

Supplementary Information

Supplementary Table 1. Omics analyses performed in each in silico study

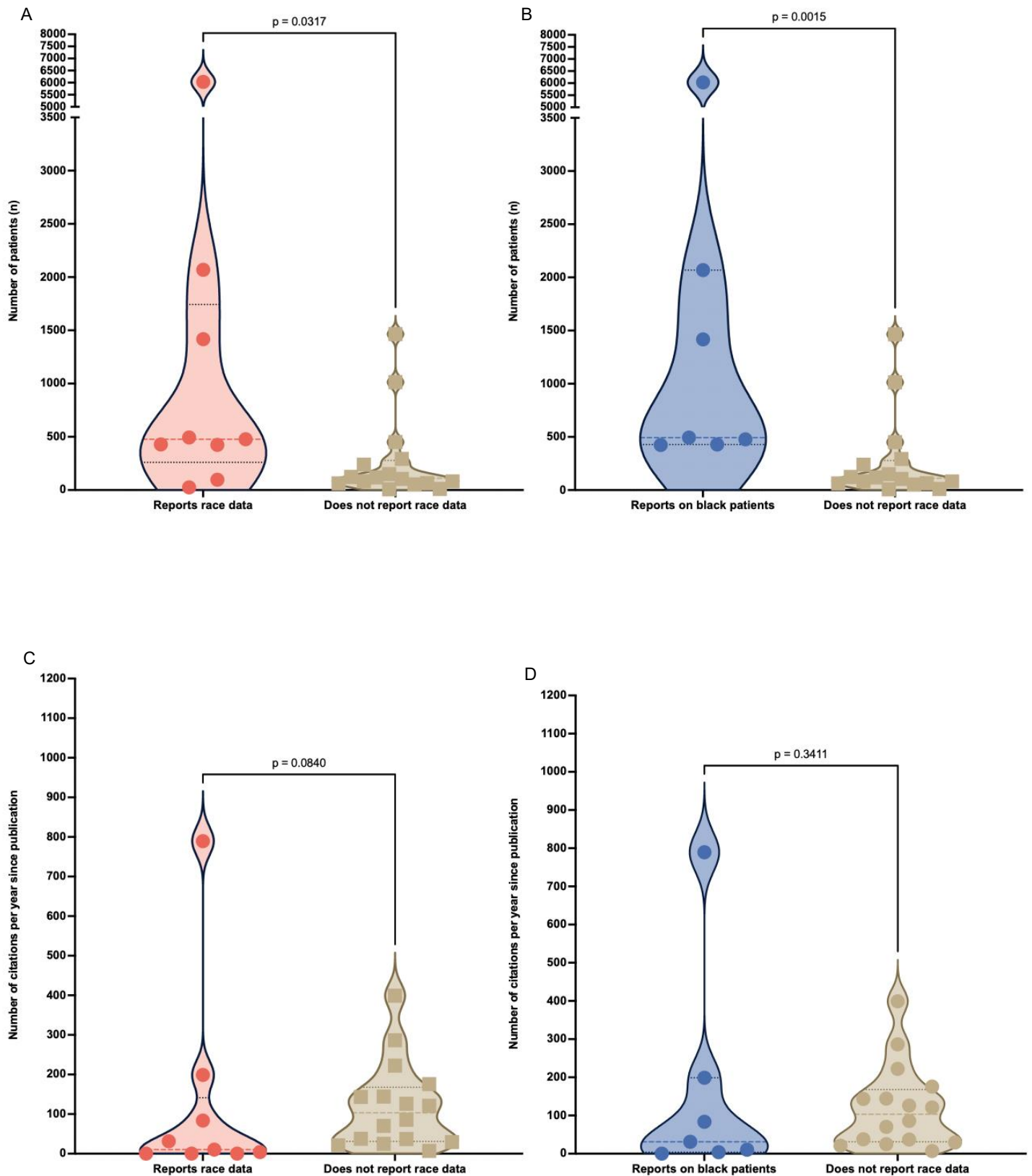
Study	Does study report race data?	Does study report Black patients?	Genomic								Transcriptomic	Clinical		Microbiome signatures	Protein expression	Genetic ancestry
			Mutations	Putative copy number alterations	log-2 copy number values	Structural variants	Microsatellite Instability	DNA methylation	Tumour mutation burden (TMB)	Exome sequencing	mRNA expression	Gleason score	Prostate-specific antigen (PSA) levels			
Prostate Cancer (DKFZ, Cancer Cell 2018)	--	--	✓	--	--	--	--	--	✓	--	✓	✓	✓	--	--	--
Prostate Cancer (MSK, Cell Metab 2020)	--	--	✓	--	--	--	--	--	✓	--	--	--	--	--	--	--
Prostate Cancer Brain Metastases (Bern, Nat Commun. 2022)	--	--	✓	--	--	--	✓	--	✓	--	--	✓	✓	--	--	--
The Metastatic Prostate Cancer Project (Provisional, June 2021)	✓	--	✓	✓	--	--	--	--	✓	--	--	✓	--	--	--	--
Metastatic Prostate Adenocarcinoma (MCTP, Nature 2012)	--	--	✓	✓	--	✓	--	--	✓	--	✓	--	✓	--	--	--
Metastatic Prostate Adenocarcinoma (SU2C/PCF Dream Team, PNAS 2019)	✓	✓	✓	✓	--	✓	--	--	✓	--	✓	--	✓	--	--	--
Metastatic Prostate Cancer (SU2C/PCF Dream Team, Cell 2015)	--	--	✓	✓	✓	✓	--	--	✓	--	✓	--	--	--	--	--
Metastatic castration-sensitive prostate cancer (MSK, Clin Cancer Res 2020)	✓	✓	✓	✓	--	✓	✓	--	✓	--	--	--	✓	--	--	--
Neuroendocrine Prostate Cancer (Multi-Institute, Nat Med 2016)	--	--	✓	--	✓	--	--	--	✓	--	✓	--	--	--	--	--
Prostate Adenocarcinoma (Broad/Cornell, Cell 2013)	--	--	✓	✓	✓	✓	--	--	✓	✓	--	✓	✓	--	--	--
Prostate Adenocarcinoma (Broad/Cornell, Nat Genet 2012)	--	--	✓	✓	--	--	--	--	✓	--	--	✓	✓	--	--	--
Prostate Adenocarcinoma (CPC-GENE, Nature 2017)	✓	✓	✓	--	--	--	--	--	✓	--	--	--	✓	--	--	--
Prostate Adenocarcinoma (Fred Hutchinson CRC, Nat Med 2016)	--	--	✓	✓	✓	--	--	--	✓	✓	✓	--	✓	--	--	--
Prostate Adenocarcinoma (MSK, Cancer Cell 2010)	--	--	✓	✓	--	--	--	--	✓	--	✓	--	--	--	--	--
Prostate Adenocarcinoma (MSK, Clin Cancer Res. 2022)	✓	✓	✓	✓	--	✓	✓	--	✓	--	--	--	--	--	--	--
Prostate Adenocarcinoma (MSK, Eur Urol 2020)	--	--	✓	✓	--	✓	✓	--	✓	--	--	--	--	--	--	--
Prostate Adenocarcinoma (MSK, PNAS 2014)	--	--	✓	✓	--	--	--	--	--	--	--	✓	✓	--	--	--
Prostate Adenocarcinoma (MSK/DFCI, Nature Genetics 2018)	--	--	✓	✓	--	✓	--	--	✓	--	--	✓	--	--	--	--
Prostate Adenocarcinoma (SMMU, Eur Urol 2017)	--	--	✓	✓	--	✓	--	--	✓	--	✓	--	✓	--	--	--
Prostate Adenocarcinoma (TCGA, PanCancer Atlas 2018*)	✓	✓	✓	✓	✓	✓	✓	✓	✓	--	✓	--	--	✓	✓	✓
Prostate Adenocarcinoma Organoids (MSK, Cell 2014)	--	--	✓	--	--	--	--	--	✓	--	✓	--	✓	--	--	--
Prostate Adenocarcinoma Organoids (MSK, Science 2022)	✓	--	✓	✓	--	✓	✓	--	✓	--	✓	--	--	--	--	--
Prostate Cancer (MSK, JCO Precis Oncol 2017)	--	--	✓	✓	--	✓	--	--	✓	--	--	✓	--	--	--	--
Race Differences in Prostate Cancer (MSK, 2021)	✓	✓	✓	✓	--	✓	--	--	✓	--	--	✓	✓	--	--	--
GENIE Cohort v15.0-public (2024)	✓	✓	✓	✓	--	✓	--	--	--	--	--	--	--	--	--	--
Total			24	19	5	14	6	1	23	2	11	9	13	1	1	1

Supplementary Table 2. Normality tests for cohort size and citations per year distributions in studies that report race, report on Black patients, and do not report race.

	D'Agostino & Pearson test		Anderson-Darling test		Shapiro-Wilk test		Kolmogorov-Smirnov test		
	p value	Passed normality test (alpha=0.05)?	p value	Passed normality test (alpha=0.05)?	p value	Passed normality test (alpha=0.05)?	p value	Passed normality test (alpha=0.05)?	Normal distribution?
Cohort size - reports race data	0.0002	No	0.0009	No	0.0005	No	0.0065	No	No
Cohort size - reports Black patients	N/A	No	N/A	No	0.0021	No	>0.1000	Yes	Unlikely
Cohort size - race unknown	<0.0001	No	<0.0001	No	<0.0001	No	0.0003	No	No
Citations per year - reports race	<0.0001	No	<0.0001	No	<0.0002	No	0.0034	No	No
Citations per year - reports Black patients	N/A	No	N/A	No	0.0008	No	0.0301	No	No
Citations per year - race unknown	0.032	No	0.0621	Yes	0.0315	No	>0.1000	Yes	Unlikely

Supplementary Table 3. Results of Mann-Whitney U tests comparing cohort sizes and average number of citations per year in studies including Black patients versus studies where race is unknown

Comparison	p value	Significantly different (p<0.05)?	Difference in median	95% CI of difference
Cohort size - reports race versus race unknown	0.0317	Yes	-365.5	-1313 to -18.00
Cohort size - reports Black patient versus race unknown	0.0015	Yes	-382.5	-1919 to -310.00
Citations per year - reports race versus race unknown	0.084	No	93.04	-10.25 to 133.1
Citations per year - reports Black patient versus race unknown	0.3411	No	72.12	-73.00 to 126.0



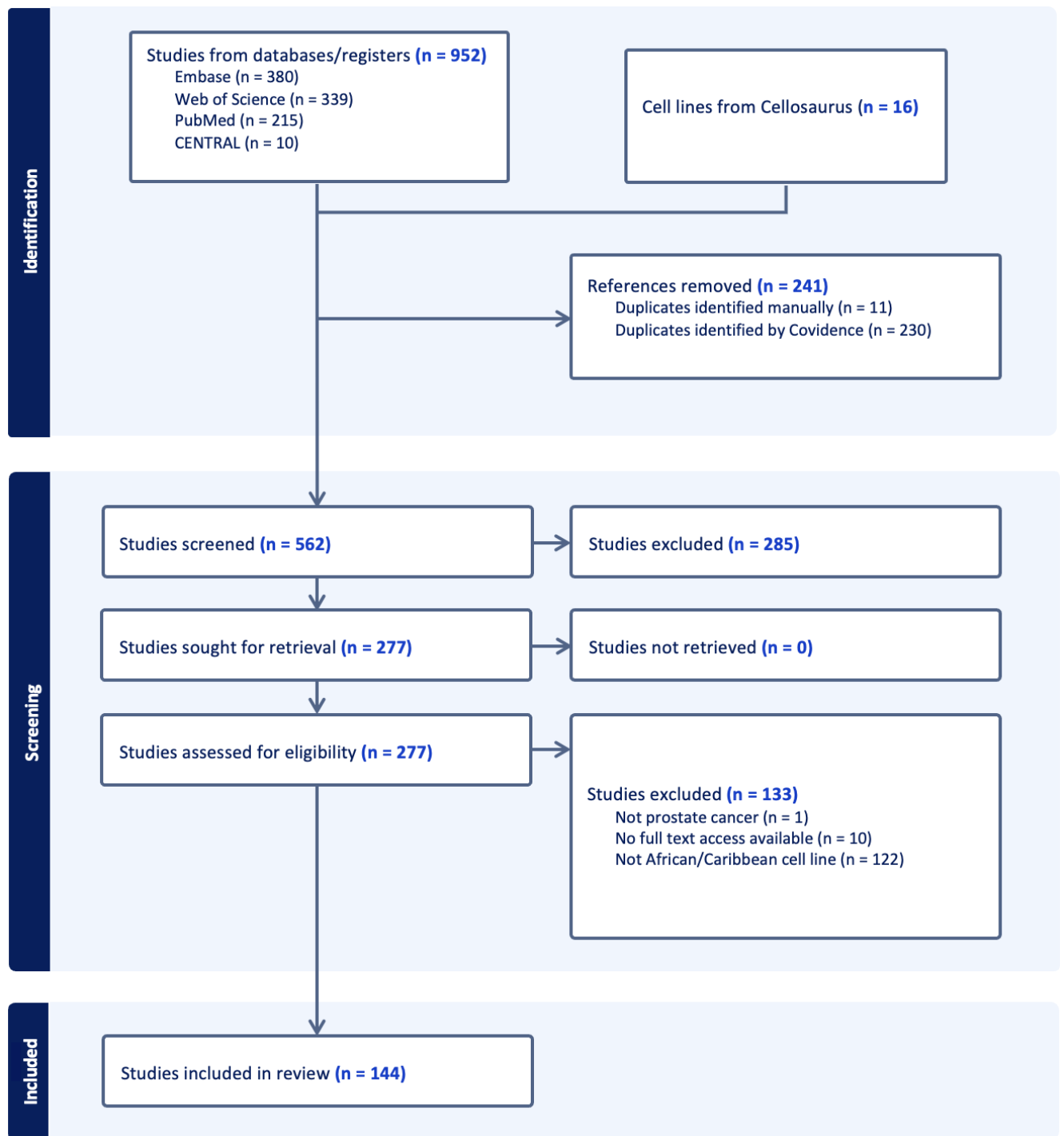
Supplementary Fig. 1. Violin plots for **A.** Mann-Whitney U test comparing cohort size in race-incorporated studies versus race unknown studies; **B.** Mann-Whitney U test comparing cohort size in Black-included studies versus race unknown studies; **C.** Mann-Whitney U test comparing average number of citations in race-incorporated studies versus race unknown studies; **D.** Mann-Whitney U test comparing average number of citations in Black-included studies versus race unknown studies.

Supplementary Table 4. Locations of study coordinators.

Studies reporting Black patient data	Location(s) of sample collection / institutions conducting study
Metastatic Prostate Adenocarcinoma (SU2C/PCF Dream Team, PNAS 2019)	Boston, Massachusetts, USA Michigan, USA New York, USA Seattle, Washington, USA London, UK
Metastatic castration-sensitive prostate cancer (MSK, Clin Cancer Res 2020)	New York, USA
Prostate Adenocarcinoma (CPC-GENE, Nature 2017)	Toronto, Ontario, Canada Québec, Québec City, Canada British Columbia, Canada
Prostate Adenocarcinoma (MSK, Clin Cancer Res. 2022)	Boston, Massachusetts, USA New York, USA
Prostate Adenocarcinoma (TCGA, PanCancer Atlas 2018)	St. Louis, Missouri, USA Chapel Hill, North Carolina, USA California, USA Grand Rapids, Michigan, USA New York, USA
Race Differences in Prostate Cancer (MSK, 2021)	New York, USA Boston, Massachusetts, USA
GENIE Cohort v15.0-public (2024)	California, USA Philadelphia, Pennsylvania, USA New York, USA North Carolina, USA Boston, Massachusetts, USA New Orleans, Louisiana, USA Portland, Oregon, USA Baltimore, Maryland, USA Chicago, Illinois, USA Miami, Florida, USA Nashville, Tennessee, USA New Haven, Connecticut, US Toronto, Ontario, Canada Cambridge, UK Paris, France Utrecht, Netherlands

Supplementary Table 5. Binomial tests comparing proportion of Black participants in *silico* studies to national Black proportions.

U.S. studies reporting data on Black patients	% of study participants that are Black	% of men living with prostate cancer in the US that are Black	p-value	Is discrepancy significant (p<0.05)?
Metastatic Prostate Adenocarcinoma (SU2C/PCF Dream Team, PNAS 2019)	5.827505828	15.92939889	<0.0001	Yes
Metastatic castration-sensitive prostate cancer (MSK, Clin Cancer Res 2020)	6.367924528	15.92939889	<0.0001	Yes
Prostate Adenocarcinoma (MSK, Clin Cancer Res. 2022)	8.327452364	15.92939889	<0.0001	Yes
Prostate Adenocarcinoma (TCGA, PanCancer Atlas 2018)	1.417004049	15.92939889	<0.0001	Yes
Race Differences in Prostate Cancer (MSK, 2021)	7.974867086	15.92939889	<0.0001	Yes
GENIE Cohort v15.0-public (2024)	7.809650141	15.92939889	<0.0001	Yes



Supplementary Figure 2. PRISMA flowchart for inclusion and exclusion of studies.

Supplementary Table 6. Key information about misclassified cell lines, E006AA and E006AA-hT.

Cell line	Race	Date of establishment	Disease	Number of publications identifying cell line as Black
E006AA	Caucasian	July 2004	Renal cell carcinoma	40
E006AA-hT		July 2014		33

Supplementary Table 7. Available advanced preclinical models from Black cell lines.

Cell line	Type of 3D model	Type of <i>ex vivo</i> model
AA-103A	Spheroid	
AA-103B	Spheroid	
ACRJ-PC28	Spheroid, organoid	Explant
MDA-PCa-2b	Murine xenograft, spheroid, organoid	Explant
MDA-PCa-2b-hr	Murine xenograft	
P69SV40T-M2205	Murine xenograft	
RC-77T/E	Organoid, spheroid	
RC-165N		Explant
RC-165N/hTERT		Explant

Supplementary Table 8. Spearman's rank correlation test was performed to assess the strength of relationship between number of omics analyses performed and the number of publications where they are investigated and identified as Black.

	Spearman's R (positive)	Spearman's R (negative)
Very weak	0 – 0.19	-0.19 – 0
Weak	0.2 – 0.39	-0.39 – (-0.2)
Moderate	0.4 – 0.59	-0.59 – (-0.4)
Strong	0.6 – 0.79	-0.79 – (-0.6)
Very strong	0.8 – 1	-1 – (-0.8)

Supplementary Table 9. Spearman's rank correlation, *r*.

Spearman's rank, R	p value	Is this statistically significant (p<0.05)?
0.7071	<0.0001	Yes