS:S ratio	1.5	1,6	1.7
Tumor mutational burden* (variants per 1 Mb)	45	63	35

*TMB was calculated as the rate of non-synonymous variants (minus variants present in the database dbSNP common) per Mb of the exome (35.8 Mb).

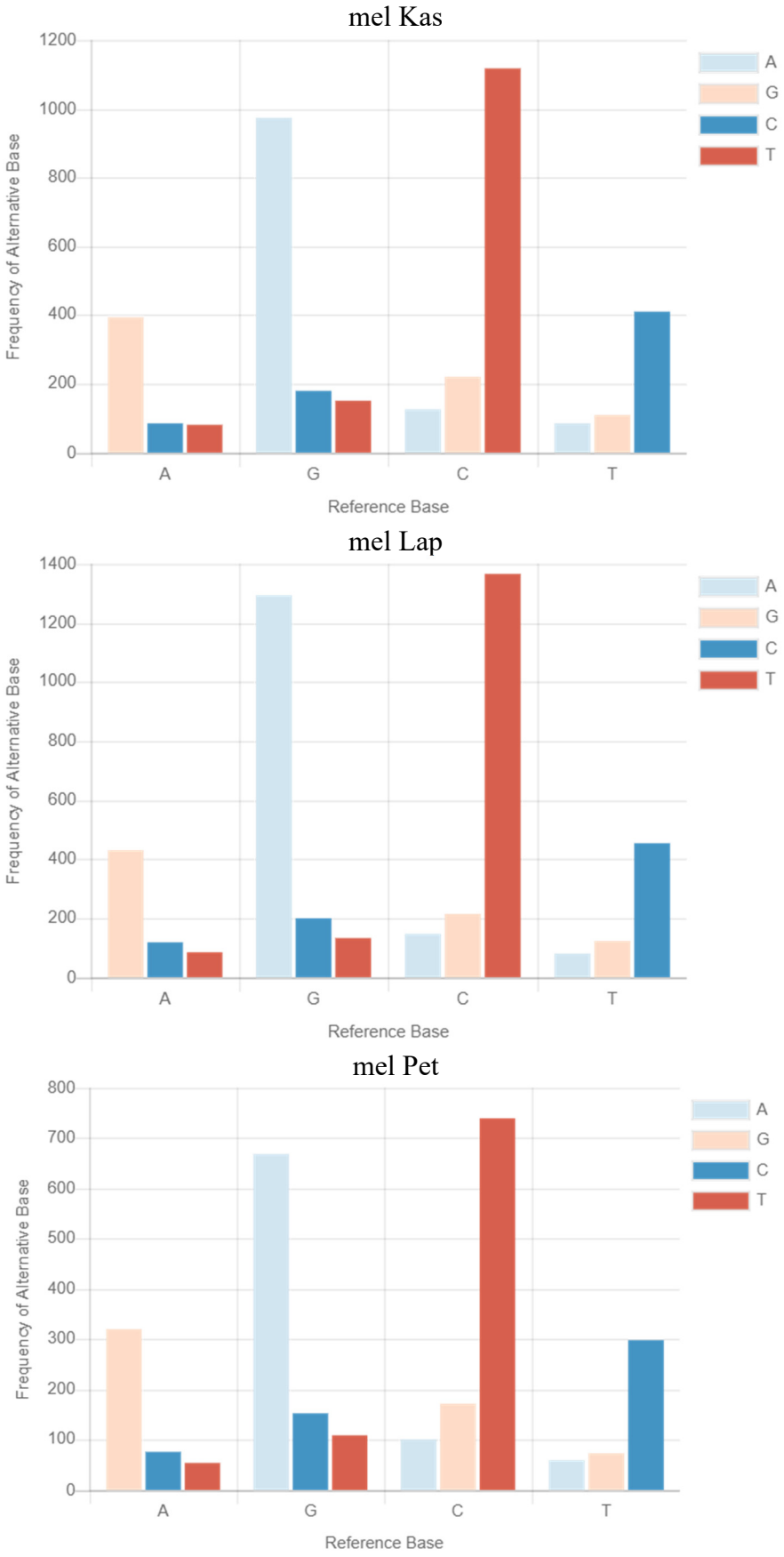

Figure S1. Patterns of nucleotide substitutions. On the abscissa axis - the base in the GRCh37 reference genome, on the ordinate axis - frequency of an alternative base. The bar color corresponds to the nucleotide substitution presented in the figure legend.