

SUPPLEMENTARY TABLES

ImmunoPET of Ovarian and Pancreatic Cancer with AR9.6, a Novel MUC16-Targeted Therapeutic Antibody

*Sai Kiran Sharma*¹, *Kyeera N. Mack*^{1,2,3}, *Alessandra Piersigilli*⁴, *Jacob Pourat*¹, *Kimberly J. Edwards*¹, *Outi Keinänen*^{1,5}, *Maria S. Jiao*⁴, *Huiyong Zhao*⁶, *Brandy White*⁷, *Cory L. Brooks*⁷,
*Elisa de Stanchina*⁶, *Madi R. Madiyalakan*⁸, *Michael A. Hollingsworth*⁹, *Prakash Radhakrishnan*⁹, *Jason S. Lewis*^{1,3,10,11*} and *Brian M. Zeglis*^{1,5,10,12,13*}

¹ Department of Radiology, Memorial Sloan Kettering Cancer Center, New York, NY, USA

² Department of Pharmacology, Weill Cornell Medical College, New York, NY, USA

³ Molecular Pharmacology Program, Memorial Sloan Kettering Cancer Center, New York, NY,
USA

⁴ Tri-Institutional Laboratory of Comparative Pathology, Memorial Sloan Kettering Cancer
Center, Weill Cornell Medical College, and The Rockefeller University, NY, USA

⁵ Department of Chemistry, Hunter College, City University of New York, New York, NY,
10065

⁶ Anti-Tumor Assessment Core, Memorial Sloan Kettering Cancer Center, NY, USA

⁷ Department of Chemistry, California State University, Fresno, CA, USA

⁸ Quest PharmaTech Inc., Edmonton, AB, Canada

⁹ Eppley Institute for Research in Cancer and Allied Diseases, Fred and Pamela Buffett Cancer
Center, University of Nebraska Medical Center, Omaha, NE, USA

¹⁰ Department of Radiology, Weill Cornell Medical College, New York, NY, USA

¹¹ Radiochemistry and Molecular Imaging Probes Core, Memorial Sloan Kettering Cancer
Center, New York, NY, USA

¹² Ph.D. Program in Chemistry, The Graduate Center of the City University of New York, New
York, NY, 10016, United States

¹³ Ph.D. Program in Biochemistry, The Graduate Center of the City University of New York,
New York, NY, 10016, United States

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Table S1. Longitudinal *ex vivo* biodistribution data obtained from athymic nude mice bearing subcutaneous OVCAR3 xenografts that had been injected with 0.11 ± 0.02 mg/kg [^{89}Zr]Zr-DFO-muAR9.6 (24 ± 1.4 μCi ; 0.88 ± 0.05 MBq; 2.8 ± 0.5 μg). The radioactivity concentration values are represented as percentage injected dose per gram of tissue (%ID/g) \pm standard deviation (S.D.).

Time (p.i.) Tissues	Day 1	Day 2	Day 3	Day 3-Blocked	Day 4	Day 5
Blood	9.6 \pm 4.1	7.0 \pm 2.6	1.9 \pm 1.7	9.5 \pm 3.2	2.9 \pm 1.7	2.9 \pm 1.7
Heart	3.5 \pm 1.6	2.3 \pm 0.7	1.0 \pm 0.8	3.1 \pm 1.0	1.2 \pm 0.6	1.2 \pm 0.7
Lungs	4.3 \pm 1.8	2.5 \pm 0.9	0.9 \pm 0.7	3.9 \pm 1.7	1.9 \pm 0.9	1.1 \pm 0.2
Liver	8.8 \pm 4.3	9.6 \pm 4.2	15.5 \pm 8.3	4.1 \pm 0.6	9.4 \pm 3.4	7.2 \pm 3.3
Spleen	1.9 \pm 0.5	1.9 \pm 0.8	1.8 \pm 0.4	2.5 \pm 1.4	1.9 \pm 0.4	2.1 \pm 0.7
Stomach	0.3 \pm 0.2	0.5 \pm 0.2	0.4 \pm 0.3	0.4 \pm 0.2	0.3 \pm 0.1	0.3 \pm 0.1
L. Intestine	0.6 \pm 0.4	0.6 \pm 0.3	0.3 \pm 0.1	0.3 \pm 0.1	0.3 \pm 0.1	0.3 \pm 0.1
S. Intestine	0.6 \pm 0.2	0.7 \pm 0.2	0.3 \pm 0.1	0.7 \pm 0.2	0.3 \pm 0.1	0.3 \pm 0.1
Kidneys	3.1 \pm 1.1	1.9 \pm 0.6	1.2 \pm 0.5	3.0 \pm 0.9	1.5 \pm 0.3	1.6 \pm 0.5
Muscle	0.6 \pm 0.1	0.8 \pm 0.6	0.3 \pm 0.1	0.6 \pm 0.2	0.3 \pm 0.1	0.2 \pm 0.1
Bone	2.0 \pm 0.6	1.4 \pm 0.8	1.3 \pm 0.3	2.4 \pm 0.8	1.9 \pm 0.6	2.8 \pm 0.8
Tail	1.3 \pm 0.3	1.2 \pm 0.3	0.5 \pm 0.2	1.2 \pm 0.3	1.0 \pm 0.7	0.7 \pm 0.3
Tumor	12.0 \pm 2.6	19.4 \pm 2.7	17.9 \pm 6.6	13.7 \pm 5.8	35.4 \pm 8.1	33.4 \pm 3.5

Table S2. Two timepoint *ex vivo* biodistribution data obtained from athymic nude mice bearing subcutaneous SKOV3 xenografts that had been injected with 0.11 ± 0.02 mg/kg [^{89}Zr]Zr-DFO-muAR9.6 (24 ± 1.4 μCi ; 0.88 ± 0.05 MBq; 2.8 ± 0.5 μg). The radioactivity concentration values are represented as percentage injected dose per gram of tissue (%ID/g) \pm standard deviation (S.D.).

Time (p.i.) Tissues	Day 3	Day 3-Blocked	Day 5
Blood	8.5 ± 1.7	10.8 ± 2.5	8.2 ± 2.8
Heart	3.1 ± 0.7	3.4 ± 0.7	2.5 ± 0.6
Lungs	2.8 ± 0.6	4.2 ± 0.4	3.4 ± 1.2
Liver	9.7 ± 3.9	11.3 ± 5.8	10.5 ± 4.6
Spleen	2.9 ± 0.3	3.5 ± 0.4	3.5 ± 0.8
Stomach	0.5 ± 0.2	0.5 ± 0.1	1.0 ± 0.4
L. Intestine	0.5 ± 0.1	0.4 ± 0.1	0.7 ± 0.1
S. Intestine	0.7 ± 0.03	0.7 ± 0.1	0.8 ± 0.2
Kidneys	3.0 ± 0.4	3.6 ± 0.9	3.2 ± 0.6
Muscle	0.8 ± 0.1	0.9 ± 0.3	0.7 ± 0.2
Bone	3.1 ± 1.0	3.2 ± 0.5	3.5 ± 1.4
Tail	1.3 ± 0.2	1.6 ± 0.2	1.3 ± 0.3
Tumor	12.3 ± 1.1	5.8 ± 1.2	14.8 ± 3.4

Table S3. Longitudinal *ex vivo* biodistribution data from the tumor, ipsilateral axillary lymph nodes (IALN), and contralateral axillary lymph nodes (CALN) of athymic nude mice bearing subcutaneous OVCAR3 xenografts that had been injected with 0.11 ± 0.02 mg/kg [^{89}Zr]Zr-DFO-muAR9.6 (24 ± 1.4 μCi ; 0.88 ± 0.05 MBq; 2.8 ± 0.5 μg). The radioactivity concentration values are represented as percentage injected dose per gram of tissue (%ID/g) \pm standard deviation (S.D.).

Time (p.i.) Tissues	Day 1	Day 2	Day 3	Day 3-Blocked	Day 4	Day 5
Tumor	12.0 ± 2.6	19.4 ± 2.7	17.9 ± 6.6	13.7 ± 5.8	35.4 ± 8.1	33.4 ± 3.5
IALN	414.6 ± 146.8	310.0 ± 62.0	367.4 ± 232.3	17.5 ± 11.2	704.3 ± 286.1	380.5 ± 69.0
CALN	9.7 ± 1.0	7.4 ± 3.6	5.6 ± 2.6	12.6 ± 5.9	9.2 ± 2.3	12.1 ± 3.1

Table S4. Longitudinal *ex vivo* biodistribution data from the ipsilateral axillary lymph nodes (IALN) and contralateral axillary lymph nodes (CALN) of athymic nude mice bearing subcutaneous OVCAR3 xenografts that had been injected with 0.11 ± 0.02 mg/kg [^{89}Zr]Zr-DFO-muAR9.6 (24 ± 1.4 μCi ; 0.88 ± 0.05 MBq; 2.8 ± 0.5 μg). The radioactivity concentration values are represented as percentage injected dose of tissue (%ID) \pm standard deviation (S.D.).

Time (p.i.) Tissues	Day 1	Day 2	Day 3	Day 3-Blocked	Day 4	Day 5
IALN	7.4 ± 3.2	10.5 ± 2.8	8.7 ± 3.7	0.3 ± 0.13	12.6 ± 2.8	7.7 ± 1.1
CALN	0.2 ± 0.06	0.15 ± 0.06	0.14 ± 0.05	0.3 ± 0.18	0.2 ± 0.08	0.2 ± 0.09

Table S5. Single timepoint biodistribution data collected 6 d p.i. from mice bearing three subcutaneous patient-derived ovarian cancer xenografts that had been injected with 0.12 ± 0.01 mg/kg [^{89}Zr]Zr-DFO-muAR9.6 (22.7 ± 1.2 μCi ; 0.84 ± 0.04 MBq; 3.0 ± 0.3 μg). The radioactivity concentration values are represented as percentage injected dose per gram of tissue (%ID/g) \pm standard deviation (S.D.).

Tissues	PDXs		
	PDX0012	PDX0004	PDX0003
Blood	0.2 ± 0.0	0.1 ± 0.0	4.6 ± 4.1
Heart	0.2 ± 0.0	0.5 ± 0.2	1.9 ± 1.6
Lungs	0.5 ± 0.1	0.7 ± 0.5	2.4 ± 1.0
Liver	23.8 ± 10.0	13.3 ± 6.1	8.2 ± 5.1
Spleen	13.2 ± 8.1	5.1 ± 3.3	2.7 ± 0.5
Stomach	0.1 ± 0.0	0.2 ± 0.1	0.3 ± 0.1
L. Intestine	0.1 ± 0.0	0.1 ± 0.1	0.3 ± 0.1
S. Intestine	0.1 ± 0.0	0.1 ± 0.1	0.4 ± 0.2
Uterus + Ovaries	0.6 ± 0.1	1.3 ± 0.2	1.8 ± 1.2
Kidneys	1.1 ± 0.1	1.1 ± 0.2	1.9 ± 0.9
Muscle	0.1 ± 0.1	0.2 ± 0.1	0.4 ± 0.2
Bone	3.5 ± 0.8	2.6 ± 0.9	2.8 ± 0.4
Tail	0.3 ± 0.0	0.6 ± 0.2	1.0 ± 0.7
Tumor	25.1 ± 7.2	28.1 ± 5.2	56.6 ± 13.7

Table S6. Single timepoint biodistribution data collected 6 d p.i. from mice bearing five subcutaneous PDAC xenografts that had been injected with 0.30 ± 0.03 mg/kg [^{89}Zr]Zr-DFO-muAR9.6 (27.7 ± 0.9 μCi ; 1.02 ± 0.03 MBq; 6.3 ± 0.8 μg). The radioactivity concentration values are represented as percentage injected dose per gram of tissue (%ID/g) \pm standard deviation (S.D.).

Tissues	Xenografts				
	S2-028	Capan-2	T3M-4	BxPC-3	MIAPaCa-2
Blood	8.8 ± 2.9	9.1 ± 2.0	7.0 ± 2.9	7.5 ± 2.9	8.4 ± 2.6
Liver	7.2 ± 2.0	7.3 ± 0.9	4.4 ± 1.1	7.7 ± 4.8	4.8 ± 0.6
Spleen	5.4 ± 1.4	6.1 ± 1.2	4.0 ± 1.3	4.2 ± 0.6	4.4 ± 1.2
Pancreas	1.0 ± 0.2	1.2 ± 0.3	0.9 ± 0.4	1.0 ± 0.2	1.0 ± 0.3
Kidneys	3.4 ± 0.8	3.7 ± 0.4	3.1 ± 0.7	2.8 ± 0.7	3.1 ± 0.7
Muscle	0.8 ± 0.1	0.8 ± 0.1	0.7 ± 0.2	0.6 ± 0.2	0.7 ± 0.2
Bone	5.6 ± 1.6	5.7 ± 1.6	4.4 ± 0.5	3.5 ± 0.7	4.4 ± 0.4
Tumor	69.5 ± 12.3	53.7 ± 14.1	39.2 ± 9.8	32.9 ± 4.1	6.9 ± 0.6

Table S7. Ex vivo biodistribution data collected from athymic nude mice bearing subcutaneous S2-028 xenografts that had been injected with 0.25 mg/kg [⁸⁹Zr]Zr-DFO-huAR9.6 (29 μCi; 1.07 MBq; 6.2 μg). The radioactivity concentration values are represented as percentage injected dose per gram of tissue (%ID/g) ± standard deviation (S.D.).

Tissues \ Time (p.i.)	Day 1	Day 3	Day 3-Blocked	Day 6
Blood	14.2 ± 1.0	10.9 ± 1.8	14.2 ± 1.6	5.8 ± 3.9
Heart	5.5 ± 0.8	3.7 ± 1.0	4.9 ± 0.7	2.4 ± 1.1
Lungs	3.9 ± 0.2	3.3 ± 0.4	5.0 ± 1.3	2.2 ± 0.9
Liver	3.6 ± 0.4	5.3 ± 0.8	5.7 ± 2.4	5.2 ± 2.1
Spleen	5.0 ± 0.2	7.9 ± 2.8	4.1 ± 0.9	7.0 ± 2.6
Pancreas	1.2 ± 0.1	0.9 ± 0.1	1.1 ± 0.1	0.7 ± 0.2
Kidneys	4.7 ± 0.3	4.2 ± 0.7	5.0 ± 0.5	3.4 ± 0.8
Muscle	0.9 ± 0.1	0.7 ± 0.1	0.9 ± 0.1	0.5 ± 0.2
Bone	1.6 ± 0.1	2.5 ± 0.7	2.6 ± 0.3	2.9 ± 1.2
Tumor	20.4 ± 5.2	39.4 ± 2.3	9.3 ± 2.3	56.1 ± 21.8

Table S8. *Ex vivo* biodistribution data collected from mice bearing subcutaneous OVCAR3 xenografts that had been injected with 0.25 mg/kg [⁸⁹Zr]Zr-DFO-huAR9.6 (29 μCi; 1.07 MBq; 6.2 μg). The radioactivity concentration values are represented as percentage injected dose per gram of tissue (%ID/g) ± standard deviation (S.D.).

Tissues	Time (p.i.)	
	D1	D6
Blood	14.4 ± 1.2	3.5 ± 2.6
Heart	5.0 ± 1.4	1.4 ± 0.8
Lungs	3.5 ± 0.3	1.7 ± 1.1
Liver	5.5 ± 2.1	5.8 ± 2.2
Spleen	3.3 ± 0.3	5.1 ± 1.5
Uterus + Ovaries	3.3 ± 0.6	1.6 ± 0.6
Kidneys	4.6 ± 0.8	3.5 ± 1.1
Muscle	0.8 ± 0.2	0.3 ± 0.1
Bone	1.6 ± 0.1	2.5 ± 0.3
Tumor	30.1 ± 3.5	71.0 ± 24.1