

<b>Supplemental Table 1. Patient demographics and clinical characteristics at initial presentation prior to the first Ra-223 dose.</b>				Subgroup of 42 patients with <i>baseline</i> Fluoride-PET/CT	
		All 76 patients			
		No.	%	No.	%
Age	Median	70.1		71.7	
	Range	43 – 89		43 - 88	
Gleason score	10	4	5.3	4	9.5
	9	35	46.1	18	42.9
	8	12	15.8	5	11.9
	7	15	19.7	8	19.0
	6	3	3.9	1	2.4
	N/A	7	9.2	6	14.3
Primary tumor stage	T4	1	1.3	0	0
	T3c	0	0	0	0
	T3b	25	32.9	14	33.3
	T3a	11	14.5	9	21.4
	T2c	6	7.9	1	2.4
	T2b	4	5.3	2	4.8
	T2a	4	5.3	1	2.4
	N/A	25	32.9	15	35.7
Clinical stage	IV	36	47.4	16	38.1
	III	26	34.2	20	47.6

	IIB	12	15.8	4	9.5
	N/A	2	2.6	2	4.8
Performance Status (ECOG) at first Ra-223 dose	0	21	27.6	10	24.4
	1	30	39.5	15	36.6
	2	19	25.0	12	29.3
	3	6	7.9	4	9.8
	4	0	0.0	0	0.0
WHO Pain scale	0	23	30.3	13	31.7
	1	18	23.7	7	17.1
	2	26	34.2	16	39.0
	3	9	11.8	5	12.2
	4	0	0.0	0	0.0
Chemotherapy		38	50.0	22	52.4
Time of last chemotherapy cycle prior to first Ra-223 (weeks)	Median	7.3		6.5	
	Range	0.9 – 53.9		0.9 – 53.9	
EBRT		13	17.1	6	14.3
Time of last EBRT prior to first Ra-223 (weeks)	Median	7.3		5.5	
	Range	0.9 – 69.1		0.9 – 53.9	
Ra-223 doses	Total	389		201	
	Completed	44	57.9	19	45.2
	In Progress	1	1.3	1	2.4
	Stopped	31	40.8	22	52.4

PSA ( $\mu\text{g/liter}$ )	Median	38.45	54.0
	Range	0.72432.6	1.0 – 1778.0
ALP (U/liter)	Median	131.5	137
	Range	48.0 – 913.00	48.0 – 913.0
Hemoglobin (g/dL)	Median	11.6	11.0
	Range	6.6 – 15.6	6.6 – 15.1
Platelet counts (K/uL)	Median	188	187
	Range	102 – 413	114 – 413
Absolute Neutrophil Counts (K/uL)	Median	4.55	4.51
	Range	1.2 – 21.4	1.5 – 21.4

<b>Supplemental Table 2. Clinical characteristics of patient groups at initial presentation prior to the first Ra-223 dose in relation to the type of scans performed.</b>		
	<b>Patients submitted only to bone scan</b>	<b>Patients submitted to bone scan and fluoride-PET/CT</b>
	<b>N=32</b>	<b>N=38</b>
Gleason scores 8-10	59%	60%
Stages III and IV	76%	84%
Mean number of bone metastases	20-50	20-50
Median number of bone metastases	20-50	20-50
Deaths	51.5%	52.6%