

**Supplementary Table 1. Patient characteristics for discovery and validation data obtained from the Decipher GRID data sets**

	Total (n)	Discovery data: MC I*			Total (n)	Validation data sets: MC II, CC, TJU, MSKCC*		
		Age > 70	Age 56-70	Age ≤ 55		Age > 70	Age 56-70	Age ≤ 55
<b>Total cases</b>	545	121 (22)	372 (68)	52 (10)	687	68 (10)	474 (69)	145 (21)
Number with metastasis <sup>^</sup>	212	49 (23)	142 (67)	21 (10)	144	19 (13)	98 (68)	27 (19)
Mean follow-up (month)		172	189	186		79	95	86
<b>Pre-operative PSA</b>								
<10	282	57 (20)	193 (69)	2 (11)	344	44 (13)	241 (70)	59 (17)
≥ 20	248	61 (24)	168 (68)	9 (8)	202	19 (9)	141 (70)	42 (21)
<b>Gleason score</b>								
low (5 or 6)	63	10 (16)	47 (74)	(10)	105	6 (6)	66 (63)	33 (31)
intermediate (7)	271	62 (23)	177 (65)	32 (12)	384	27 (7)	273 (71)	84 (22)
high (8–10)	211	49 (23)	148 (70)	4 (7)	196	35 (18)	134 (68)	27 (14)
<b>Pathologic T</b>								
pT2a	80	17 (21)	56 (70)	(9)	33	6 (18)	18 (55)	9 (27)
pT2b	139	33 (24)	92 (66)	14 (10)	123	13 (11)	83 (67)	27 (22)
pT2c	0	0	0	0	36	0	29 (81)	7 (19)
pT3a	132	23 (17)	100 (76)	9 (7)	134	10 (8)	90 (67)	34 (25)
pT3b	121	39 (32)	72 (60)	10 (8)	130	16 (12)	89 (69)	25 (19)
pT3c	0	0	0	0	2	1 (50)	0	1 (50)
pT4	0	0	0	0	14	1 (7)	7 (50)	6 (43)
pTx	73	9 (12)	52 (72)	12 (16)	33	6 (18)	17 (52)	10 (30)
<b>Seminal vesicle invasion</b>	176	46 (26)	112 (64)	18 (10)	182	24 (13)	120 (66)	38 (21)
<b>Extra-capsular extension</b>	273	60 (22)	190 (70)	23 (8)	389	35 (9)	272 (70)	82 (21)
<b>Lymph node invasion</b>	73	9 (12)	52 (72)	12 (16)	41	6 (15)	23 (56)	12 (29)
<b>Surgical margins</b>	266	60 (23)	179 (67)	27 (10)	361	31 (9)	248 (69)	82 (23)
<b>Androgen deprivation therapy</b>	320	76 (24)	217 (68)	27 (8)	166	24 (14)	110 (67)	31 (19)
<b>Radiation therapy</b>	148	31 (21)	102 (69)	15 (10)	255	23 (9)	168 (66)	63 (25)

\*MC I = Mayo Clinic data set I; MC II = Mayo Clinic data set II; CC = Cleveland Clinic data set; TJU = Thomas Jefferson University data set; MSKCC = Memorial Sloan-Kettering Cancer Center data set, PSA= Prostate-Specific Antigen; \*\* Row percent in parentheses

<sup>^</sup>Metastasis is referred to as regional or distant metastasis for the Mayo Clinic data set I (MC I) and distant metastasis for the four validation data set (MC II, CC, TJU, MSKCC)