

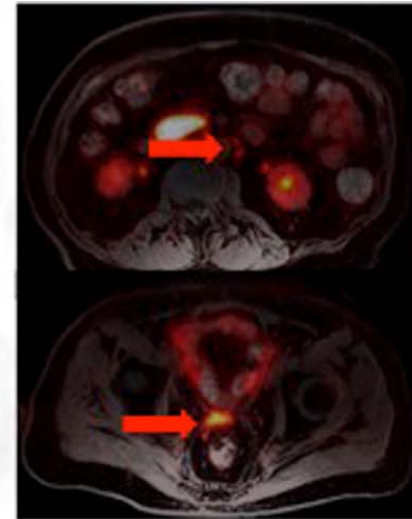
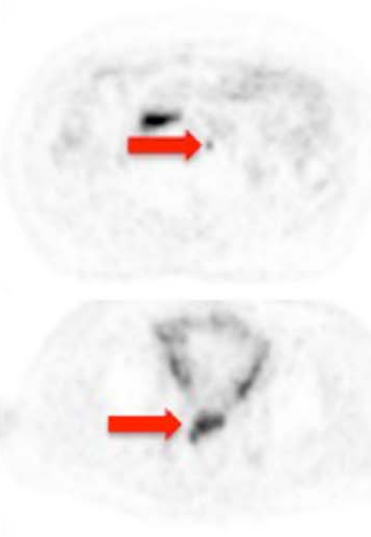
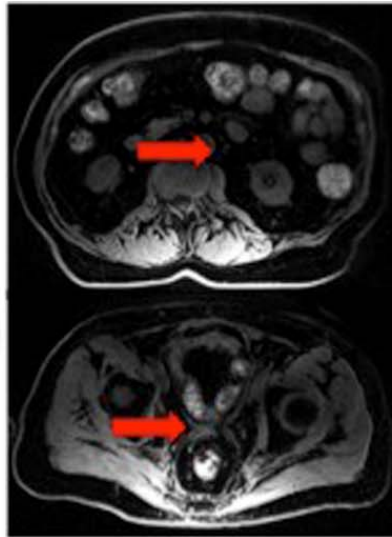
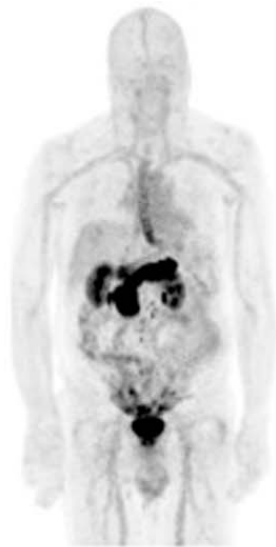
Supplemental Table 1: ⁶⁸Ga-PSMA Uptake in Normal Organs

Organ	SUV _{max}		SUV _{mean}	
	⁶⁸ Ga-PSMA	⁶⁸ Ga-RM2	⁶⁸ Ga-PSMA	⁶⁸ Ga-RM2
Brain cortex (frontal lobe)	0.05 ± 0.02 (0.02–0.09)	0.09 ± 0.04 (0.04–0.13)	0.02 ± 0.01 (0.01–0.04)	0.02 ± 0.02 (0.01–0.05)
Cerebrum	0.17 ± 0.05 (0.09–0.28)	0.08 ± 0.05 (0.03–0.15)	0.07 ± 0.03 (0.03–0.14)	0.03 ± 0.02 (0.01–0.06)
Lacrimal gland	9.29 ± 3.29 (4.56–14.91)	—	5.24 ± 2.33 (2.45–8.79)	—
Parotid gland	14.16 ± 2.55 (9.92–19.06)	1.02 ± 0.23 (0.72–1.33)	11.79 ± 2.56 (7.15–16.11)	0.62 ± 0.09 (0.47–0.74)
Mandibular gland	16.79 ± 3.25 (12.29–22.67)	—	13.51 ± 2.91 (9.87–18.11)	—
Submandibular gland	5.02 ± 2.44 (1.94–10.56)	1.30 ± 0.44 (0.51–1.73)	3.32 ± 1.56 (1.53–7.08)	0.81 ± 0.31 (0.29–1.24)
Thyroid	1.24 ± 0.34 (0.76–1.91)	1.33 ± 0.32 (0.84–1.68)	0.87 ± 0.27 (0.44–1.27)	0.79 ± 0.25 (0.41–1.11)
Ascending aorta*	1.47 ± 0.37 (0.72–2.03)	2.44 ± 0.76 (1.78–3.96)	0.95 ± 0.27 (0.47–1.38)	1.43 ± 0.62 (0.96–2.72)
Lung	0.64 ± 0.20 (0.42–1.05)	0.52 ± 0.17 (0.32–0.78)	0.43 ± 0.09 (0.33–0.61)	0.25 ± 0.08 (0.13–0.35)
Liver	6.04 ± 1.33 (4.06–8.96)	2.06 ± 0.54 (1.06–2.54)	4.10 ± 0.78 (3.16–5.73)	0.87 ± 0.23 (0.50–1.23)
Spleen	7.99 ± 3.26 (2.59–12.27)	1.84 ± 0.41 (1.25–2.58)	6.36 ± 2.69 (2.00–10.47)	1.00 ± 0.39 (0.69–1.81)
Pancreas	2.45 ± 0.38 (1.61–3.04)	48.29 ± 8.64 (39.15–64.76)	1.73 ± 0.32 (1.01–2.22)	33.09 ± 12.99 (13.82–56.88)
Esophagus	—	4.68 ± 1.40 (2.94–6.45)	—	2.52 ± 1.08 (1.37–4.47)
Stomach	—	2.43 ± 0.84 (1.30–3.69)	—	1.27 ± 0.52 (0.61–1.89)
Small intestine	14.60 ± 4.60 (8.24–23.36)	2.40 ± 0.65 (1.74–3.28)	11.00 ± 3.88 (5.62–18.46)	1.39 ± 0.51 (0.69–2.25)
Colon	1.60 ± 0.67 (0.82–3.23)	2.11 ± 0.83 (1.35–3.75)	1.07 ± 0.45 (0.56–2.01)	1.07 ± 0.63 (0.54–2.33)
Kidney	35.11 ± 9.91 (14.36–46.21)	10.88 ± 6.43 (4.18–20.35)	25.83 ± 7.48 (12.02–36.00)	3.86 ± 1.54 (1.95–6.38)
Bladder	35.04 ± 21.71 (9.62–78.52)	113.94 ± 69.95 (32.64–220.73)	26.52 ± 17.36 (7.78–67.89)	78.89 ± 52.10 (29.84–150.32)
Cervical vertebrae	0.92 ± 0.37 (0.50–1.75)	0.74 ± 0.20 (0.45–0.97)	0.50 ± 0.14 (0.32–0.81)	0.32 ± 0.11 (0.16–0.52)
Thoracic vertebrae	0.99 ± 0.24 (0.63–1.36)	0.85 ± 0.31 (0.40–1.24)	0.60 ± 0.15 (0.38–0.85)	0.35 ± 0.17 (0.14–0.63)
Lumbar vertebrae	1.17 ± 0.35 (0.76–1.87)	0.87 ± 0.14 (0.63–1.07)	0.80 ± 0.30 (0.51–1.55)	0.29 ± 0.08 (0.20–0.39)
Sacrum	0.84 ± 0.28 (0.49–1.23)	0.74 ± 0.40 (0.44–1.57)	0.48 ± 0.19 (0.21–0.83)	0.23 ± 0.13 (0.14–0.49)
Humerus	0.36 ± 0.11 (0.20–0.56)	0.57 ± 0.18 (0.30–0.85)	0.23 ± 0.06 (0.13–0.27)	0.31 ± 0.11 (0.15–0.48)
Femur	0.41 ± 0.19 (0.18–0.75)	0.31 ± 0.09 (0.18–0.40)	0.27 ± 0.14 (0.12–0.48)	0.13 ± 0.06 (0.07–0.22)
Gluteal fat	0.35 ± 0.14 (0.15–0.54)	0.66 ± 0.17 (0.39–0.95)	0.21 ± 0.07 (0.13–0.36)	0.37 ± 0.11 (0.16–0.52)
Gluteal muscle	0.46 ± 0.17 (0.22–0.75)	0.86 ± 0.46 (0.45–1.65)	0.28 ± 0.12 (0.14–0.54)	0.41 ± 0.23 (0.15–0.86)

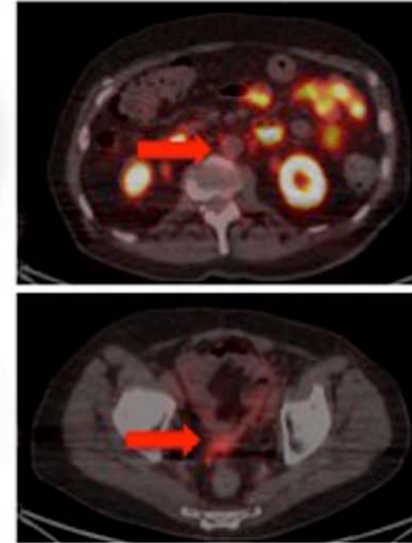
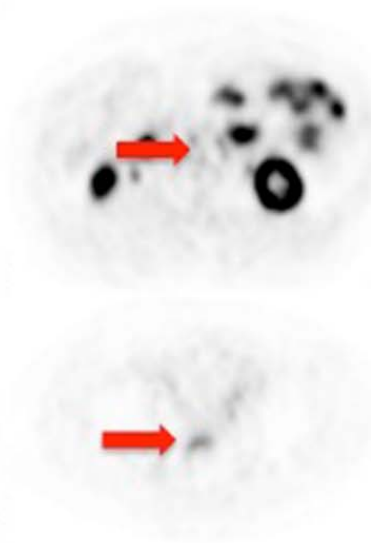
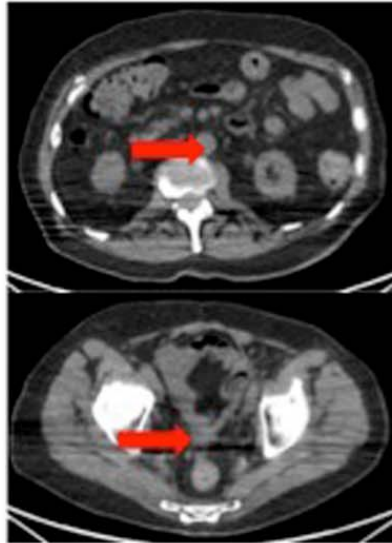
*Blood pool.

Data are mean ± SD, followed by range in parentheses.

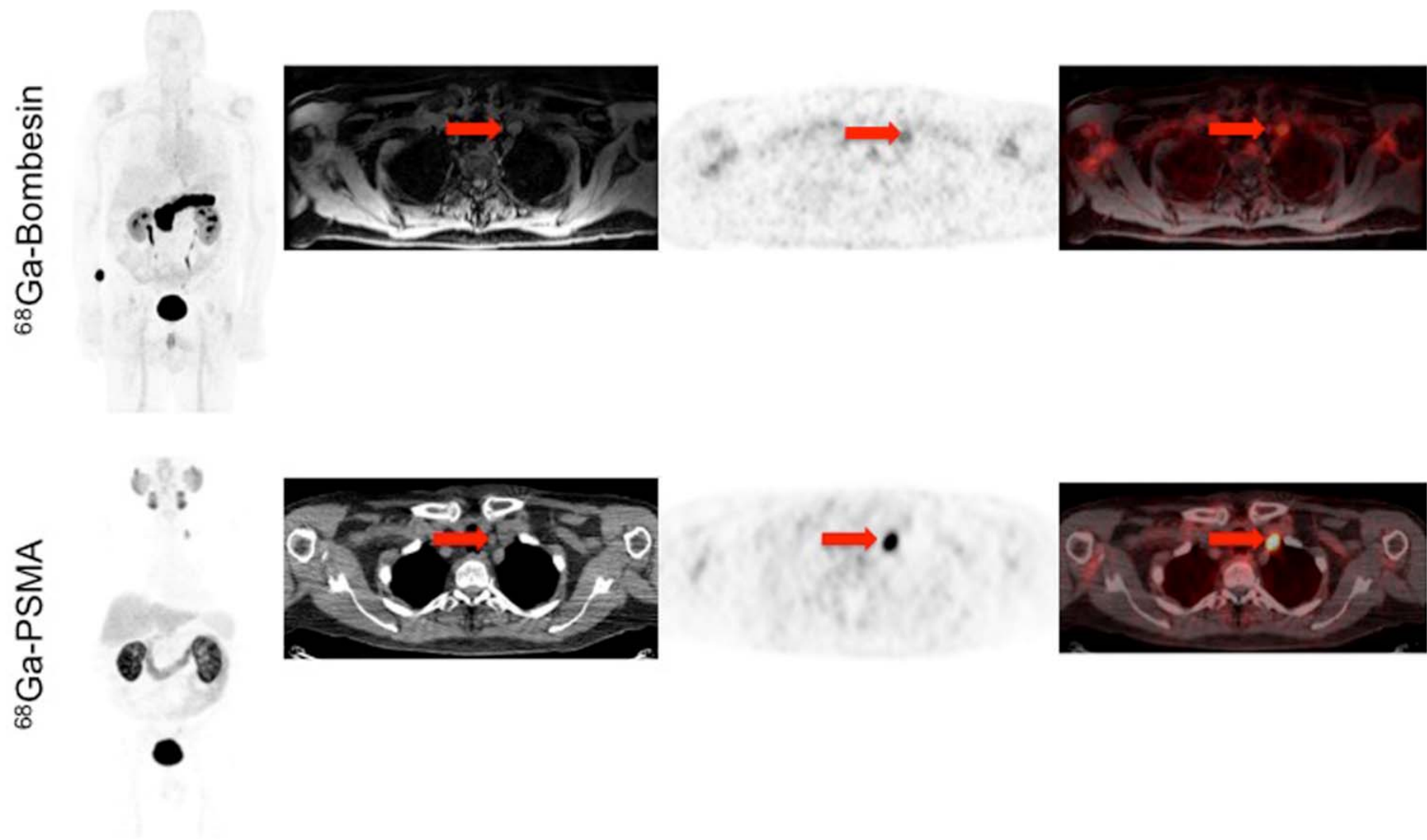
⁶⁸Ga-Bombesin



⁶⁸Ga-PSMA



Supplemental Figure 1: 75-year-old man with history of Gleason 4 + 5 prostate cancer, treated with prostatectomy, radiation therapy, and androgen deprivation therapy, presenting with PSA of 36.4 and noncontributory conventional imaging. MIP images of ⁶⁸Ga-RM2 and ⁶⁸Ga-PSMA, as well as axial PET, show focal uptake corresponding to subcentimeter lymph nodes and a pelvic soft-tissue mass on MRI and CT, respectively.



Supplemental Figure 2: 72-year-old man with history of Gleason 4 + 3 prostate cancer, treated with radiation therapy and androgen blockade, presenting with PSA of 8.5 and noncontributory conventional imaging. MIP images of ^{68}Ga -RM2 and ^{68}Ga -PSMA, as well as axial PET, show focal uptake corresponding to a left supraclavicular lymph node on MRI and CT, respectively.