## Supplementary materials

Inclusion criteria	Exclusion criteria
Informed consent of the patient and	No patient informed consent or local
approval by the local institution.	authority approval.
The primary disease was prostate	The primary disease was not prostate
adenocarcinoma.	adenocarcinoma.
Availability of samples meeting standards	The quality and quantity of samples do not
for quality and quantity that include:	meet any one or more of the criteria listed
(1) No RNA degradation occurred in the	on the left.
samples;	
(2) Primary tumor with a source of matched	
normal tissue;	
(3) Blocks frozen in OCT were made of all	
tumors and of paired benign tissue	
when present. A 5 micron section was	
cut from the top or bottom of the OCT	
block of tumor cases;	
(4) Normal samples underwent pathology	
review, and prostate origin (i.e., no	
seminal vesicles) and absence of tumor	
and high grade prostate intraepithelial	
neoplasia (HGPIN) were confirmed;	
(5) Tumor tissue images were reviewed by	
eight genitourinary pathologists, who	
reported the primary and secondary	
Gleason patterns of cancer for each	
slide and estimates of tumor cellularity	
in 10% increments (from 0%–100%).	

## Table S1 The inclusion and exclusion criteria of prostate cancer in TCGA database

Clinical Feature	
Age	61 (43–76)
Preoperative PSA	7.4 (1.6–87.0)
NPTX2	5.8 (1.2–9.1)
Gleason Score	
3+3	65
3+4	102
4+3	78
≥ 8	88
Tumor Cellularity (pathology)	
<20%	7
21–40%	40
41-60%	84
61-80%	115
81–100%	87
Pathologic Stage	
pT2a/b	18
pT2c	111
pT3a	110
pT3b	82
pT4	6
PSA Recurrence	
Yes	33
No <sup>[a]</sup>	248
Not available	47
Margin Status	
Positive	69
Negative	193
Not available	71
Ethnicity	
Caucasian	270
African descent	43
Asian	8
Not available	12

## **Table 2 Cohort Characteristics**

[a] Either no evidence of recurrence or insufficient follow-up