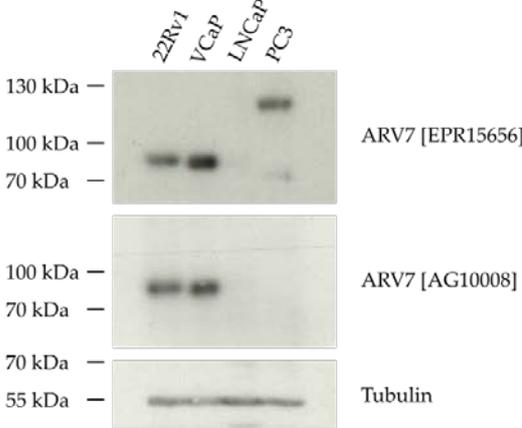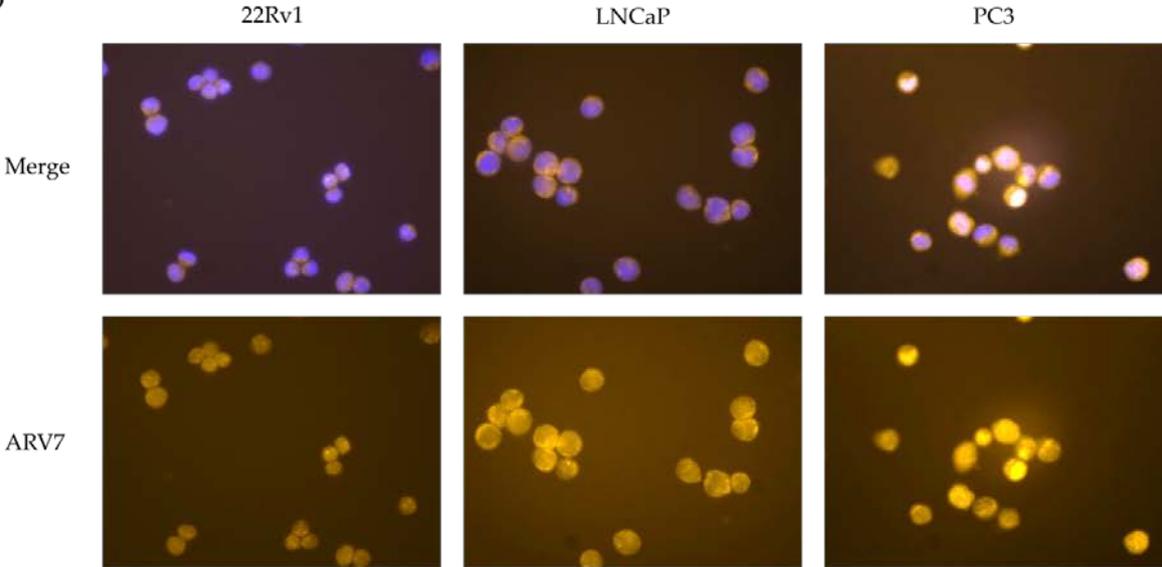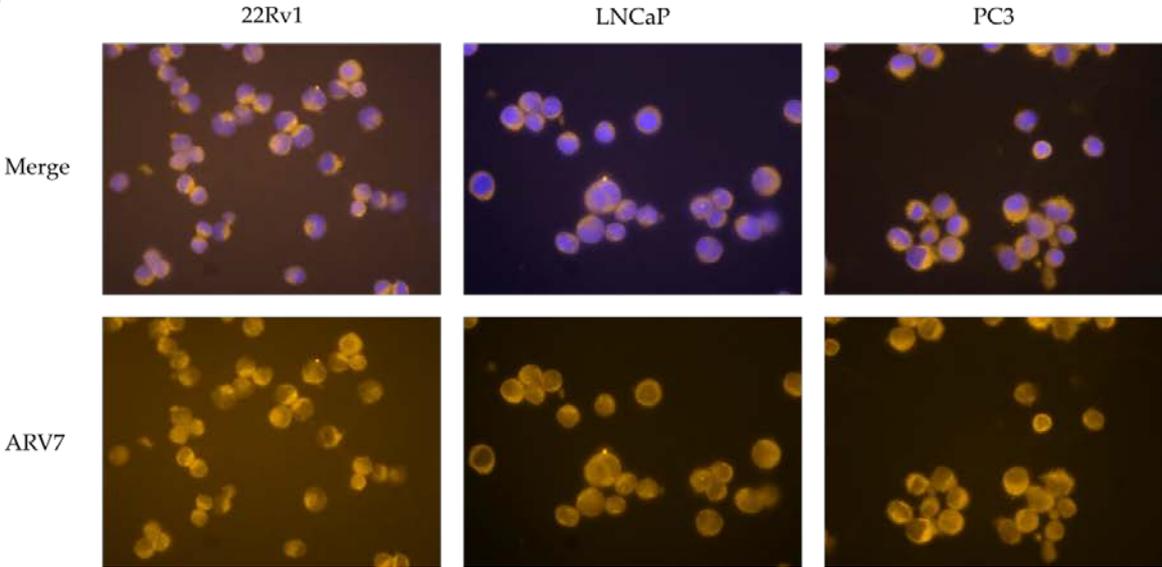**Supplementary Figure S1:**

(a)

(b)

(c)

Figure S1: Assessment of ARV7 antibody performance on selected prostate cancer cell lines via Western Blot and immunocytochemical (ICC) staining. **(a)** Western Blot analysis of antibodies EPR15656 and AG10008. 40µg of total protein from four prostate cancer cell lines were applied. Tubulin was used as a loading control. **(b)** ICC of ARV7 on three selected prostate cancer cell lines. Upper panel: merged images, lower panel: ARV7 staining. Cells on cytospins are stained using the EPR15656 clone targeting ARV7 with a species specific secondary antibody in red (Alexa 546).. The nucleus is counterstained with DAPI. Pictures are taken at 40x magnification. **(c)** ICC of ARV7 on three selected prostate cancer cell lines. Upper panel: merged images, lower panel: ARV7 staining. Cells on cytospins are stained using the AG10008 clone targeting ARV7 with a species specific secondary antibody in red (Alexa 546). The nucleus is counterstained with DAPI. Pictures are taken at 40x magnification. Both **(b)** and **(c)** show unspecific staining results for each ARV7-targeting antibody respectively. Especially for clone EPR15656 **(b)** nuclear staining in ARV7⁻ PC3 cells appears to be more intense than for ARV7⁺ 22Rv1 cells.

Table S1: Clinical data of 26 mPCa patients. Non-available data indicated as "n.a.".

1 = yes

0 = no

Patient Cohort																											
Patient Characteristics	All Patients	UKE-1	UKE-2	UKE-3	UKE-4	UKE-5	UKE-6	UKE-7	UKE-8	UKE-9	UKE-10	UKE-11	UKE-12	UKE-13	UKE-14	UKE-15	UKE-16	UKE-17	UKE-18	UKE-19	UKE-20	UKE-21	UKE-22	UKE-23	UKE-24	UKE-25	UKE-26
Unique number of patients	26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Age upon blood draw [years]	68	76	78	65	77	58	71	59	70	78	70	67	73	60	73	74	42	59	73	74	66	65	69	76	65	64	70
Primary treatment, Number (%)																											
Prostatectomy (surgery)	10	0	0	0	0	1	0	1	1	1	1	1	0	0	0	1	0	0	0	1	1	1	0	0	0	1	0
Radiation	6	1	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	1
None	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0
Tumor stage at diagnosis, Number (%)																											
actual number		cT3 pN0 Gl5+5 M1	cT3 NX M1 Gl4+5	n.a.	cT3 N1 Gl 4+5 M0	pT3bp N1 M1 Gl4+5	cT1b Gl4+5 Nx M1	pT3b pN1 R1 M0	Pt2c pN1 MoRo L1V0	pT2c, N0, M0	n.a.	PT3a, pN0	cT3 M1 NX Gl 4+5	M1	T2a	pT3a N0 R0 29	ypT1b NX M1	T4	n.a.	PT3b, pN1, R1	PT3b, pN1	pT4 pN1M 1Gl 4+5	n.a.	cT3N M1 Gl. 4+5	cT3 NX M1 Gl5 +4	pT3a R1 pN1	T1c N0 M0

	Number (%)																								
T1/T2	5	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
T3/T4	11	1	1	0	1	1	0	1	0	0	0	1	1	0	0	1	0	1	0	1	1	1	0	1	1	0
Gleason sum at diagnosis, Number (%)																									
≤7	7	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	1	0	1	0	0	0	0	0	0	1
≥8	12	1	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	1	0	1	1	1	1	1	1	0
unknown	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Samples Characteristics																									
Prior to blood collection, use of abiraterone																									
Yes	5	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0
No	15	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1
Prior to blood collection, use of enzalutamide																									
Yes	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	1
No	15	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	1	0	0	0
Prior to blood collection, use of Docetaxel Chemotherapy																									
Yes	10	1	0	0	0	0	1	0	1	0	1	0	0	1	0	0	1	0	1	0	0	0	1	1	1	1
No	10	0	1	1	1	1	0	1	0	1	0	1	1	0	1	1	0	1	0	1	1	1	0	0	0	0
Prior to blood																									

Characteristic	Total	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	P23	P24	P25	P26
collection, use of Cabazitaxel Chemotherapy																											
Yes	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
No	17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	
Threatment line before blood collection, Number (%)																											
First line	12	0	1	1	0	0	0	1	1	1	1	1	0	1	1	1	1	1	0	1	1	0	0	0	0	0	0
Second line	3	0	0	0	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0
Third line or later	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	1	1
Metastatic disease, Number (%)																											
Bone	20	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
liver	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Lymph node	10	1	0	0	1	1	0	0	1	1	0	0	0	0	1	0	1	1	0	0	1	1	1	0	0	1	1
Other	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	
None	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Laboratory measures, median (range)	0																										
PSA (at time of blood draw)	2153.72	1106	0.02	3.02	12.27	31.24	50.83	9.51	74.1	10.8	7.5	2.87	0	68.3	30.1	52.23	1.9	13	57.1	5.4	16.3	11.5	7.81	54.77	86.13	11	95

Present status (July 2019)																											
Alive	4	0	0	1	1	0	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
Deceased	9	1	1	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	1	1	0	1	1	0	1	1	1
Unknown	7	0	0	0	0	0	0	0	1	0	1	1	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0