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Supplementary Materials for

Molecular phenotyping and image-guided surgical treatment of melanoma using spectrally distinct ultrasmall core-shell silica nanoparticles

Feng Chen, Brian Madajewski, Kai Ma, Daniella Karassawa Zanoni, Hilda Stambuk, Melik Z. Turker, Sébastien Monette, Li Zhang, Barney Yoo, Peiming Chen, Richard J. C. Meester, Sander de Jonge, Pablo Montero, Evan Phillips, Thomas P. Quinn, Mithat Gönen, Sonia Sequeira, Elisa de Stanchina, Pat Zanzonico, Ulrich Wiesner*, Snehal G. Patel*, Michelle S. Bradbury*

*Corresponding author. Email: bradburm@mskcc.org (M.S.B.); ubw1@cornell.edu (U.W.); patels@mskcc.org (S.G.P.)

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The PDF file includes:

Other Supplementary Material for this manuscript includes the following:

(available at advances.sciencemag.org/cgi/content/full/5/12/eaax5208/DC1)

Movie S7 (.mov format). MIP video of pig #7.
Movie S8 (.mp4 format). Image-guided multiplexing, pig #5.
Movie S9 (.mov format). Image-guided multiplexing, pig #3.

1. Supplementary Figures

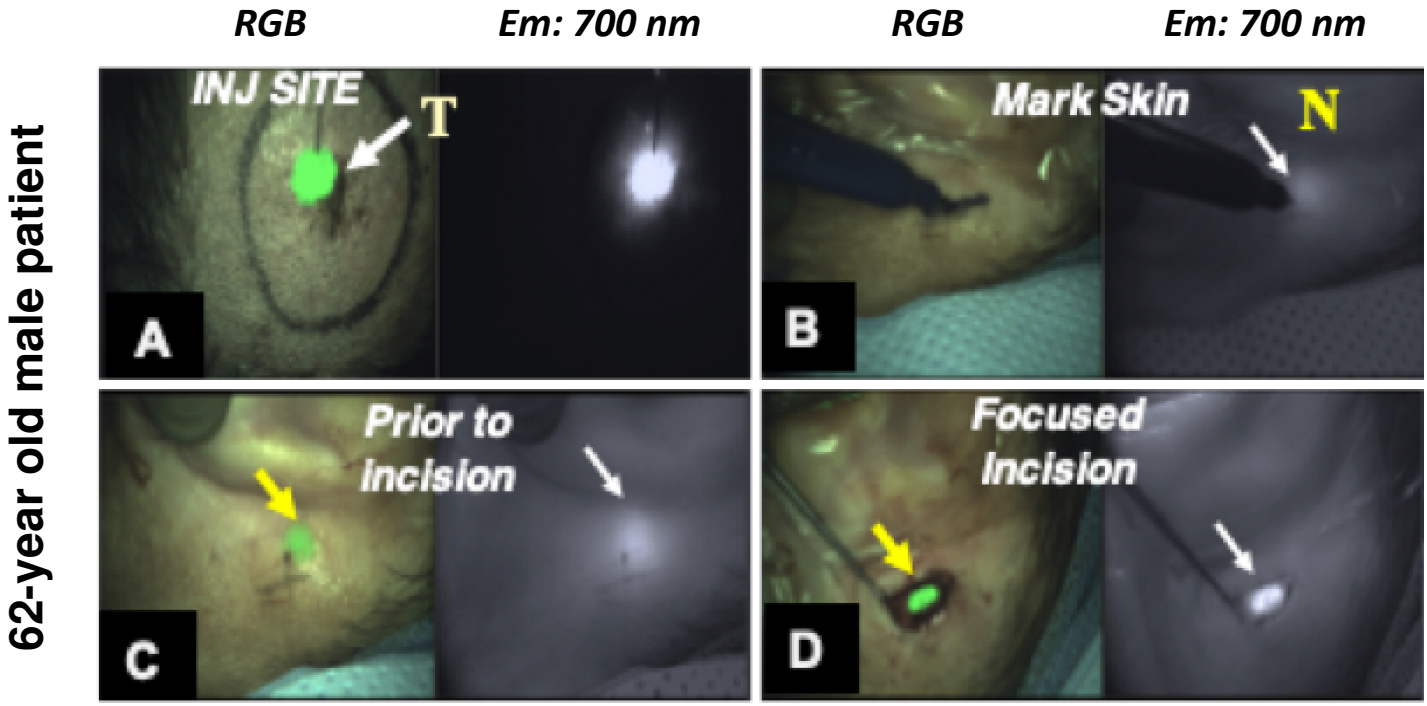

Fig. S1. Clinical trial SLN mapping case in a patient with head and neck melanoma using cRGDY-Cy5.5-PEG-C′ dots (NCT02106598). The results showed a 62-year old male patient with a scalp melanoma (**T**) and fluorescence signal (arrows) overlying the site of a metastatic post-auricular SLN (**N**) through the intact skin. The patient was injected peritumorally with a single injection of ultrabright cRGDY-PEG-Cy5.5-C' dots about a primary lesion (**T**) of the scalp (**A**). Focal fluorescence was seen through the intact skin overlying the post-auricular SLNs (**N**) in the surgical suite using real-time optical imaging guidance of Quest Spectrum® camera system (**B**&**C**). This approach allows the operating surgeon to limit the extent of surgical dissection (short black line in **B**) and the subsequent size of the resection cavity, in addition to accurately identifying the metastatic SLN in real-time (**D**). (Photo Credit: Snehal G. Patel, Memorial Sloan Kettering Cancer Center).

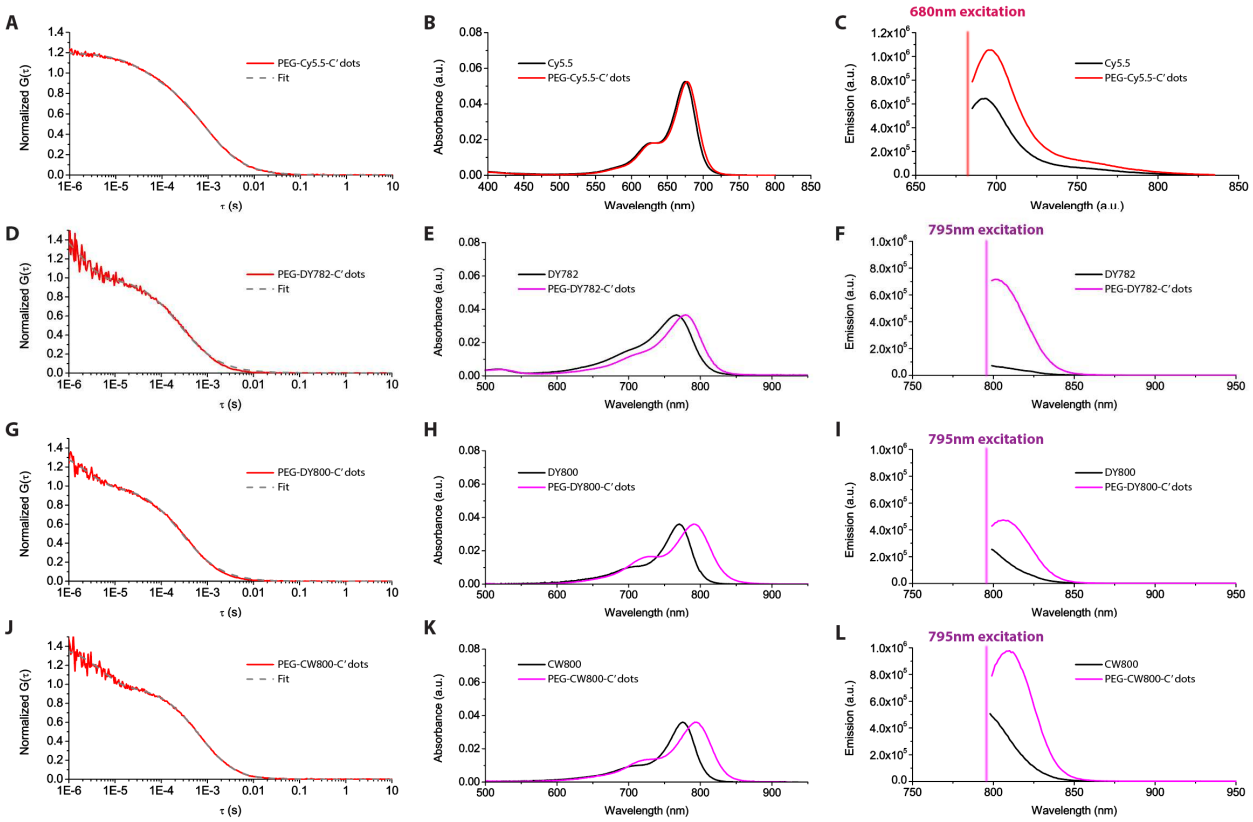

Fig. S2. Development of 700- and 800-nm emitting NIR fluorescent C′ dots. (**A** to **C**) FCS correlation curve with fit (**A**), UV-Vis absorbance comparison to free dye (**B**), and emission spectrum comparison to free dye (**C**) of PEG-Cy5.5-C' dots. (**D** to **F**) FCS correlation curve with fit (**D**), UV-Vis absorbance comparison to free dye (**E**), and emission spectrum comparison to free dye (**F**) of PEG-DY782-C' dots. (**G** to **I**) FCS correlation curve with fit (**G**), UV-Vis absorbance comparison to free dye (**H**), and emission spectrum comparison to free dye (**I**) of PEG-DY800-C' dots. (**J** to **L**) FCS correlation curve with fit (**J**), UV-Vis absorbance comparison to free dye (**K**), and emission spectrum comparison to free dye (**L**) of PEG-CW800-C' dots. The maximum intensity of the absorbance of different samples was matched by adjusting sample concentration (**B, E**, **H**, and **K**) before the measurement of emission spectra under the excitation conditions mimicking the camera system (**C, F**, **I**, and **L)**.The area under curve of individual emission spectra over the range of wavelengths corresponding to the two NIR windows of the camera system was determined (**C**, **F**, **I** and **L**) in order to estimate the fluorescence brightness detectable by the camera system (**table S1**). (Photo Credit: Kai Ma, Cornell University).

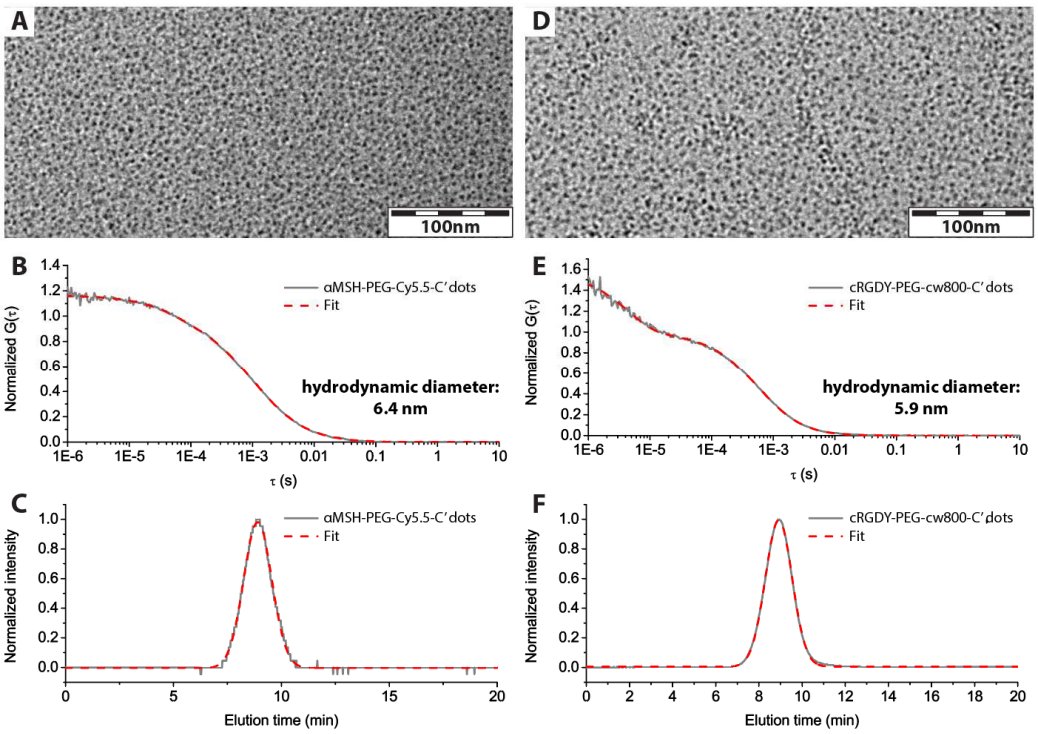

Fig. S3. Morphology and purity characterization of αMSH-PEG-Cy5.5-C′ dots and cRGDY-PEG-CW800-C′ dots. (**A** to **C**) Representative TEM image (**A**), FCS correlation curve with fit (**B**), and GPC elugram with fit (**C**) of αMSH-PEG-Cy5.5-C' dots. (**D** to **F**) Representative TEM image (**A**), FCS correlation curve with fit (**B**), and GPC elugram with fit (**C**) of cRGDY-PEG-CW800-C' dots. (Photo Credit: Kai Ma, Cornell University).

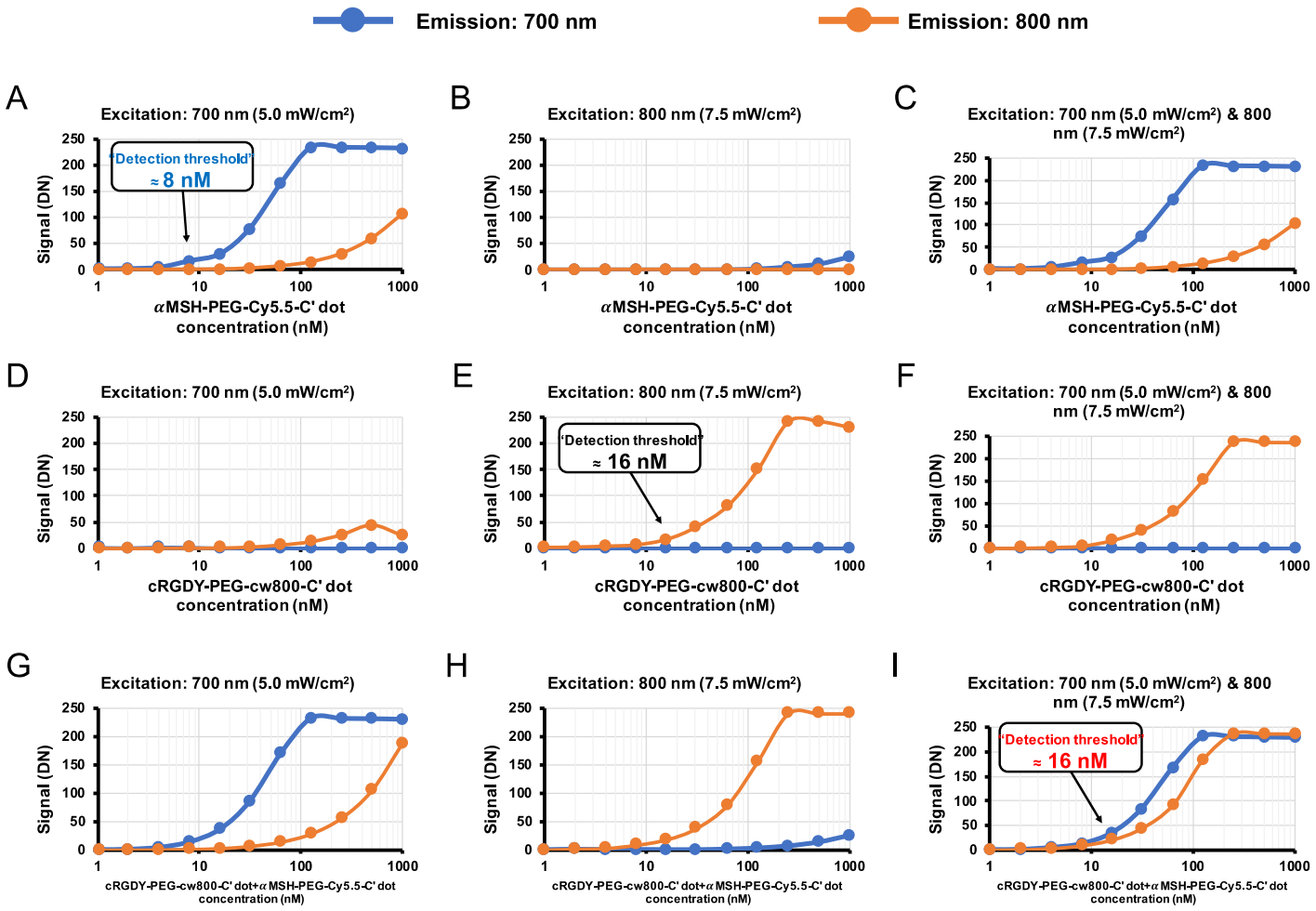

Fig. S4. The relationship between probe concentration and signal intensity of different probes. The relationship between probe concentration and signal intensity of different probes of (**A-C**) αMSH-PEG-Cy5.5-C' dots, (**D-F**) cRGDY-PEG-CW800-C' dots, (**G-I**) mixed probes, under varied excitation conditions of 700-nm laser (**A, D, G**), 800-nm laser (**B, E, H**) and 700-nm+800-nm (**C, F, I**). (Photo Credit: Feng Chen, Memorial Sloan Kettering Cancer Center).

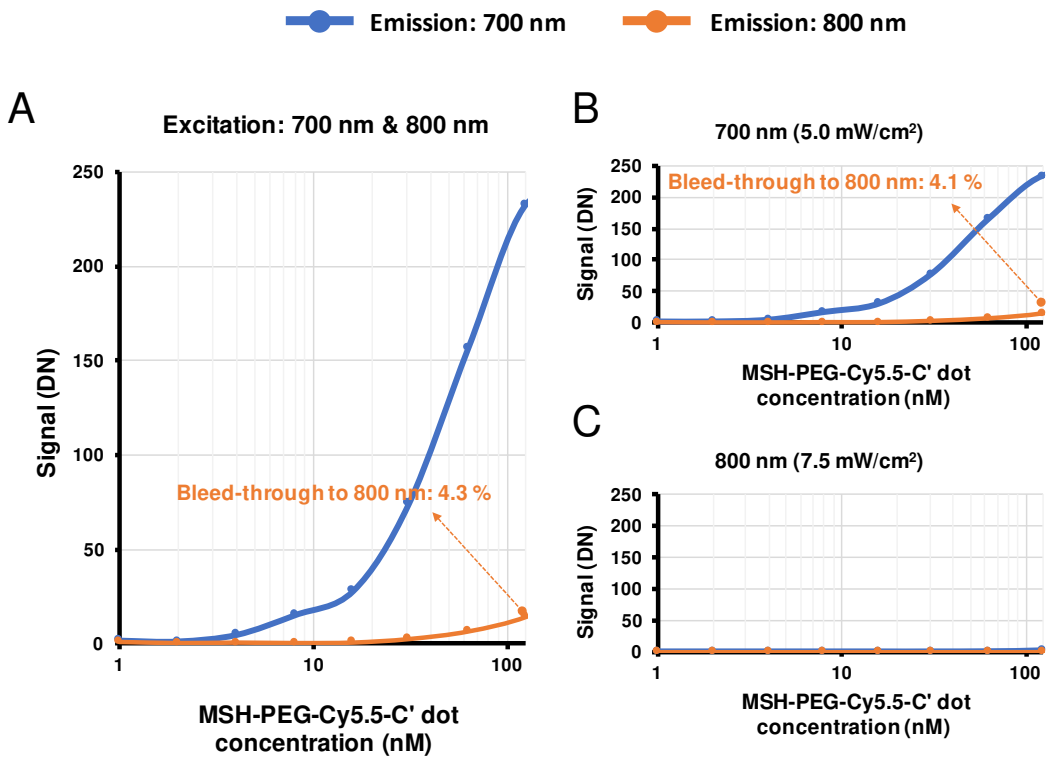

Fig. S5. The bleed-through of αMSH-PEG-Cy5.5-C′ dot probes to the 800-nm channel under the excitation of a 700-nm laser (particle concentration range, 0 to 125 nM). (Photo Credit: Feng Chen, Memorial Sloan Kettering Cancer Center).

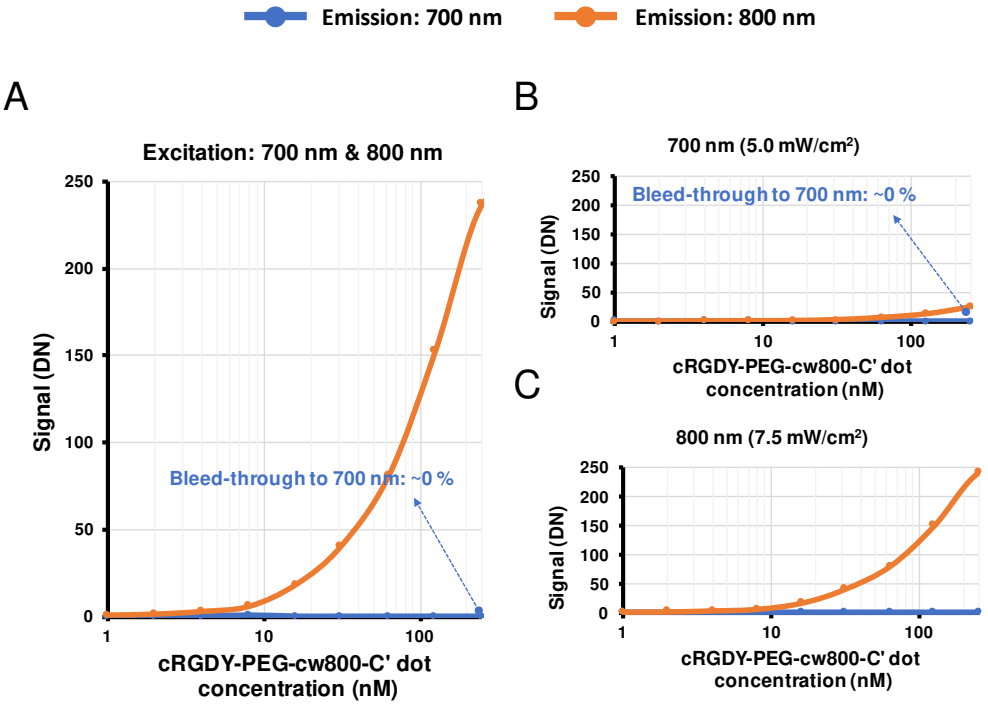

Fig. S6. The bleed-through of cRGDY-PEG-CW800-C′ dot probes to the 700-nm channel under the excitation of a 800-nm laser (concentration range, 0 to 250 nM). (Photo Credit: Feng Chen, Memorial Sloan Kettering Cancer Center).

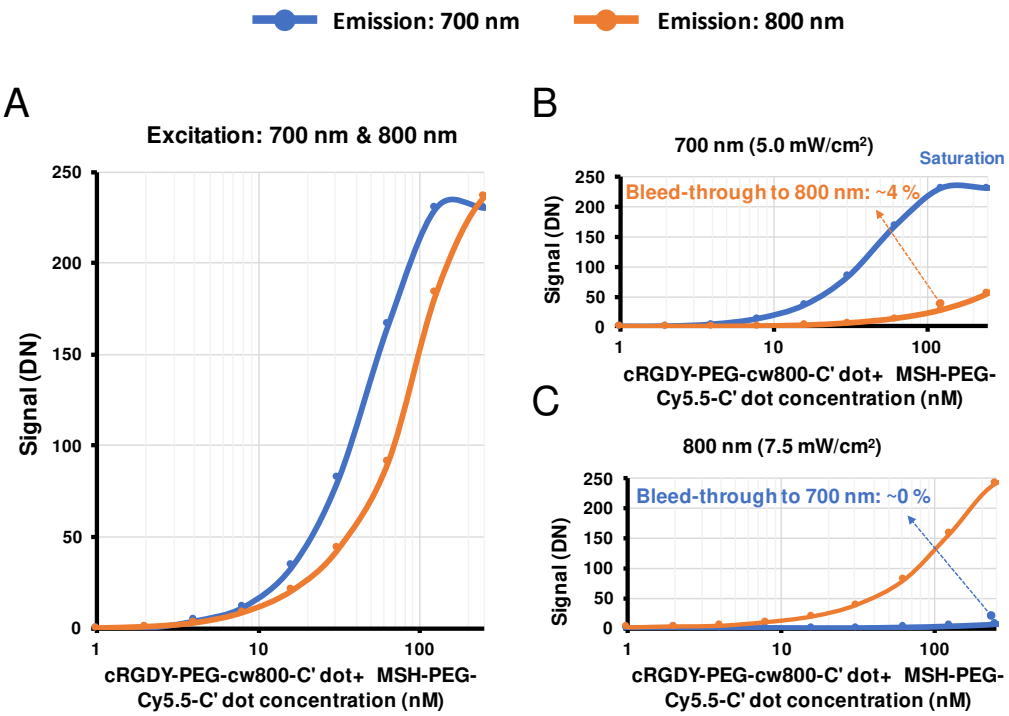

Fig. S7. The bleed-through of cocktail C′ dots (αMSH-PEG-Cy5.5-C′ dot probes and cRGDY-PEG-CW800-C′ dot) probes to the 700- or 800-nm channels under the combined excitation of 700- and 800-nm lasers (concentration range, 0 to 250 nM). (Photo Credit: Feng Chen, Memorial Sloan Kettering Cancer Center).

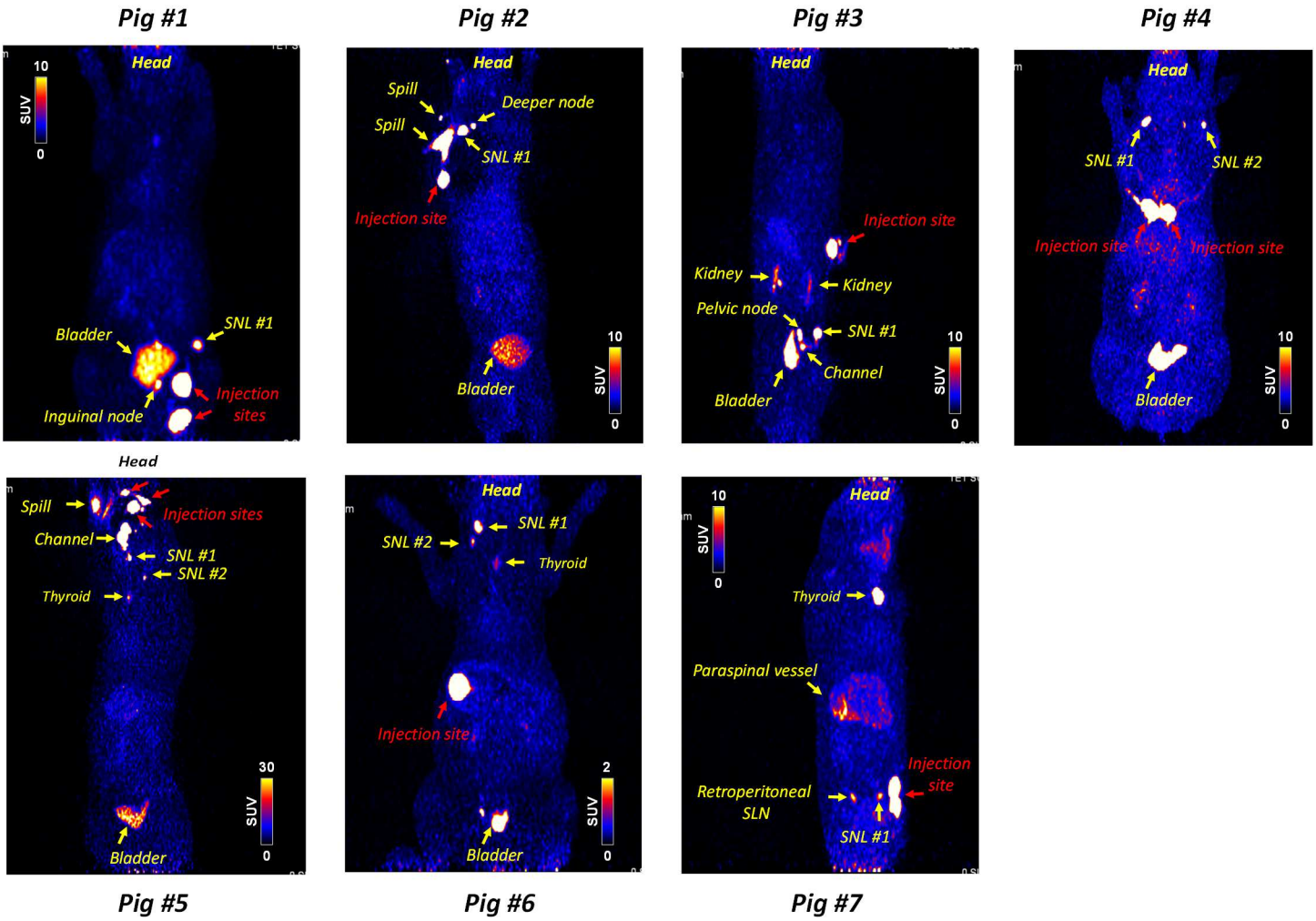

Fig. S8. Summary of MIP PET images of all seven spontaneous melanoma miniswines (the related MIP short videos are also provided as movies S1 to S7). (Photo Credit: Feng Chen, Memorial Sloan Kettering Cancer Center).

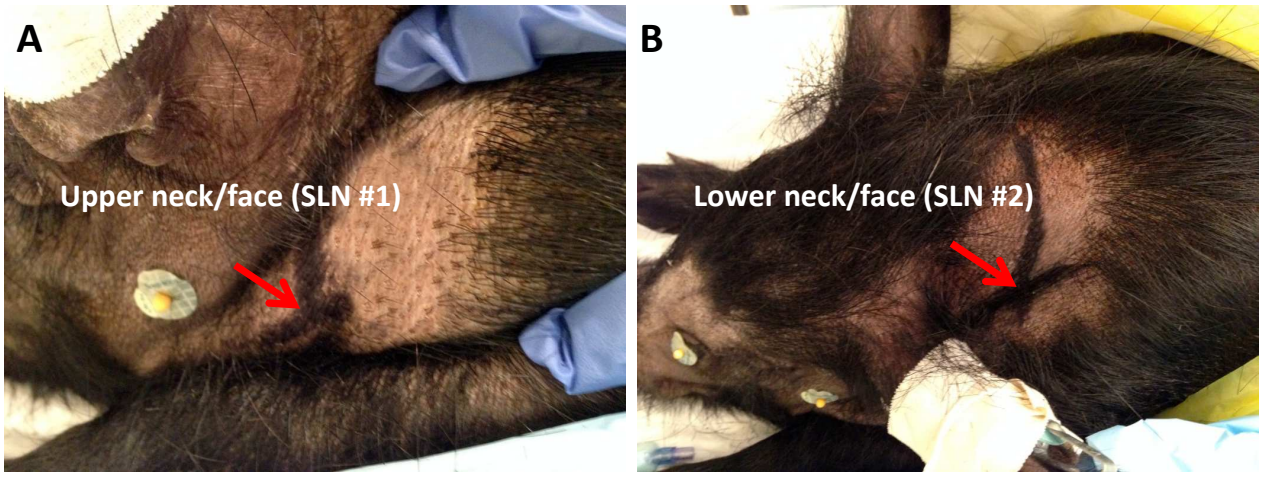

Fig. S9. The marking of the expected SLN locations. (**A**) SLN #1, (**B**) SLN #2, based on the corresponding whole-body PET/CT imaging (shown in **Figs. 4A, B**). (Photo Credit: Hilda Stambuk, Memorial Sloan Kettering Cancer Center).

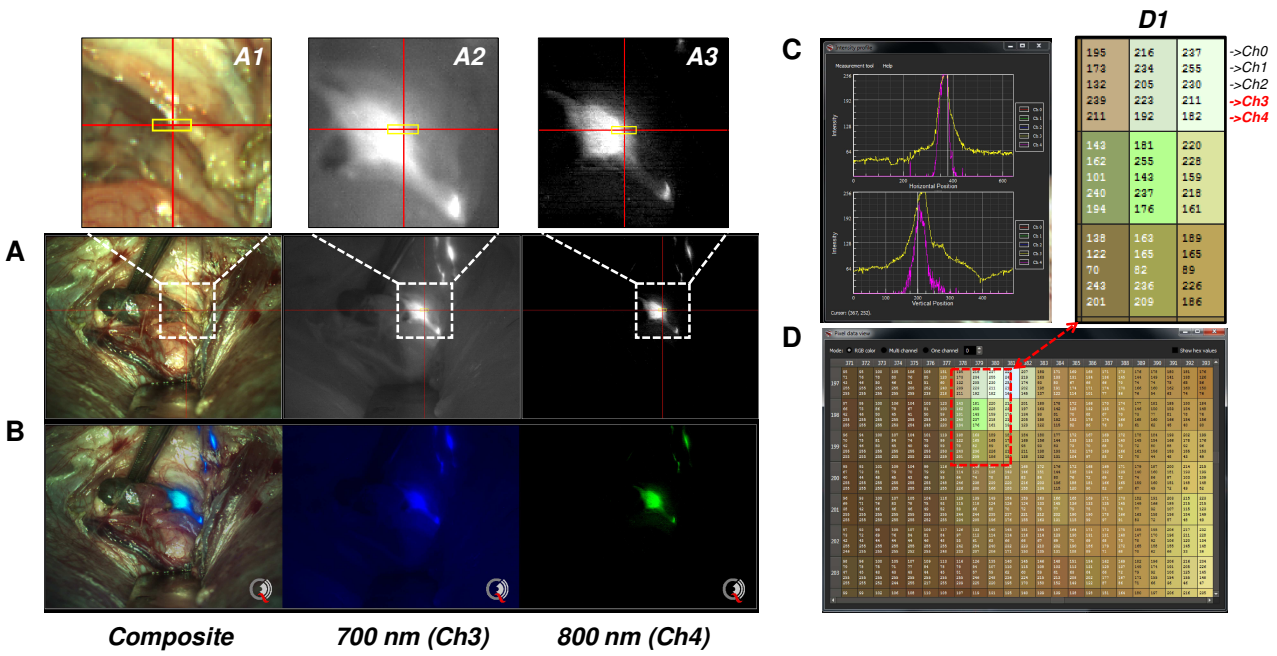

Fig. S10. A representative example of multiplexing optical data analysis using the software (Architector Image Viewer, version 1.9.0) from Quest Spectrum. (**A**) From left to right, bright field image, grayscale 700-nm channel (Ch3) image, grayscale 800-nm channel (Ch4) image. A1-A3 images are corresponding enlarged areas in (**A**). (**B**) From left to right, composite image of two NIR fluorescence images of Cy5.5 and CW800, blue "pseudo-color" image of 700-nm channel, green "pseudo-color" image of 800-nm channel. (**C**) Optical signal intensity for each pixel from 700-nm (Ch3, yellow) and 800-nm (Ch4, pink) channels. For each channel (Ch3 and Ch4 separately) 6 values are used and averaged to derive a final intensity value (**D**) Pixel data of the highlighted area in (**A**). (Photo Credit: Snehal G. Patel, Michelle S. Bradbury, Memorial Sloan Kettering Cancer Center & Richard J. C. Meester, Quest Medical Imaging).

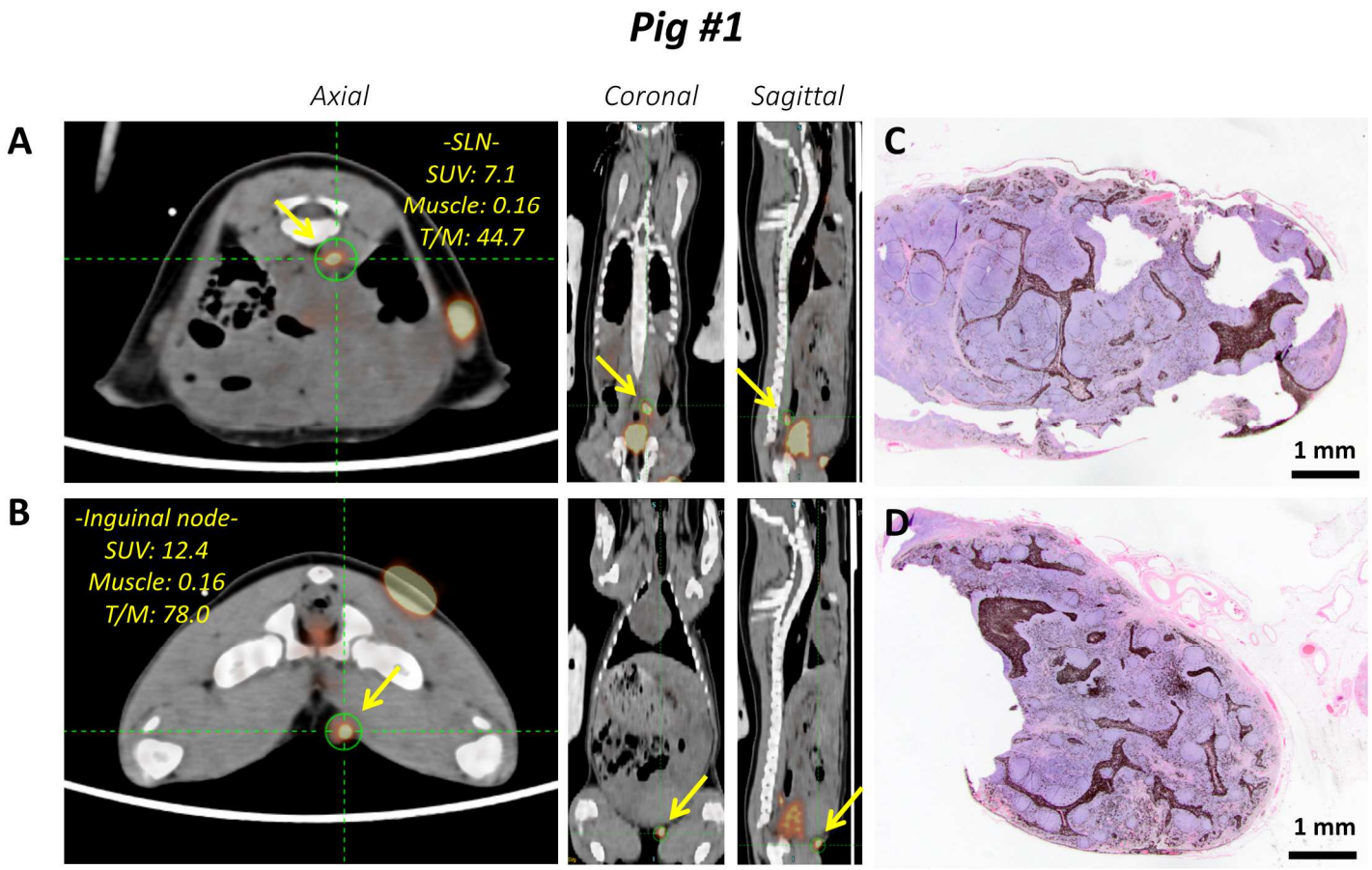

Fig. S11. Whole-body PET/CT imaging of pig #1. (**A**) SNL, (**B**) Inguinal node. Left: axial view. Middle: coronal view. Right: sagittal view. H&E staining of (**C**) SNL, and (**D**) Inguinal node. Scale bar: 1 mm. (Photo Credit: Feng Chen, Brian Madajewski & Sébastien Monette, Memorial Sloan Kettering Cancer Center).

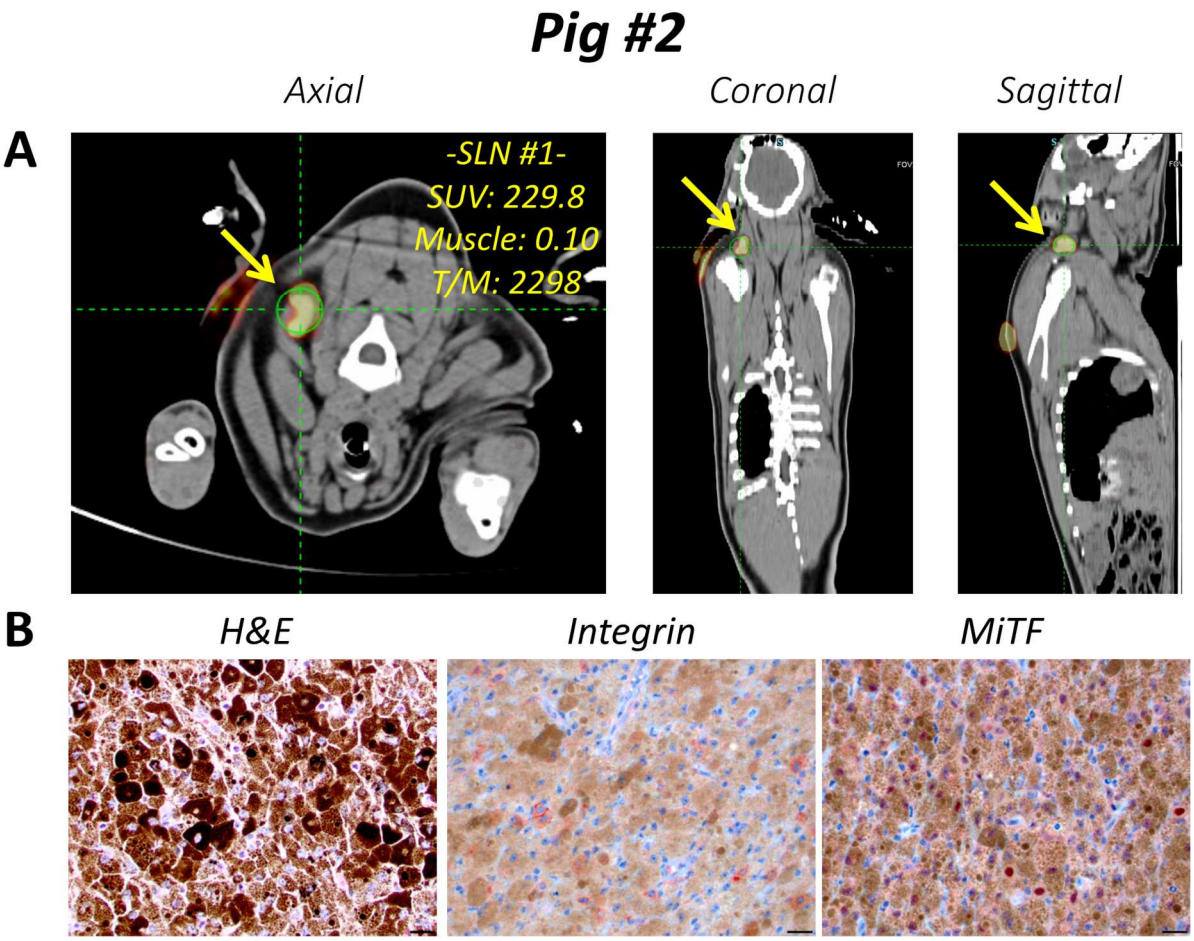

Fig. S12. Whole-body PET/CT imaging and histological analysis of pig #2. (**A**) Preoperative whole-body PET/CT imaging of spontaneous melanoma miniswine (pig #2). Left: axial view. Middle: coronal view. Right: sagittal view. (**B**) *Ex vivo* histological analysis of SLN #1. Left: H&E staining. Middle: integrin staining. Right: MiTF staining. Scale bar: 20 μm. (Photo Credit: Feng Chen, Brian Madajewski & Sébastien Monette, Memorial Sloan Kettering Cancer Center).

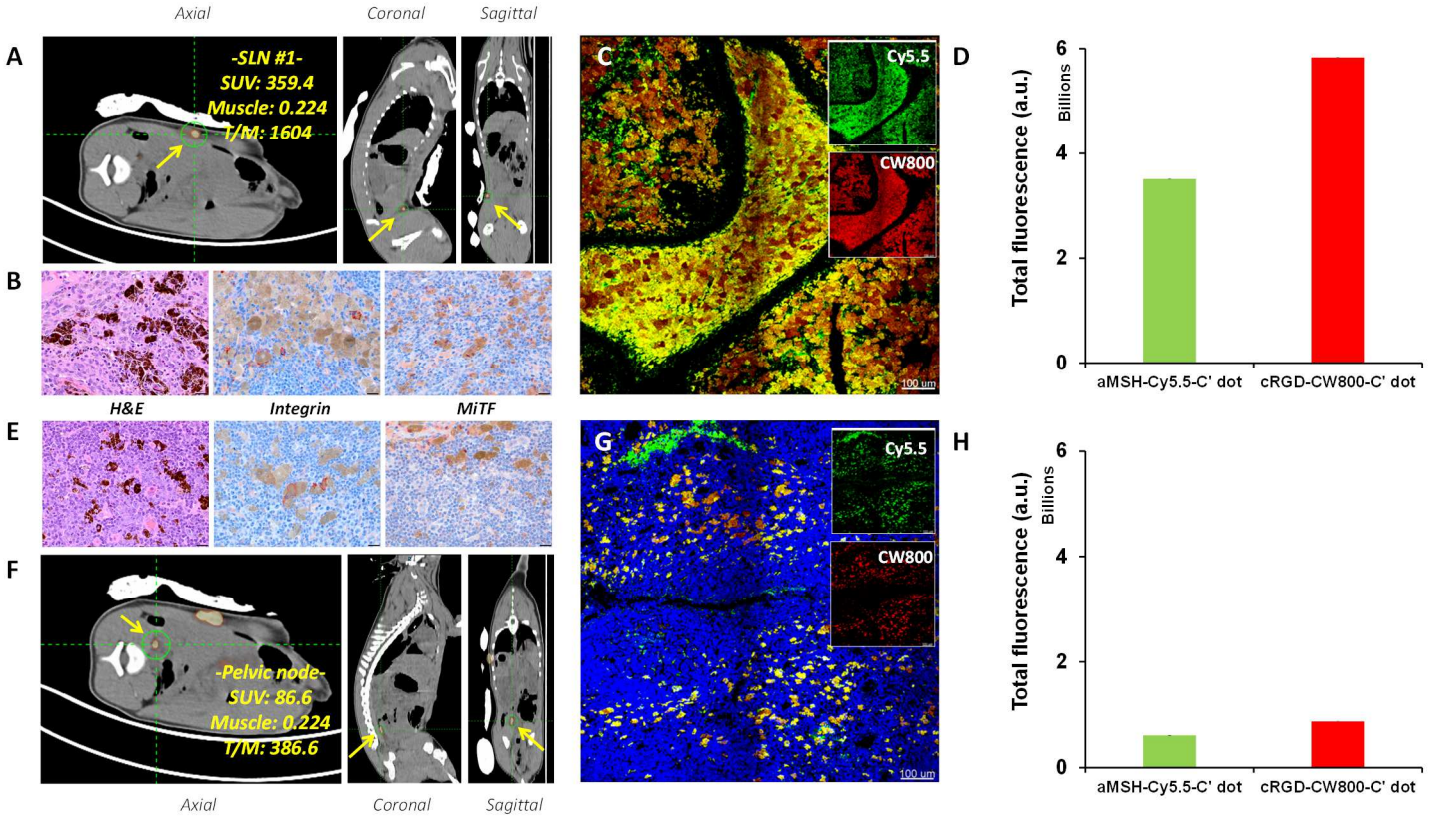

Fig. S13. Whole-body PET/CT imaging and histological analysis of pig #3. Preoperative whole-body PET/CT imaging of spontaneous melanoma miniswine (pig #3). (**A**) SLN #1, (**F**) pelvic node. Left: axial view. Middle: coronal view. Right: sagittal view. *Ex vivo* histological analysis of (**B**) SLN #1 and (**E**) pelvic node. Left: H&E staining. Middle: integrin staining. Right: MiTF staining. Scale bar: 20 μm. High resolution confocal fluorescence microscopy of (**C**) SLN #1 and (**G**) pelvic node with DAPI nuclear stain (scale bar = 100 μm). Inset shows the corresponding Cy5.5 and CW800 channels. Quantification of Cy5.5 and CW800 signals' total fluorescence intensities of (**D**) SLN #1 and (**H**) pelvic node. (Real-time video footage of pig #3 was also provided as **Video S9**). (Photo Credit: Feng Chen, Brian Madajewski & Sébastien Monette, Memorial Sloan Kettering Cancer Center).

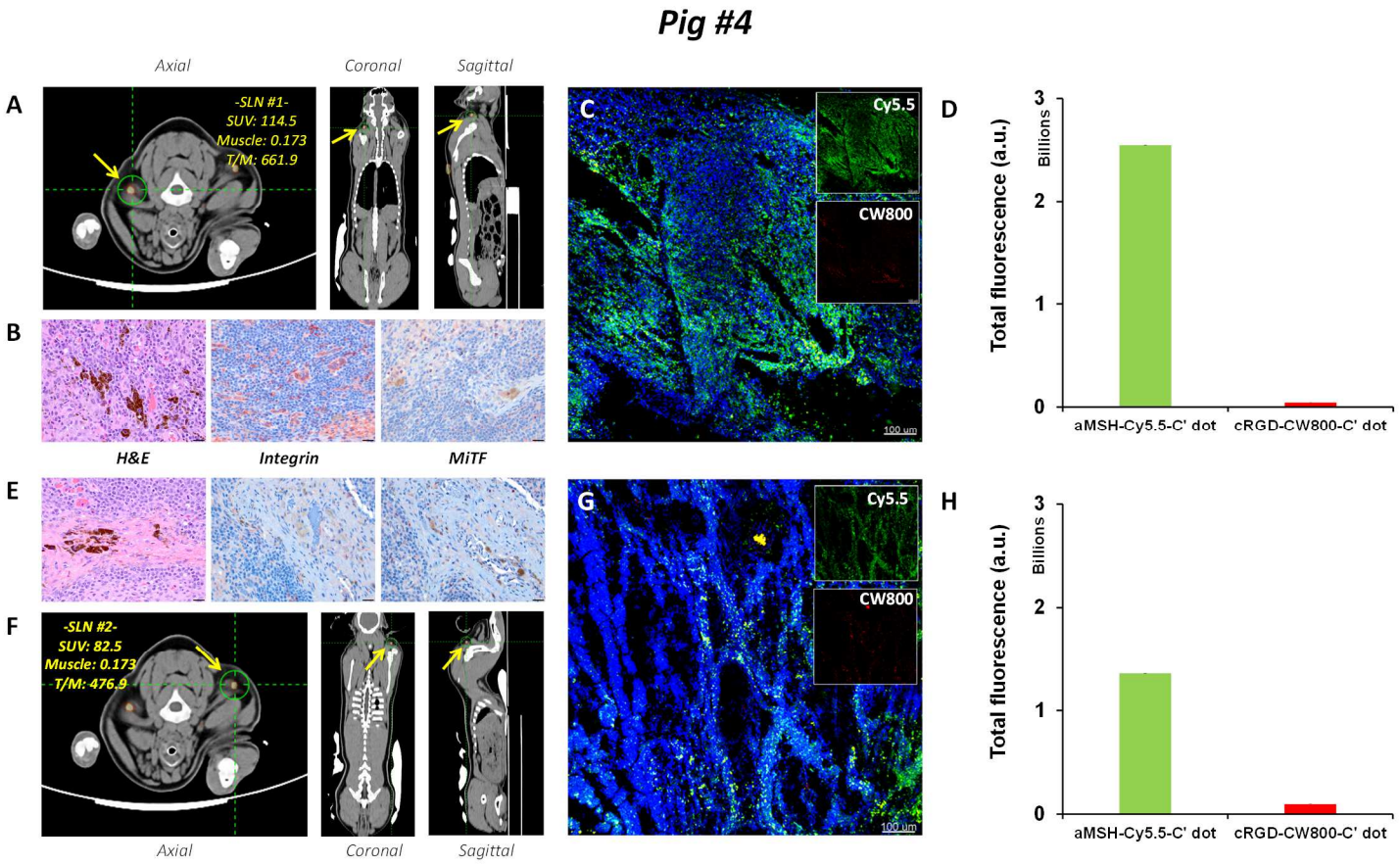

Fig. S14. Whole-body PET/CT imaging and histological analysis of pig #4. Preoperative whole-body PET/CT imaging of spontaneous melanoma miniswine (pig #4). (**A**) SLN #1, (**F**) SLN #2. Left: axial view. Middle: coronal view. Right: sagittal view. *Ex vivo* histological analysis of (**B**) SLN #1 and (**E**) SLN #2. Left: H&E staining. Middle: integrin staining. Right: MiTF staining. Scale bar: 20 μm. High resolution confocal fluorescence microscopy of (**C**) SLN #1 and (**G**) SLN #2 with DAPI nuclear stain (scale bar = 100 μm). Inset shows the corresponding Cy5.5 and CW800 channels. Quantification of Cy5.5 and CW800 signals' total fluorescence intensities of (**D**) SLN #1 and (**H**) SLN #2. (Photo Credit: Feng Chen, Brian Madajewski & Sébastien Monette, Memorial Sloan Kettering Cancer Center).

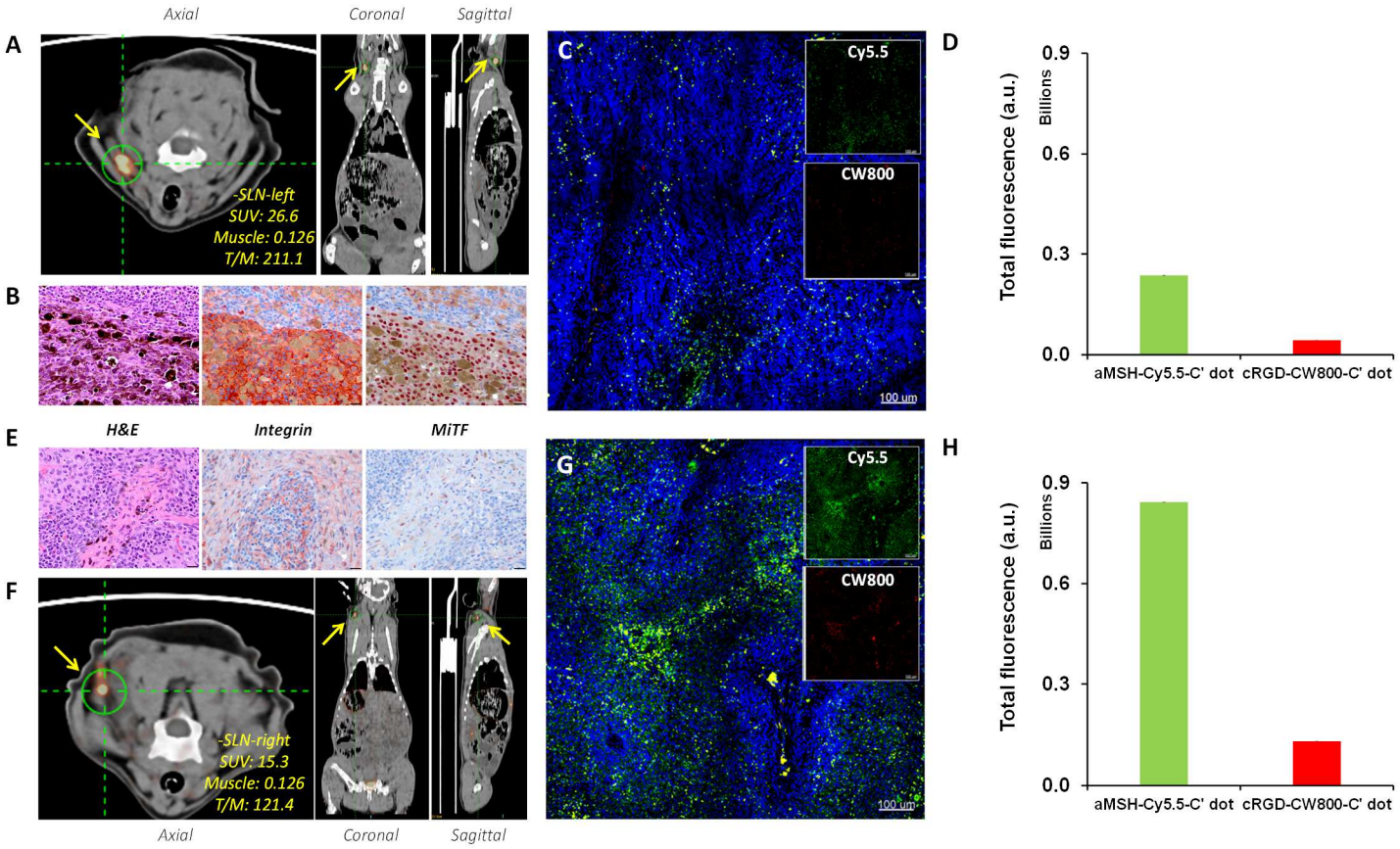

Fig. S15. Whole-body PET/CT imaging and histological analysis of pig #6. Preoperative whole-body PET/CT imaging of spontaneous melanoma miniswine (pig #6). (**A**) SLN #1, (**F**) SLN #2. Left: axial view. Middle: coronal view. Right: sagittal view. *Ex vivo* histological analysis of (**B**) SLN #1 and (**E**) SLN #2. Left: H&E staining. Middle: integrin staining. Right: MiTF staining. Scale bar: 20 µm. High resolution confocal fluorescence microscopy of (**C**) SLN #1 and (**G**) SLN #2 with DAPI nuclear stain (scale bar = 100 µm). Inset shows the corresponding Cy5.5 and CW800 channels. Quantification of Cy5.5 and CW800 signals' total fluorescence intensities of (**D**) SLN #1 and (**H**) SLN #2. (Photo Credit: Feng Chen, Brian Madajewski & Sébastien Monette, Memorial Sloan Kettering Cancer Center).

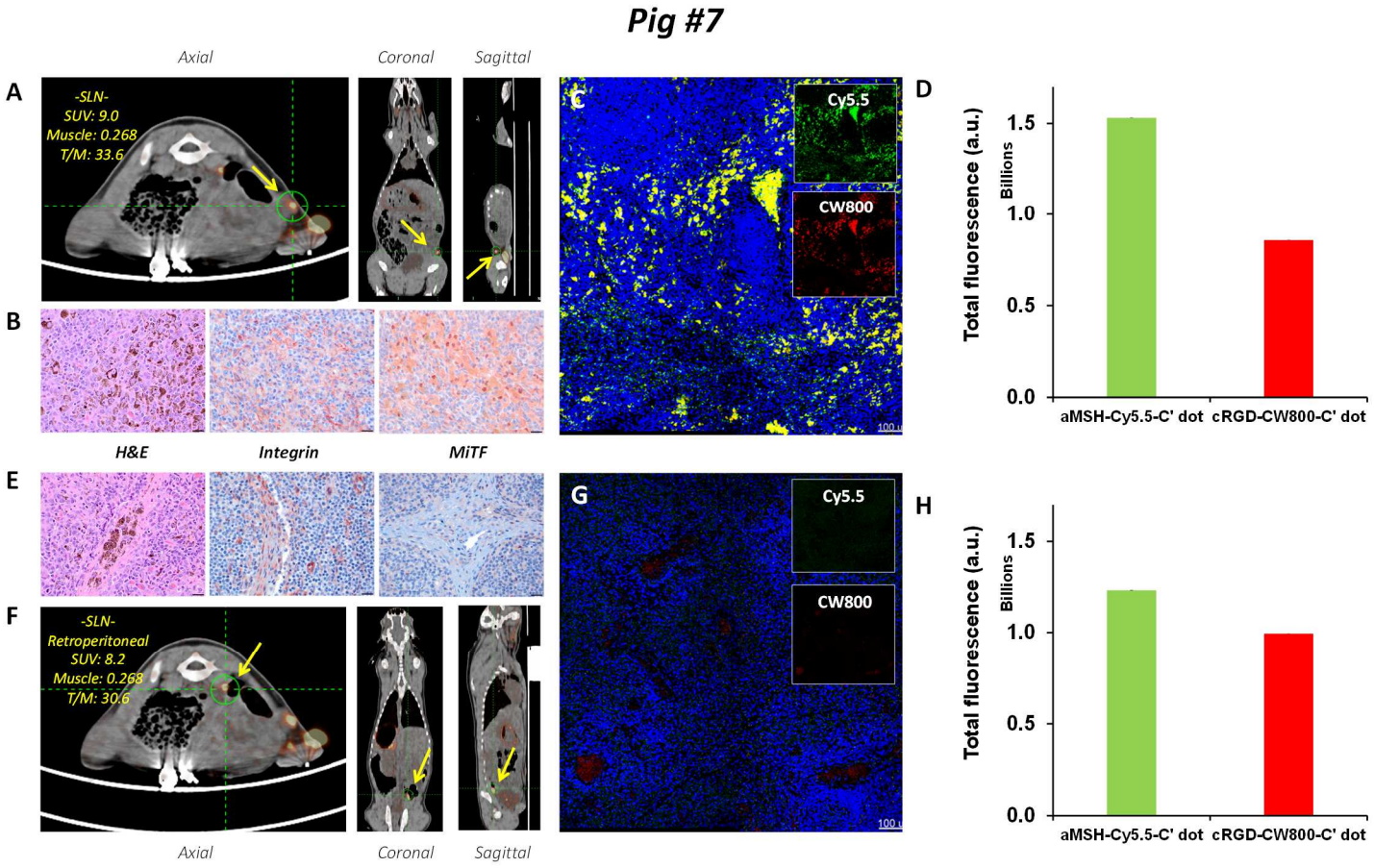

Fig. S16. Whole-body PET/CT imaging and histological analysis of pig #7. Preoperative whole-body PET/CT imaging of spontaneous melanoma miniswine (pig #7). (**A**) SLN, (F) Retroperitoneal SLN. Left: axial view. Middle: coronal view. Right: sagittal view. *Ex vivo* histological analysis of (**B**) SLN and (E) Retroperitoneal SLN. Left: H&E staining. Middle: integrin staining. Right: MiTF staining. Scale bar: 20 μm. High resolution confocal fluorescence microscopy of (**C**) SLN and (**G**) Retroperitoneal SLN with DAPI nuclear stain (scale bar = 100 μm). Inset shows the corresponding Cy5.5 and CW800 channels. Quantification of Cy5.5 and CW800 signals' total fluorescence intensities of (**D**) SLN and (**H**) Retroperitoneal SLN. (Photo Credit: Feng Chen, Brian Madajewski & Sébastien Monette, Memorial Sloan Kettering Cancer Center).

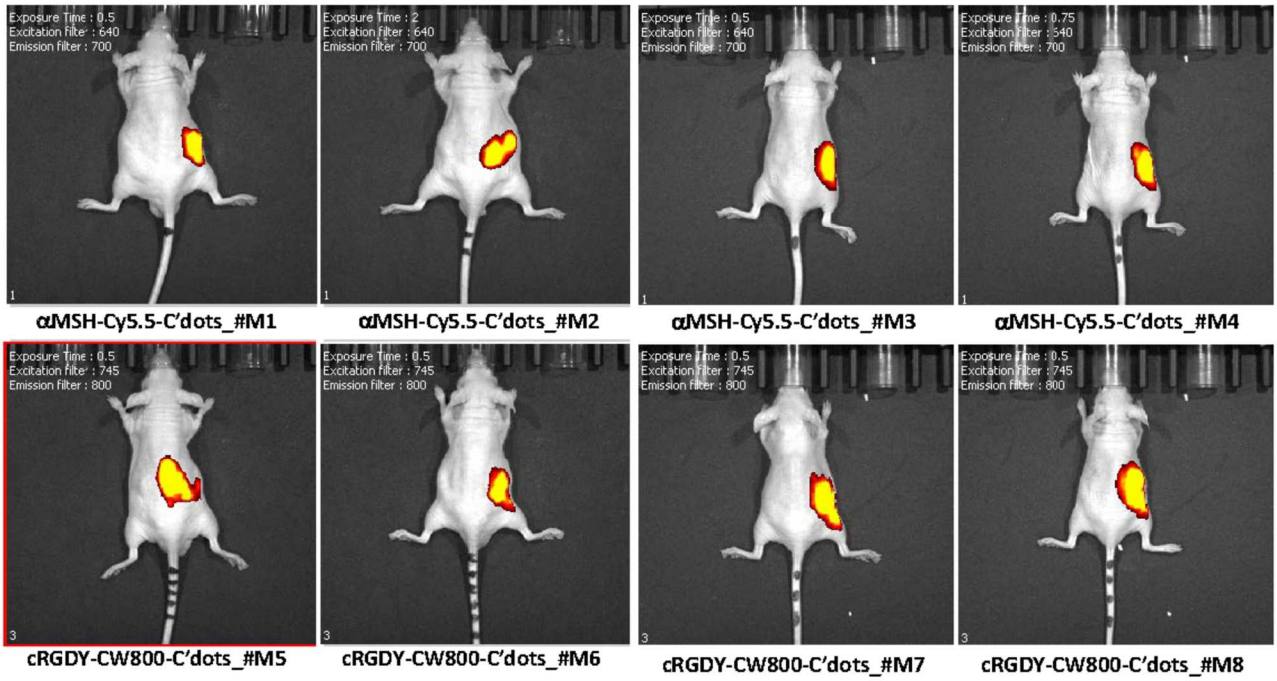

Fig. S17. IVIS imaging to identify nanoparticles at the tumor site. Mice in Groups 1-4 were anesthetized using isoflurane and whole-body optical fluorescence imaging was acquired to identify nanoparticle fluorescence at the tumor site (subcutaneous injection) on Study Day 1, 15 minutes post-injection. Mice were scanned using the IVIS Spectrum photon-counting device optical imaging system (Xenogen, Alameda, CA) with the blocks and filters for Cy5.5 fluorescence (Ex: 684 nm; Em: 710 nm) and CW800 fluorescence (Excitation: 778 nm, Emission: 794 nm). (Photo Credit: Elisa de Stanchina, Memorial Sloan Kettering Cancer Center).

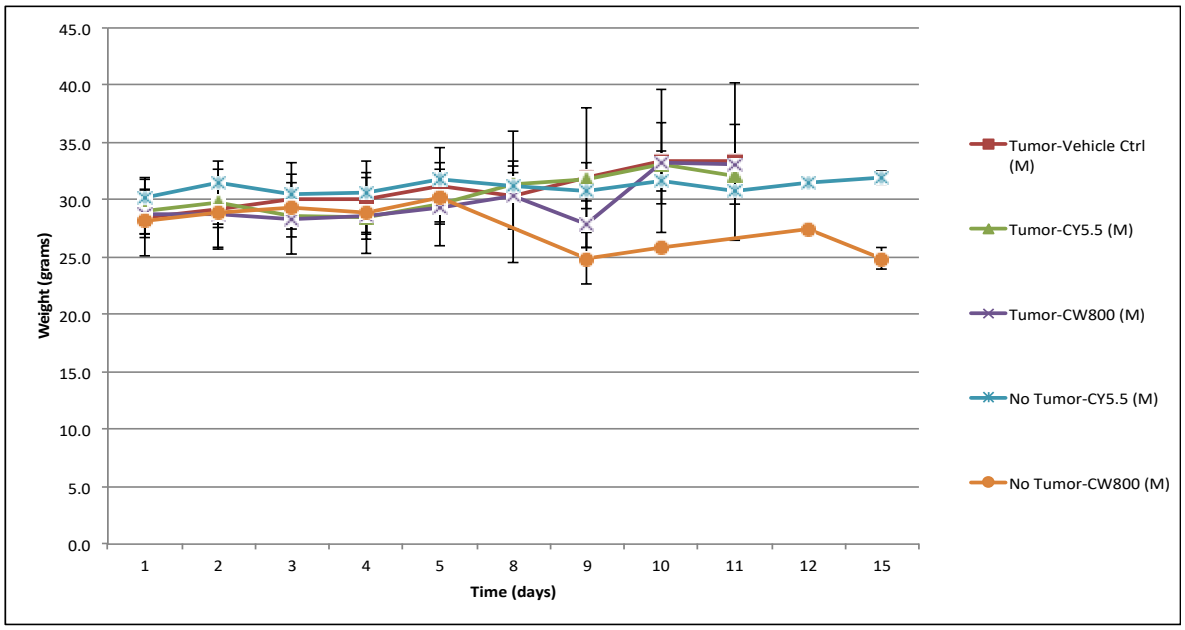

Fig. S18. Average body weight of all male mice from the microdose toxicology study. (Photo Credit: Elisa de Stanchina, Memorial Sloan Kettering Cancer Center).

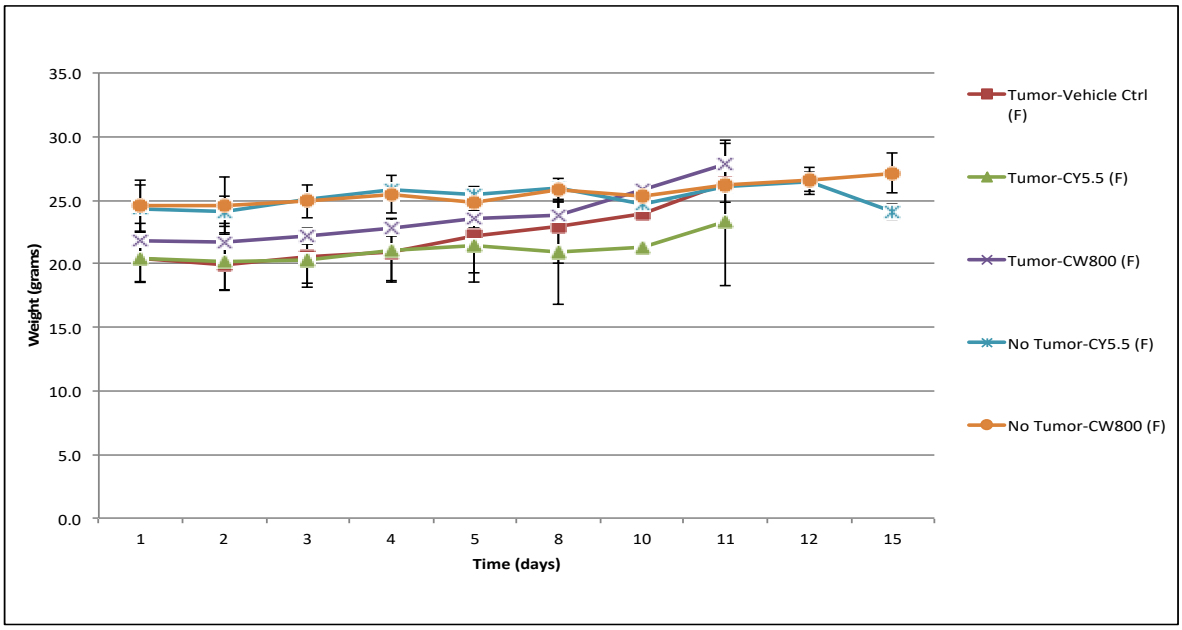

Fig. S19. Average body weight of all female mice from the microdose toxicology study. (Photo Credit: Elisa de Stanchina, Memorial Sloan Kettering Cancer Center).

2. SUPPLEMENTARY TABLES

Table S1. Optimization of 800-nm emitted NIR fluorescent C′ dots.

	Sample	Diameter	Measured Absorbance Peak	Measured Emission Peak	# of dyes per C′ dot	Relative Brightness	
						Single dye	C′ dot
First NIR window	Cy5.5 dye	1.4 nm	675 nm	693 nm	-	1 (reference)	-
	PEG-Cy5.5-C′ dot	6.4 nm	678 nm	697 nm	1.7	1.5	2.6
Second NIR window	DY782 dye	1.9 nm	768 nm	792 nm	-	1 (reference)	-
	DY800 dye	2.1 nm	771 nm	790 nm	-	2.8	-
	CW800 dye	1.7 nm	775 nm	792 nm	-	5.9	-
	PEG-DY782-C′ dot	5.9 nm	780 nm	802 nm	1.7	11.3	19.2
	PEG-DY800-C′ dot	5.0 nm	791 nm	806 nm	2.3	8.3	19.1
	PEG-CW800-C′ dot	6.2 nm	795 nm	810 nm	3.0	17.1	51.2

Table S2. In vivo signal intensity and bleed-through percentage of cocktail C′ dots excited with a 700-nm laser. (800 signal/700 signal)*100 = bleed %.

Cocktail C' dots concentration	Signal in 700 nm channel	Signal in 800 nm channel	Bleed percentage
15 µM	*210.3 (saturated)*	*36.6*	*17.4*
1.5 µM	*210.3 (saturated)*	*14.9*	*7.1*
0.15 µM	*101.0*	*1.1*	*1.1*

Table S3. Summary of the injection information of all seven spontaneous melanoma miniswines. Each miniswine was injected with 19-28 MBq of ^{124}I-cRGDY-PEG-CW800-C' dots.

	Injection time	Imaging time	Post-injection time	Weight (kg)	Total injected dose (MBq)
Pig #1	*2014/07/09, 10:29 AM*	*2014/07/09, 11:22 AM*	*~ 1 h*	*3.88*	*24.4*
Pig #2	*2014/08/06, 10:38 AM*	*2014/08/06, 11:41 AM*	*~ 1 h*	*14.5*	*28.1*
Pig #3	*2015/04/08, 10:09 AM*	*2015/04/08, 11:08 AM*	*~ 1 h*	*12.5*	*23.2*
Pig #4	*2015/04/13, 09:48 AM*	*2015/04/13, 10:42 AM*	*~ 1 h*	*13.1*	*24.5*
Pig #5	*2015/06/23, 10:27 AM*	*2015/06/23, 11:23 AM*	*~ 1 h*	*16.3*	*20.5*
Pig #6	*2015/10/13, 11:20 AM*	*2015/10/13, 12:20 AM*	*~ 1 h*	*6.3*	*22.2*
Pig #7	*2016/02/23, 10:26 AM*	*2016/02/23, 11:25 AM*	*~ 1 h*	*4.68*	*19.4*

Table S4. Summary of PET SUV numbers of all nodes from seven spontaneous melanoma miniswines (~0.5-mm tumor burden was highlighted in green; NA means tumor burden diameter was not available).

Miniswine ID	Name of the node	SUV (Mean)	SD	SUV (Min.)	SUV (Max.)	Muscle (Mean SUV)	Target to background ratio	SD	Tumor burden Diameter (mm)
#1	Right SLN	*7.1*	*1.0*	*5.3*	*8.9*	*0.159*	*44.65*	*6.29*	*2.50*
	Right inguinal node	*12.4*	*1.2*	*11.5*	*13.9*		*77.99*	*7.55*	*2.10*
#2	Left: SLN #1	*229.8*	*13.5*	*207.7*	*251.4*	*0.0995*	*2309.55*	*135.68*	*13.20*
#3	Right: SLN #1	*359.4*	*30.5*	*301.6*	*410.2*	*0.224*	*1604.46*	*136.16*	*8.20*
	Pelvic node	*86.6*	*11.7*	*73.7*	*101.2*		*386.61*	*52.23*	*2.10*
#4	Left: SLN	*114.5*	*14.6*	*89.4*	*142.1*	*0.173*	*661.85*	*84.39*	*NA*
	Right: SLN	*82.5*	*4.9*	*76.6*	*89.0*		*476.88*	*28.32*	*NA*
#5	Left: SLN #1	*73.3*	*29.2*	*66.1*	*80.4*	*0.129*	*568.22*	*226.36*	*5.70*
	Left: SLN #2	*26.5*	*7.2*	*22.5*	*29.8*		*205.43*	*55.81*	*0.50*
#6	Left: SLN #1	*26.6*	*2.6*	*22.4*	*31.7*	*0.126*	*211.11*	*20.63*	*3.70*
	Left: SLN #2	*15.3*	*0.7*	*14.5*	*16.2*		*121.43*	*5.56*	*NA*
#7	Right SLN	*9.0*	*1.0*	*6.7*	*10.5*	*0.268*	*33.58*	*3.73*	*1.60*
	Retroperitoneal SLN	*8.2*	*1.0*	*6.2*	*9.7*		*30.60*	*3.73*	*NA*

Table S5. Microdose toxicology study animal group.

Group	Mice/group	Sex	Mice ID #	Sac. day	Tumors	Necropsy
Imaging samples						
1. αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	2	M	1-2	Day 1	No	No
2. αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	2	F	3-4	Day 1	No	No
3. cRGDY-PEG-CW800-C'dots (1.2 nmol)	2	M	5-6	Day 1	No	No
4. cRGDY-PEG-CW800-C'dots (1.2 nmol)	2	F	7-8	Day 1	No	No
Interim sacrifice on day 2						
5. M21 Tumor- Saline Control	10	M	9-18	Day 2	Yes	Gross and histology
6. M21 Tumor- Saline Control	10	F	19-28	Day 2	Yes	Gross and histology
7. M21 Tumor- αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	10	M	29-38	Day 2	Yes	Gross and histology
8. M21 Tumor- αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	10	F	39-48	Day 2	Yes	Gross and histology
9. M21 Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	10	M	49-58	Day 2	Yes	Gross and histology
10. M21 Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	10	F	59-68	Day 2	Yes	Gross and histology
11. No Tumor- αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	3	M	69-71	Day 2	No	Gross
12. No Tumor - αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	3	F	72-74	Day 2	No	Gross
13. No Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	3	M	75-77	Day 2	No	Gross
14. No Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	3	F	78-80	Day 2	No	Gross
Final sacrifice on day 14						
15. M21 Tumor- Saline Control	5	M	81-85	Day 14	Yes	Gross and histology
16. M21 Tumor- Saline Control	5	F	86-90	Day 14	Yes	Gross and histology
17. M21 Tumor- αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	5	M	91-95	Day 14	Yes	Gross and histology
18. M21 Tumor- αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	5	F	96-100	Day 14	Yes	Gross and histology
19. M21 Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	5	M	111-105	Day 14	Yes	Gross and histology
20. M21 Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	5	F	106-110	Day 14	Yes	Gross and histology
21. No Tumor- αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	3	M	111-113	Day 14	No	Gross
22. No Tumor - αMSH-PEG-Cy5.5-C'dots (1.2 nmol)	3	F	114-116	Day 14	No	Gross
23. No Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	3	M	117-119	Day 14	No	Gross
24. No Tumor- cRGDY-PEG-CW800-C'dots (1.2 nmol)	3	F	120-122	Day 14	No	Gross

Table S6. Mortality and morbidity summary table of the microdose toxicology study.

Group #	Sex	Animal ID#	Study day Found dead	Possible cause of death	Test article related
18. Tumor Test Article αMSH-PEG-Cy5.5-C'dots at 1.2 nmol	F	99, 100	11	Large Tumor burden	Unlikely
19. Tumor Test Article cRGDY-PEG-CW800-C'dots at 1.2 nmol	M	103	9	Large Tumor burden	Unlikely
20. Tumor Test Article cRGDY-PEG-CW800-C'dots at 1.2 nmol	F	108	11	Large Tumor burden	Unlikely
23. No Tumor Test Article cRGDY-PEG-CW800-C'dots at 1.2 nmol	M	118	8	Skin infection	No

Table S7. Hematology parameters in the microdose toxicology study.

Hematology Parameter
Total Leukocyte count (WBC)
% Neutrophils
% Lymphocyte
% Monocytes
% Basophils
% Eosinophils
Erythrocyte count (RBC)
Hemoglobin (HB)
Hematocrit (HCT)
Mean Corpuscular Volume (MCV)
Mean Corpuscular Hemoglobin (MCH)
Mean Corpuscular Hemoglobin Concentration (MCHC)
Platelet count
Mean Platelet Volume (MPV)
Red Blood Cell Distribution Width (RDW)

Table S8. Clinical chemistry parameters in the microdose toxicology study.

Clinical Chemistry Parameter
Alkaline Phosphatase (ALP)
Alanine Aminotransferase (ALT)
Serum Aspartate Aminotransferase (AST)
Albumin
Total Protein
Globulin
Total Bilirubin
Blood Urea Nitrogen (BUN)
Creatinine
Cholesterol
Glucose
Calcium
Phosphorus
Chloride
Potassium
Sodium
Sodium/Potassium ratio (Na/K ratio)
Albumin/Globulin ratio (A/G ratio)

Table S9. Tissues examined microscopically in the microdose toxicology study.

Tissues	
Adrenals	Ovaries
Bone marrow	Oviducts
Bones/joints	Pancreas
Brain	Pituitary gland
Cecum	Prostate
Cervix	Salivary glands
Colon	Skeletal muscle
Epididymis	Seminal Vesicles
Esophagus	Small intestine
Eyes	Spinal cord
Gall bladder	Spleen
Haired skin	Stomach
Heart	Testes
Kidneys	Thyroids
Liver	Trachea
Lungs	Tongue
Mandibular lymph nodes	Urinary Bladder
Mesenteric lymph nodes	Uterus
Nasal cavity	Vagina
Oral cavity	

Microdose toxicology study-Hematology

(Table S10-S29)

***WBC**: White blood cell; **NEU**: Neutrophils; **LYM**: Lymphocytes; **MONO**: Mononucleosis; **EOS**: Eosinophil; **BAS**: Basophils; **RBC**: Red Blood Cell Count; **HGB**: Hemoglobin; **HCT**: Hematocrit; **MCV**: Mean corpuscular volume; **MCH**: Mean Corpuscular Hemoglobin; **MCHC**: Mean corpuscular hemoglobin concentration; **RDW**: Red blood cell distribution width; **PLT**: Platelets; **MPV**: Mean platelet volume.*

Table S10. Hematology parameters, group 5, male, tumor, vehicle control (saline), day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
9	11.9	3.1	8.4	0.3	0.2	0	25.7	70.4	2.2	1.4	0.3	7.5	14	40.1	53.5	18.6	34.8	12	1124	4.9
10	11.4	3.2	7.4	0.6	0.2	0	28	64.9	5.1	1.9	0.1	8.6	15.8	44.3	51.7	18.4	35.6	11.6	1108	4.6
11	7.6	2.2	5	0.2	0.2	0	29.2	66.2	2	2.3	0.3	7.8	14.7	40.5	52.2	19	36.4	11.4	1025	4.6
12	10.3	5.3	4.6	0.3	0.2	0.1	50.9	44.5	2.4	1.8	0.4	7.6	14.7	41	54.1	19.4	35.8	11.2	1229	4.5
13	5.9	3.1	2.2	0.2	0.3	0	53.1	38	4.1	4.2	0.6	7.5	14	39.5	52.5	18.5	35.3	11.7	1173	4.4
14	4.8	3.2	1	0.2	0.3	0	67.6	21	4	7.2	0.2	7.2	13.5	37.8	52.6	18.8	35.8	11.1	1117	4.4
15	5	1.2	3.4	0.3	0.2	0	24.3	66.6	5.2	3.8	0.1	7.8	14.6	40.3	51.7	18.8	36.3	11.6	1106	4.9
16	10.2	1.8	7.9	0.3	0.2	0	17.6	77.5	3	1.8	0.1	7.3	13.9	38.9	53	18.9	35.7	12.4	1128	4.6
17	4.1	1.4	2.4	0.2	0.2	0	32.7	57.7	5.7	3.8	0.1	8.1	15.1	42.5	52.6	18.6	35.4	12.5	1158	4.8
18	6	2.3	3.1	0.3	0.3	0	37.7	52	5.2	5.1	0	7.6	14.2	39.5	52.1	18.7	35.9	12.1	1175	4.7
Mean	**7.7**	**2.7**	**4.5**	**0.3**	**0.2**	**0**	**36.7**	**55.9**	**3.9**	**3.3**	**0.2**	**7.7**	**14.5**	**40.4**	**52.6**	**18.8**	**35.7**	**11.8**	**1134.3**	**4.6**
SD	**3**	**1.2**	**2.6**	**0.1**	**0.1**	**0**	**15.7**	**17.2**	**1.4**	**1.9**	**0.2**	**0.4**	**0.7**	**1.8**	**0.8**	**0.3**	**0.5**	**0.5**	**54.3**	**0.2**
SEM	**0.9**	**0.4**	**0.8**	**0**	**0**	**0**	**5**	**5.4**	**0.4**	**0.6**	**0.1**	**0.1**	**0.2**	**0.6**	**0.2**	**0.1**	**0.1**	**0.2**	**17.2**	**0.1**
N	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S11. Hematology parameters, group 6, female, tumor, vehicle control (saline), day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
19	16.8	4.1	10.7	1.4	0.5	0.1	24.5	63.9	8.6	2.7	0.3	8.2	15.4	42.8	52.3	18.8	35.9	11.8	675	5.2
20	8.7	1.8	6.2	0.5	0.2	0	21.1	70.7	5.7	2.4	0.1	7.9	15.2	41.8	53	19.3	36.4	11.2	875	4.9
21	15.5	3	11.2	0.8	0.6	0.1	19.3	71.9	5	3.5	0.3	8.4	15.5	43.4	52	18.5	35.6	11.7	921	4.7
22	5.9	1.8	3.6	0.2	0.2	0	31.1	61.5	3.4	3.8	0.2	7.1	13.4	37.7	52.9	18.8	35.6	11.9	127	5.7
23	11.4	2	8.6	0.5	0.3	0	17.3	76	4.3	2.4	0	7.8	14.2	40.1	51.1	18.1	35.4	12	838	5
24	13.5	4.1	8.7	0.4	0.4	0	30.1	64.3	2.6	2.8	0.2	8.1	15	41.8	51.6	18.6	36	11.1	1013	4.4
25	7.5	2	5.1	0.2	0.1	0	27	67.8	3.3	1.8	0.1	7.3	13.5	37.4	51.6	18.7	36.2	12.2	1009	4.8
26	6.3	2.1	3.9	0.2	0.2	0	33.1	61.1	2.7	3	0.1	7.3	14.1	39.3	53.9	19.3	35.7	11.6	940	4.9
27	13	2.6	9.8	0.3	0.3	0	19.6	75.8	2.2	2.3	0.1	7.7	14.2	40	52	18.5	35.5	12.4	923	4.8
28	8.9	1.9	6.3	0.3	0.3	0	21.8	71.4	3.5	3.1	0.2	7.1	13.6	37.8	53	19.1	36	11.7	1203	4.6
Mean	**10.7**	**2.5**	**7.4**	**0.5**	**0.3**	**0**	**24.5**	**68.4**	**4.1**	**2.8**	**0.2**	**7.7**	**14.4**	**40.2**	**52.3**	**18.8**	**35.8**	**11.8**	**852.4**	**4.9**
SD	**3.9**	**0.9**	**2.8**	**0.4**	**0.1**	**0**	**5.5**	**5.6**	**1.9**	**0.6**	**0.1**	**0.5**	**0.8**	**2.2**	**0.8**	**0.4**	**0.3**	**0.4**	**288.5**	**0.4**
SEM	**1.2**	**0.3**	**0.9**	**0.1**	**0**	**0**	**1.8**	**1.8**	**0.6**	**0.2**	**0**	**0.1**	**0.3**	**0.7**	**0.3**	**0.1**	**0.1**	**0.1**	**91.2**	**0.1**
N	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S12. Hematology parameters, group 7, male, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
29	7.2	1.9	4.7	0.4	0.2	0	26.4	65.6	5.5	2.5	0	7.9	14.2	40.1	50.9	18.1	35.6	12.3	1189	4.7
30	9.1	1.8	6.6	0.5	0.2	0	19.8	72.9	5.1	2	0.2	8.2	15.3	42.7	52	18.7	35.9	11.6	1175	4.6
31	3.9	1.3	2.4	0.2	0.1	0	33.2	59.9	4.7	2.1	0.1	7.6	13.9	39.3	51.6	18.2	35.3	11.6	1094	4.8
32	4	1.2	2.4	0.3	0.1	0	30.7	60.2	6.7	2.3	0.1	7.8	14.8	41.1	52.5	18.9	36	11.4	1153	4.9
33	5.8	1.5	3.9	0.2	0.1	0	25.6	68.3	4.1	2	0	8	14.9	42.4	52.9	18.6	35.1	12	1251	4.4
34	10.2	2.3	7.3	0.3	0.2	0	22.7	72.1	3.3	1.9	0	7.5	13.9	38.6	51.3	18.5	36.1	12.3	1071	4.7
35	8.4	1.9	5.8	0.4	0.2	0	22.8	69.4	5	2.7	0.1	8	15.2	41.6	52	19.1	36.7	12	1155	4.3
36	6.6	1.8	4.4	0.3	0.2	0	26.4	66.8	3.9	2.8	0.1	7.7	14.1	39	50.8	18.4	36.3	10.9	967	4.5
37	5.6	1.1	3.8	0.4	0.3	0	19.5	68.5	6.7	5.2	0.1	7.1	13.6	37	51.9	19	36.6	11.2	1007	4.7
38	6.1	2.3	3.3	0.3	0.2	0	37.2	54.9	5	2.8	0.1	7.9	14.8	41.9	53.3	18.9	35.4	11.9	1099	4.5
Mean	**6.7**	**1.7**	**4.5**	**0.3**	**0.2**	**0**	**26.4**	**65.9**	**5**	**2.6**	**0.1**	**7.8**	**14.5**	**40.4**	**51.9**	**18.6**	**35.9**	**11.7**	**1116.1**	**4.6**
SD	**2.1**	**0.4**	**1.7**	**0.1**	**0.1**	**0**	**5.8**	**5.8**	**1.1**	**1**	**0.1**	**0.3**	**0.6**	**1.9**	**0.8**	**0.3**	**0.5**	**0.5**	**86.2**	**0.2**
SEM	**0.7**	**0.1**	**0.5**	**0**	**0**	**0**	**1.8**	**1.8**	**0.4**	**0.3**	**0**	**0.1**	**0.2**	**0.6**	**0.3**	**0.1**	**0.2**	**0.1**	**27.2**	**0.1**
N	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S13. Hematology parameters, group 8, female, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
39	8.3	1.6	6.3	0.3	0.2	0	18.7	75.7	3.6	2	0	7	14.2	38.2	54.3	20.2	37.1	10.8	1056	5.1
40	9.3	1.8	7	0.2	0.3	0	19.6	74.8	2.4	3	0.2	7.4	13.9	38.6	52.5	19	36.1	10.9	1124	4.7
41	11	3.4	6.8	0.4	0.4	0	30.8	62	3.3	3.8	0.1	7.3	13.9	38	52.3	19.1	36.6	11.2	1263	4.5
42	7.4	1.4	5.5	0.3	0.2	0	18.8	75.1	3.6	2.5	0	7.1	13.7	37.3	52.3	19.2	36.7	11	1308	4.4
43	7.8	1.4	6.1	0.2	0.2	0	18	77.5	2	2.2	0.3	7.8	14.6	41.6	53.3	18.8	35.2	12.1	1106	4.4
44	14.8	3.4	10.4	0.4	0.7	0	22.6	70.3	2.5	4.5	0.1	7.9	15	41.2	52.5	19.2	36.5	11.5	1212	4.4
45	6.5	2	4.2	0.2	0.2	0	30.6	63.8	3.1	2.3	0.2	7.8	15.1	41.3	52.7	19.2	36.5	11.5	211	5.8
46	5.3	1.5	3.3	0.2	0.2	0	28.3	63.4	4.3	3.7	0.3	7.8	14.8	41.4	52.8	18.8	35.7	10.9	951	4.6
47	6.6	1.6	4.7	0.2	0.2	0	24.5	70.3	2.4	2.7	0.1	7.2	14	39	54	19.4	36	11.2	709	5.2
48	5.8	1.6	3.7	0.2	0.2	0	28.4	64.6	3	3.8	0.2	7.1	13	36.7	51.6	18.3	35.5	11.7	1062	4.7
Mean	**8.3**	**2**	**5.8**	**0.2**	**0.3**	**0**	**24**	**69.8**	**3**	**3.1**	**0.2**	**7.4**	**14.2**	**39.3**	**52.8**	**19.1**	**36.2**	**11.3**	**1000.2**	**4.8**
SD	**2.9**	**0.8**	**2.1**	**0.1**	**0.2**	**0**	**5.2**	**5.9**	**0.7**	**0.8**	**0.1**	**0.3**	**0.7**	**1.9**	**0.8**	**0.5**	**0.6**	**0.4**	**325.3**	**0.5**
SEM	**0.9**	**0.2**	**0.7**	**0**	**0.1**	**0**	**1.6**	**1.9**	**0.2**	**0.3**	**0**	**0.1**	**0.2**	**0.6**	**0.3**	**0.2**	**0.2**	**0.1**	**102.9**	**0.1**
N	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S14. Hematology parameters, group 9, male, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
49	7.7	4.2	3	0.3	0.2	0	54.4	39.3	3.6	2.3	0.4	7.3	14.6	39.5	54.1	20	36.9	11.1	1023	4.6
50	7.9	3.6	4	0.2	0.2	0	45.1	50.3	2.3	2	0.3	8.6	16.2	44.5	51.9	18.9	36.4	11.5	1129	4.9
51	6.6	3.5	2.7	0.2	0.2	0	53.1	41.2	2.7	2.9	0.1	7.8	14.8	40.5	51.9	19	36.6	10.7	1209	4.9
52	5.4	2.6	2.5	0.1	0.1	0	48.3	46.9	2.5	1.9	0.4	8	15.8	43.6	54.4	19.7	36.3	11.3	964	4.8
53	8	1.3	6.3	0.3	0.2	0	15.9	78.5	3.5	1.9	0.2	8.1	15.2	42.4	52.6	18.9	35.9	11.5	1364	4.3
54	11.6	1.7	9.5	0.2	0.2	0	15	81.5	1.9	1.5	0.1	7.7	14.3	40.5	52.7	18.7	35.4	11.4	1427	4.6
55	11.1	2.2	8.2	0.4	0.2	0	20	74.2	3.9	1.8	0.1	8.1	15	40.6	50.4	18.6	36.9	11.2	1164	4.7
56	7.2	1.5	5.5	0.1	0.1	0	20.4	76	1.8	1.7	0.1	7.7	14.1	40.7	53.1	18.4	34.7	11.7	656	5.3
57	6.7	2.5	3.7	0.3	0.2	0	37.6	56	3.8	2.6	0	7.8	15.1	41.6	53.3	19.3	36.2	12.3	1032	4.5
58	8.6	4	3.7	0.6	0.3	0	46.5	42.4	7.1	3.6	0.4	8.1	16	43.3	53.5	19.7	36.9	10.9	907	4.9
Mean	**8.1**	**2.7**	**4.9**	**0.3**	**0.2**	**0**	**35.6**	**58.6**	**3.3**	**2.2**	**0.2**	**7.9**	**15.1**	**41.7**	**52.8**	**19.1**	**36.2**	**11.4**	**1087.5**	**4.8**
SD	**2**	**1.1**	**2.4**	**0.1**	**0.1**	**0**	**16.1**	**17.1**	**1.5**	**0.6**	**0.2**	**0.3**	**0.7**	**1.6**	**1.2**	**0.5**	**0.7**	**0.4**	**224.9**	**0.3**
SEM	**0.6**	**0.3**	**0.8**	**0**	**0**	**0**	**5.1**	**5.4**	**0.5**	**0.2**	**0**	**0.1**	**0.2**	**0.5**	**0.4**	**0.2**	**0.2**	**0.1**	**71.1**	**0.1**
N	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S15. Hematology parameters, group 10, female, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
59	6	1.6	4	0.2	0.2	0	26.9	65.9	3.8	3.3	0.1	7.4	13.4	37.6	50.7	18.1	35.6	11.6	1055	4.3
60	8.9	1.9	6.5	0.3	0.2	0	21.3	73.4	3.2	1.9	0.2	9	16.3	45.1	50.2	18.2	36.2	11	1040	5
61	12.4	2.8	9	0.5	0.2	0	22.1	72.2	4	1.6	0.1	8.1	15.4	42.4	52.2	18.9	36.3	11.6	974	4.9
62	4.2	1.2	2.7	0.2	0.1	0	28.4	64.6	4.3	2.6	0.1	8.3	15.1	41.6	50	18.2	36.3	11.8	623	4.6
63	3.2	0.9	2.2	0.1	0.1	0	26.6	67.4	1.8	4	0.2	7.5	14.3	39.9	53.1	19.1	35.9	12	1022	4.6
64	7.4	2.9	4.1	0.3	0.1	0	38.7	55	4.4	1.8	0.1	7.8	14.9	39.8	50.9	19	37.3	11.7	1027	4.9
65	5.3	1.8	3.3	0.2	0.1	0	33.2	62	3.4	1.4	0	7.6	14	38.5	50.5	18.4	36.4	11.5	969	4.7
66	8.3	1.6	6.4	0.2	0.2	0	18.9	76.7	2.2	2	0.2	8	14.9	40.9	51.2	18.7	36.4	11.3	994	4.7
67	5.9	1.7	4	0.1	0.1	0	29.3	66.9	2.4	1.4	0	8.4	15.4	42.6	50.4	18.2	36.1	11.2	1281	4.5
68	7.3	2.6	4.2	0.4	0.1	0	35.3	58.1	5.2	1.3	0.1	8	15	41.9	52.1	18.7	35.8	11.8	999	4.7
Mean	**6.9**	**1.9**	**4.6**	**0.2**	**0.1**	**0**	**28.1**	**66.2**	**3.5**	**2.1**	**0.1**	**8**	**14.9**	**41**	**51.1**	**18.6**	**36.2**	**11.6**	**998.4**	**4.7**
SD	**2.6**	**0.7**	**2.1**	**0.1**	**0**	**0**	**6.3**	**6.8**	**1.1**	**0.9**	**0.1**	**0.5**	**0.8**	**2.2**	**1**	**0.4**	**0.5**	**0.3**	**159.4**	**0.2**
SEM	**0.8**	**0.2**	**0.7**	**0**	**0**	**0**	**2**	**2.1**	**0.3**	**0.3**	**0**	**0.2**	**0.3**	**0.7**	**0.3**	**0.1**	**0.1**	**0.1**	**50.4**	**0.1**
N	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S16. Hematology parameters, group 11, male, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
69	12.5	2.2	9.6	0.5	0.2	0	17.3	76.8	4.1	1.8	0	8.1	14.9	41.7	51.7	18.5	35.8	11.7	1366	4.4
70	7	1.3	5.3	0.3	0.1	0	19.2	75.9	3.6	1.3	0	7.4	13.7	37.3	50.8	18.7	36.8	11.5	1142	4.8
71	8	1.9	5.6	0.3	0.2	0	23.3	70.5	3.8	2.4	0	7	13.4	37	53.1	19.2	36.2	11.3	1123	5
Mean	**9.1**	**1.8**	**6.8**	**0.4**	**0.2**	**0**	**19.9**	**74.4**	**3.8**	**1.8**	**0**	**7.5**	**14**	**38.7**	**51.9**	**18.8**	**36.3**	**11.5**	**1210.3**	**4.7**
SD	**2.9**	**0.4**	**2.4**	**0.1**	**0.1**	**0**	**3.1**	**3.4**	**0.3**	**0.6**	**0**	**0.6**	**0.8**	**2.6**	**1.2**	**0.4**	**0.5**	**0.2**	**135.1**	**0.3**
SEM	**1.7**	**0.2**	**1.4**	**0.1**	**0**	**0**	**1.8**	**2**	**0.1**	**0.3**	**0**	**0.3**	**0.5**	**1.5**	**0.7**	**0.2**	**0.3**	**0.1**	**78**	**0.2**
N	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S17. Hematology parameters, group 12, female, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
72	5.4	1.8	3.3	0.2	0.2	0	32.6	60.5	3.9	2.9	0.1	8.3	14.8	41	49.6	17.8	36	11.1	1092	4.9
73	7.9	1.9	5.5	0.3	0.2	0	24.3	69.7	3.1	2.8	0.1	8.3	14.8	42.2	51.2	17.9	34.9	11.7	1104	4.7
74	7.5	1.1	6.1	0.1	0.1	0	15.3	81.4	1.5	1.7	0.1	7.9	14.4	39.8	50.1	18.1	36.1	12.7	933	4.6
Mean	**6.9**	**1.6**	**5**	**0.2**	**0.2**	**0**	**24.1**	**70.5**	**2.8**	**2.5**	**0.1**	**8.2**	**14.7**	**41**	**50.3**	**17.9**	**35.7**	**11.8**	**1043**	**4.7**
SD	**1.4**	**0.4**	**1.5**	**0.1**	**0**	**0**	**8.7**	**10.5**	**1.2**	**0.7**	**0**	**0.2**	**0.2**	**1.2**	**0.8**	**0.2**	**0.7**	**0.8**	**95.5**	**0.2**
SEM	**0.8**	**0.2**	**0.9**	**0**	**0**	**0**	**5**	**6**	**0.7**	**0.4**	**0**	**0.1**	**0.1**	**0.7**	**0.5**	**0.1**	**0.4**	**0.5**	**55.1**	**0.1**
N	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S18. Hematology parameters, group 13, male, no tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
75	12.5	3.7	8.1	0.4	0.3	0	29.7	64.5	3.3	2.4	0.1	8.2	15.6	42.7	52.3	19	36.4	11.3	868	4.9
76	6	1.2	4.4	0.2	0.1	0	20.6	73.9	3.5	1.9	0.1	7.9	14.9	42.2	53.5	18.9	35.3	11.8	1047	4.7
77	9.2	1.4	7.3	0.3	0.2	0	15.5	79.3	3.4	1.8	0	8	15.2	42.6	53.4	19	35.7	11.8	873	4.8
Mean	**9.2**	**2.1**	**6.6**	**0.3**	**0.2**	**0**	**21.9**	**72.6**	**3.4**	**2**	**0.1**	**8**	**15.2**	**42.5**	**53.1**	**19**	**35.8**	**11.6**	**929.3**	**4.8**
SD	**3.3**	**1.4**	**1.9**	**0.1**	**0.1**	**0**	**7.2**	**7.5**	**0.1**	**0.3**	**0.1**	**0.1**	**0.4**	**0.3**	**0.7**	**0.1**	**0.6**	**0.3**	**101.9**	**0.1**
SEM	**1.9**	**0.8**	**1.1**	**0.1**	**0.1**	**0**	**4.2**	**4.3**	**0.1**	**0.2**	**0**	**0.1**	**0.2**	**0.2**	**0.4**	**0**	**0.3**	**0.2**	**58.9**	**0.1**
N	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S19. Hematology parameters, group 14, female, no tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
78	6.5	1.3	4.8	0.2	0.2	0	20.1	74.5	2.4	2.8	0.2	7.9	15.3	42.1	53.3	19.3	36.3	11.9	1132	4.8
79	7.4	1.6	5.4	0.2	0.2	0	21.4	73.9	2.4	2.2	0.1	7.1	14.4	39.5	55.4	20.2	36.5	11.8	211	6.7
80	4	0.9	3	0.1	0.1	0	22.8	73.5	1.9	1.7	0.1	8.8	14	39.8	45.4	15.9	35.1	17.4	931	4.9
Mean	**6**	**1.3**	**4.4**	**0.1**	**0.1**	**0**	**21.4**	**74**	**2.2**	**2.2**	**0.1**	**7.9**	**14.6**	**40.5**	**51.4**	**18.5**	**36**	**13.7**	**758**	**5.5**
SD	**1.7**	**0.3**	**1.3**	**0.1**	**0.1**	**0**	**1.4**	**0.5**	**0.3**	**0.6**	**0.1**	**0.8**	**0.7**	**1.4**	**5.3**	**2.3**	**0.8**	**3.2**	**484.3**	**1.1**
SEM	**1**	**0.2**	**0.7**	**0**	**0**	**0**	**0.8**	**0.3**	**0.2**	**0.3**	**0**	**0.5**	**0.4**	**0.8**	**3**	**1.3**	**0.4**	**1.9**	**279.6**	**0.6**
N	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S20. Hematology parameters, group 15, male, tumor, vehicle control (saline), day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
81	15.5	6.1	8.6	0.5	0.2	0.1	39.6	55.3	3.1	1.4	0.6	7	12.7	36.6	52.6	18.3	34.7	12.5	727	4.9
82	9.2	5.7	2.9	0.4	0.1	0.1	62.3	31.1	4.8	1.3	0.5	4.3	8.3	22.8	53.2	19.3	36.2	13	615	5
83	8.1	1.7	5.9	0.3	0.1	0	21.4	72.9	4	1.3	0.4	6.5	12.4	36.6	55.9	19	33.9	12	864	4.8
84	7.6	3.4	3.8	0.3	0.1	0	44.2	50.4	3.5	1.3	0.6	6.2	11.3	32.5	52.9	18.3	34.6	11.4	633	5.3
85	12.7	4	8	0.4	0.2	0	31.6	63.4	3.5	1.4	0.1	3	5.9	17.7	59.6	19.9	33.4	24.7	1003	6.6
Mean	**10.6**	**4.2**	**5.8**	**0.4**	**0.1**	**0**	**39.8**	**54.6**	**3.8**	**1.3**	**0.4**	**5.4**	**10.1**	**29.2**	**54.8**	**19**	**34.6**	**14.7**	**768.4**	**5.3**
SD	**3.4**	**1.8**	**2.5**	**0.1**	**0.1**	**0**	**15.3**	**15.7**	**0.7**	**0.1**	**0.2**	**1.7**	**2.9**	**8.6**	**3**	**0.7**	**1.1**	**5.6**	**164.1**	**0.7**
SEM	**1.5**	**0.8**	**1.1**	**0**	**0**	**0**	**6.8**	**7**	**0.3**	**0**	**0.1**	**0.8**	**1.3**	**3.8**	**1.3**	**0.3**	**0.5**	**2.5**	**73.4**	**0.3**
N	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**

Table S21. Hematology parameters, group 16, female, tumor, vehicle control (saline), day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
86	14.6	4.9	7.8	1.5	0.3	0.1	33.6	53.6	10.3	2	0.5	7.1	13.5	37.3	52.8	19	36	12.2	771	5
87	8.2	3	4.6	0.5	0.2	0	36	55.6	6	1.9	0.5	5.8	11.1	31.6	54.6	19.2	35.1	12.7	847	5
88	8.2	3.3	3.7	0.8	0.3	0	40.7	44.9	10	4.1	0.3	6.6	12.3	35.8	54.3	18.7	34.4	13	1089	5.4
89	15.9	8.5	6.2	0.9	0.3	0.1	53.2	38.7	5.8	1.7	0.6	6.1	11.4	31.8	52.5	18.8	35.9	15.4	559	5.2
90	8.2	4.7	3	0.5	0.1	0.1	56.7	36.1	5.5	1.1	0.6	5	9.5	26.2	52.6	19	36.1	11.5	567	5.3
Mean	**11**	**4.9**	**5**	**0.8**	**0.2**	**0.1**	**44**	**45.8**	**7.5**	**2.2**	**0.5**	**6.1**	**11.6**	**32.5**	**53.4**	**18.9**	**35.5**	**13**	**766.6**	**5.2**
SD	**3.9**	**2.2**	**2**	**0.4**	**0.1**	**0**	**10.4**	**8.7**	**2.4**	**1.1**	**0.1**	**0.8**	**1.5**	**4.3**	**1**	**0.2**	**0.7**	**1.5**	**219.9**	**0.2**
SEM	**1.7**	**1**	**0.9**	**0.2**	**0**	**0**	**4.6**	**3.9**	**1.1**	**0.5**	**0.1**	**0.4**	**0.7**	**1.9**	**0.5**	**0.1**	**0.3**	**0.7**	**98.3**	**0.1**
N	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**

Table S22. Hematology parameters, group 17, male, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
91	14	6.5	6.2	0.8	0.3	0.2	46.6	44.3	5.4	2.3	1.4	6	11.3	32.9	54.7	18.8	34.3	12.1	537	5.6
92	7.9	3.1	4	0.4	0.2	0.1	39.8	51.2	4.9	3.1	1	6.4	12	34.8	54.2	18.6	34.4	12.5	553	5.8
93	8.1	3.6	3.8	0.4	0.3	0.1	45	46.7	4.5	3.1	0.7	6.9	12.7	38.3	55.5	18.4	33.2	12.1	650	5.6
94	10.3	5.3	4.1	0.6	0.2	0.2	51.8	39.9	5.3	1.6	1.4	6	11.3	32.7	54.7	18.8	34.4	12.5	656	5.3
95	8.4	3.3	4.6	0.4	0.1	0	39	55	4.1	1.4	0.5	6.1	12	35.7	58.9	19.8	33.6	17.6	388	6.3
Mean	**9.7**	**4.4**	**4.5**	**0.5**	**0.2**	**0.1**	**44.4**	**47.4**	**4.8**	**2.3**	**1**	**6.3**	**11.9**	**34.9**	**55.6**	**18.9**	**34**	**13.4**	**556.8**	**5.7**
SD	**2.6**	**1.5**	**1**	**0.2**	**0.1**	**0.1**	**5.3**	**5.9**	**0.5**	**0.8**	**0.4**	**0.4**	**0.6**	**2.3**	**1.9**	**0.5**	**0.5**	**2.4**	**108.9**	**0.4**
SEM	**1.2**	**0.7**	**0.4**	**0.1**	**0**	**0**	**2.3**	**2.6**	**0.2**	**0.4**	**0.2**	**0.2**	**0.3**	**1**	**0.9**	**0.2**	**0.2**	**1.1**	**48.7**	**0.2**
N	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**

Table S23. Hematology parameters, group 18, female, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
96	7.7	2.7	4.4	0.5	0.2	0	34.3	56.5	6.5	2.3	0.4	3.7	7.8	22	59.5	21	35.3	25.4	1514	5.7
97	8.2	3.8	3.6	0.5	0.2	0.1	46.2	43.9	5.9	2.8	1.2	6.4	12.4	35.3	55.2	19.4	35.2	12.5	695	5.5
98	8.8	5.4	2.4	0.7	0.2	0.1	61.1	27	7.9	2.5	1.5	6.8	12.9	36.4	53.8	19.1	35.6	12.4	767	5.1
99	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
100	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
Mean	**8.2**	**3.9**	**3.4**	**0.6**	**0.2**	**0.1**	**47.2**	**42.5**	**6.8**	**2.5**	**1**	**5.6**	**11**	**31.2**	**56.2**	**19.8**	**35.4**	**16.8**	**992**	**5.4**
SD	**0.6**	**1.4**	**1**	**0.1**	**0**	**0.1**	**13.4**	**14.8**	**1**	**0.3**	**0.6**	**1.7**	**2.8**	**8**	**3**	**1**	**0.2**	**7.5**	**453.5**	**0.3**
SEM	**0.3**	**0.8**	**0.6**	**0.1**	**0**	**0**	**7.8**	**8.5**	**0.6**	**0.1**	**0.3**	**1**	**1.6**	**4.6**	**1.7**	**0.6**	**0.1**	**4.3**	**261.8**	**0.2**
N	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S24. Hematology parameters, group 19, male, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
101	10.5	4.9	5.1	0.4	0.2	0.1	46.1	48.1	3.5	1.7	0.6	6.8	12.8	36.6	53.8	18.8	35	12.1	858	4.6
102	6.9	3.4	2.8	0.5	0.1	0	49.6	40.3	7.6	1.9	0.6	6.7	12.3	35.6	53.6	18.5	34.5	12.5	671	5.6
103	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
104	7.3	2.8	4	0.3	0.2	0	38.3	54.1	4.2	3	0.4	7.4	13.3	37.8	51	17.9	35.1	11.1	972	5
105	8	5.4	2.2	0.3	0.1	0.1	67.9	27.1	3.5	0.6	0.9	6.3	11.6	33.2	52.7	18.4	34.8	12.8	698	5
Mean	**8.2**	**4.1**	**3.5**	**0.4**	**0.1**	**0**	**50.5**	**42.4**	**4.7**	**1.8**	**0.6**	**6.8**	**12.5**	**35.8**	**52.8**	**18.4**	**34.9**	**12.1**	**799.8**	**5.1**
SD	**1.6**	**1.2**	**1.3**	**0.1**	**0.1**	**0**	**12.5**	**11.7**	**2**	**1**	**0.2**	**0.5**	**0.7**	**2**	**1.3**	**0.4**	**0.3**	**0.7**	**141.4**	**0.4**
SEM	**0.8**	**0.6**	**0.6**	**0.1**	**0**	**0**	**6.3**	**5.8**	**1**	**0.5**	**0.1**	**0.2**	**0.4**	**1**	**0.6**	**0.2**	**0.1**	**0.4**	**70.7**	**0.2**
N	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**

Table S25. Hematology parameters, group 20, female, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
106	10.3	5.6	4.1	0.4	0.2	0.1	54.7	39.7	3.4	1.7	0.5	5.5	10.4	27.7	50.7	19.1	37.6	15.1	600	5.6
107	7.7	4.4	2.7	0.3	0.2	0.1	57.5	35.4	4.4	1.9	0.8	5.9	11.2	30.9	52	18.8	36.2	12.3	649	5.2
108	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
109	7.9	4.4	2.2	0.8	0.4	0.2	56.1	27.4	10.1	4.4	2	5.9	11.2	31.8	53.6	18.9	35.3	13.2	676	5.2
110	7.7	3.3	3.4	0.8	0.2	0.1	42.9	44.4	9.7	2.3	0.7	6.7	12.4	34.9	52	18.5	35.5	12.4	825	5
Mean	8.4	4.4	3.1	0.6	0.2	0.1	52.8	36.7	6.9	2.6	1	6	11.3	31.3	52.1	18.8	36.2	13.3	687.5	5.3
SD	1.3	1	0.8	0.2	0.1	0.1	6.7	7.2	3.5	1.2	0.7	0.5	0.8	3	1.2	0.3	1	1.3	96.9	0.3
SEM	0.6	0.5	0.4	0.1	0	0	3.3	3.6	1.7	0.6	0.3	0.3	0.4	1.5	0.6	0.1	0.5	0.6	48.5	0.1
N	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Table S26. Hematology parameters, group 21, male, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
111	8.2	1.9	5.8	0.3	0.2	0	23	70.6	3.7	2.4	0.3	7.6	13.7	37.6	49.3	17.9	36.3	11.7	1373	4.7
112	10.7	2.4	7.7	0.4	0.2	0	22.6	72	3.2	2	0.2	8.4	15.6	44.5	52.7	18.5	35	12	1374	5.3
113	6	1	4.6	0.2	0.2	0	17.2	76.3	3.6	2.7	0.2	7.7	14.2	40.2	52.5	18.6	35.3	11.9	1165	5
Mean	8.3	1.8	6	0.3	0.2	0	20.9	73	3.5	2.4	0.2	7.9	14.5	40.8	51.5	18.3	35.5	11.9	1304	5
SD	2.3	0.7	1.6	0.1	0	0	3.2	3	0.3	0.4	0.1	0.5	1	3.5	1.9	0.4	0.7	0.2	120.4	0.3
SEM	1.3	0.4	0.9	0	0	0	1.9	1.7	0.2	0.2	0	0.3	0.6	2	1.1	0.2	0.4	0.1	69.5	0.2
N	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Table S27. Hematology parameters, group 22, female, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
114	1.6	0.6	0.9	0.1	0.1	0	38.2	53.2	4.7	3.6	0.3	8.1	15	41.2	51.1	18.6	36.3	11	1067	5.1
115	4.4	1.5	2.5	0.3	0.1	0	33.6	56.6	7.4	2.1	0.3	8.2	15	41.3	50.4	18.2	36.2	10.9	1018	5.1
116	4.9	1.3	3.2	0.2	0.1	0	26.7	65.7	4	2.6	1	8	14.6	40.5	50.4	18.2	36.1	12.5	868	5.2
Mean	3.6	1.1	2.2	0.2	0.1	0	32.8	58.5	5.4	2.8	0.5	8.1	14.9	41	50.6	18.3	36.2	11.5	984.3	5.1
SD	1.8	0.5	1.2	0.1	0	0	5.8	6.5	1.8	0.8	0.4	0.1	0.2	0.4	0.4	0.2	0.1	0.9	103.7	0.1
SEM	1	0.3	0.7	0.1	0	0	3.3	3.7	1	0.4	0.2	0.1	0.1	0.3	0.2	0.1	0.1	0.5	59.9	0
N	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Table S28. Hematology parameters, group 23, male, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
117	10.3	8.9	1.1	0.2	0.1	0	86.3	10.5	2.2	0.6	0.4	8.8	16	43	49	18.2	37.1	12.7	1239	5.4
118	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
119	4.5	3.5	0.9	0.1	0.1	0	76	20.2	2.4	1.2	0.2	9	16.2	46.2	51.4	18	35	13.3	1424	5.2
Mean	7.4	6.2	1	0.2	0.1	0	81.2	15.4	2.3	0.9	0.3	8.9	16.1	44.6	50.2	18.1	36.1	13	1331.5	5.3
SD	4	3.8	0.1	0.1	0	0	7.3	6.9	0.1	0.4	0.1	0.2	0.1	2.3	1.7	0.1	1.5	0.4	130.8	0.1
SEM	2.9	2.7	0.1	0.1	0	0	5.2	4.9	0.1	0.3	0.1	0.1	0.1	1.6	1.2	0.1	1.1	0.3	92.5	0.1
N	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Table S29. Hematology parameters, group 24, female, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	WBC	NEU	LYM	MONO	EOS	BAS	NEU %	LYM %	MONO %	EOS %	BAS %	RBC	HGB	HCT	MCV	MCH	MCHC	RDW%	PLT	MPV
	K/uL	K/uL	K/uL	K/uL	K/uL	K/uL	%	%	%	%	%	M/uL	g/dL	%	fL	Pg	g/dL	%	K/uL	f/L
	6.95-8.95	3.58-5.48	1.75-3.03	0-3.24	0-1.86	0-0.20	53.7-77.7	11.8-25.8	0-18.4	0-10.6	0-2.0	4.8-5.4	15.6-17.2	43.5-51.5	87.1-99.1	29.7-34.7	31.5-37.5	13.9-19.9	443-563	6.7-12.7
120	4.7	1.3	3.1	0.2	0.1	0	27.4	65.8	4.3	2.3	0.2	7.9	14.3	40.8	51.8	18.1	35	12.5	1002	5.3
121	3.8	0.7	2.9	0.2	0.1	0	18	74.6	5.3	1.9	0.2	7.8	14.3	39.8	51.2	18.4	36	11.6	1118	5.1
122	3.9	0.9	2.7	0.2	0.1	0	23.6	70	4	2.1	0.3	7.3	13.5	38.6	53.2	18.6	34.9	11.9	1011	5
Mean	4.2	1	2.9	0.2	0.1	0	23	70.1	4.5	2.1	0.2	7.6	14	39.7	52.1	18.4	35.3	12	1043.7	5.1
SD	0.5	0.3	0.2	0	0	0	4.7	4.4	0.7	0.2	0.1	0.3	0.5	1.1	1	0.3	0.6	0.5	64.5	0.2
SEM	0.3	0.2	0.1	0	0	0	2.7	2.5	0.4	0.1	0	0.2	0.3	0.6	0.6	0.1	0.4	0.3	37.3	0.1
N	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

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(Table S30-S49)

***BUN**: Blood Urea Nitrogen; **ALP**: Alkaline Phosphatase; **ALT**: Alanine Aminotransferase; **AST**: Serum Aspartate Aminotransferase.*

Blank fields indicate no range was provided by instrument.

Table S30. Hematology parameters, group 5, male, tumor, vehicle control (saline), day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
9	22.1	0.4	5	9.3	5	2.3	2.7	0.9	186	111	28	54	83	0.1	149	3.2	112	47
10	23	0.2	6.4	8.8	4.5	2.2	2.3	1	131	101	22	56	101	0.1	150	3.5	112	43
11	19.4	0.3	4.3	8.6	5	2.3	2.7	0.9	127	94	24	62	72	0.1	154	4.3	118	36
12	22.2	0.3	4.7	8.6	4.9	2.3	2.6	0.9	99	100	20	56	59	0.1	153	3.9	119	39
13	22.4	0.3	4.2	8.6	5	2.3	2.7	0.9	151	94	25	72	54	0.1	152	3.8	117	40
14	20.8	0.2	4.7	8.5	4.7	2.3	2.4	1	131	93	62	86	72	0.2	153	3.6	116	43
15	27.4	0.3	7	8.5	4.6	2	2.6	0.8	148	100	84	152	94	0.2	152	3.6	116	42
16	23.6	0.2	7.4	8.6	4.4	2	2.4	0.8	197	101	19	48	88	0.1	150	3.1	118	48
17	23.9	0.2	7.6	8.8	4.7	2.1	2.6	0.8	132	118	23	75	105	0.2	150	3.4	116	44
18	26.4	0.3	7.7	8.4	4.5	2	2.5	0.8	177	96	45	67	95	0.1	152	3.6	119	42
Mean	**23.1**	**0.3**	**5.9**	**8.7**	**4.7**	**2.2**	**2.6**	**0.9**	**147.9**	**100.8**	**35.2**	**72.8**	**82.3**	**0.1**	**151.5**	**3.6**	**116.3**	**42.4**
SD	**2.4**	**0.1**	**1.5**	**0.3**	**0.2**	**0.1**	**0.1**	**0.1**	**30.5**	**8**	**21.8**	**30.1**	**17.5**	**0**	**1.6**	**0.3**	**2.5**	**3.6**
SEM	**0.8**	**0**	**0.5**	**0.1**	**0.1**	**0**	**0**	**0**	**9.6**	**2.5**	**6.9**	**9.5**	**5.5**	**0**	**0.5**	**0.1**	**0.8**	**1.1**
N	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S31. Hematology parameters, group 6, female, tumor, vehicle control (saline), day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
19	25.3	< 0.2	5.6	10.1	5.6	2.4	3.2	0.8	99	107	49	172	71	0.2	146	3.4	112	43
20	32.1	< 0.2	8	10.5	4.8	2.6	2.2	1.2	172	87	29	101	76	0.2	148	3.9	111	38
21	27.4	< 0.2	6.4	9.9	4.8	2.1	2.7	0.8	183	100	31	84	62	0.2	143	3.1	109	46
22	37.5	0.2	5.5	10.1	5	2.4	2.6	0.9	191	113	39	119	79	0.1	143	3.1	110	46
23	30.3	0.2	9.1	9.5	4.9	2.1	2.8	0.8	259	112	37	67	98	0.1	143	3.4	111	42
24	26.4	< 0.2	5.2	9.7	4.7	2.7	2	1.4	157	98	31	231	81	0.1	144	3.9	108	37
25	27.1	< 0.2	5.4	9.3	5	2.6	2.4	1.1	174	89	28	61	88	0.1	148	4.4	115	34
26	25.1	0.2	6.1	9.3	4.7	2.4	2.3	1	187	84	28	70	78	0.1	143	3.2	111	45
27	26	0.2	4.3	9	4.6	2.4	2.2	1.1	181	78	29	117	59	0.1	149	3.3	116	45
28	25.9	0.2	5.7	8.3	4.6	2.4	2.2	1.1	148	88	27	77	80	0.1	148	3.6	115	41
Mean	**28.3**	**0.2**	**6.1**	**9.6**	**4.9**	**2.4**	**2.5**	**1**	**175.1**	**95.6**	**32.8**	**109.9**	**77.2**	**0.1**	**145.5**	**3.5**	**111.8**	**41.7**
SD	**3.9**	**0**	**1.4**	**0.6**	**0.3**	**0.2**	**0.4**	**0.2**	**40**	**12.2**	**6.9**	**54.1**	**11.4**	**0**	**2.5**	**0.4**	**2.7**	**4.2**
SEM	**1.2**	**0**	**0.4**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**12.6**	**3.9**	**2.2**	**17.1**	**3.6**	**0**	**0.8**	**0.1**	**0.9**	**1.3**
N	**10**	**5**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S32. Hematology parameters, group 7, male, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
29	24.2	0.2	6.4	9.2	5	2.2	2.8	0.8	155	112	20	60	85	0.1	152	3.2	119	48
30	21.4	0.2	4.6	9.2	5.1	2.5	2.6	1	141	106	22	66	91	0.1	152	3	118	51
31	24.6	0.2	6.4	8.1	4.5	2.1	2.4	0.9	157	112	27	85	84	0.2	152	3.6	117	42
32	31	0.2	1.5	1.9	4.1	2.5	1.6	1.6	37	127	26	56	55	0.2	156	3.3	113	47
33	20.9	< 0.2	8.8	9	4.8	2.3	2.5	0.9	147	147	25	49	84	0.2	152	3.7	117	41
34	29	0.2	6.9	9.3	4.3	2.6	1.7	1.5	171	122	30	74	61	0.2	153	3.8	112	40
35	25.2	0.3	6.3	9.2	4.9	2.2	2.7	0.8	184	118	27	94	101	0.1	152	3.4	117	45
36	25.1	0.2	8.2	9	5.3	2.3	3	0.8	156	129	27	54	99	0.1	151	3.3	116	46
37	25.4	0.3	6.2	8.4	4.9	2.1	2.8	0.8	195	95	28	61	111	0.1	152	3.8	118	40
38	27.6	0.3	6.3	8.5	5.1	2.2	2.9	0.8	214	122	34	81	69	0.1	151	3.5	118	43
Mean	**25.4**	**0.2**	**6.2**	**8.2**	**4.8**	**2.3**	**2.5**	**1**	**155.7**	**119**	**26.6**	**68**	**84**	**0.1**	**152.3**	**3.5**	**116.5**	**44.3**
SD	**3.1**	**0.1**	**2**	**2.2**	**0.4**	**0.2**	**0.5**	**0.3**	**47.6**	**14.2**	**3.9**	**14.9**	**17.9**	**0.1**	**1.4**	**0.3**	**2.3**	**3.7**
SEM	**1**	**0**	**0.6**	**0.7**	**0.1**	**0.1**	**0.2**	**0.1**	**15**	**4.5**	**1.2**	**4.7**	**5.7**	**0**	**0.4**	**0.1**	**0.7**	**1.2**
N	**10**	**9**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S33. Hematology parameters, group 8, female, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
39	21.4	< 0.2	5	8	3.8	1.7	2.1	0.8	156	79	34	156	96	0.1	133	3.6	103	37
40	19.7	0.2	5.6	8.7	4.1	1.9	2.2	0.9	207	84	41	92	110	0.1	143	3.2	112	45
41	21.9	0.2	4.9	8.8	4.7	2.2	2.5	0.9	105	90	30	138	82	0.2	143	4.3	109	33
42	23.8	< 0.2	6.1	9	4.5	2.2	2.3	1	204	90	27	98	77	0.1	148	3.4	112	44
43	20.6	< 0.2	6.2	8.6	4.2	2	2.2	0.9	207	102	25	55	56	0.1	162	3.7	126	44
44	21.1	< 0.2	7.5	9.5	4.5	2	2.5	0.8	210	88	27	78	82	0.1	146	4.2	112	35
45	27.7	< 0.2	6	9.1	4.5	2	2.5	0.8	188	99	33	222	80	0.1	146	3.2	114	46
46	22.8	< 0.2	5.4	9.1	4.6	2	2.6	0.8	180	101	48	148	94	0.1	147	2.4	114	61
47	29.6	0.2	5.2	9	4.8	2.2	2.6	0.8	195	87	35	62	96	0.1	143	4	111	36
48	33.2	0.2	6.5	8.9	5.4	2.3	3.1	0.7	239	86	36	131	70	0.1	149	3.8	116	39
Mean	**24.2**	**0.2**	**5.8**	**8.9**	**4.5**	**2.1**	**2.5**	**0.8**	**189.1**	**90.6**	**33.6**	**118**	**84.3**	**0.1**	**146**	**3.6**	**112.9**	**42**
SD	**4.5**	**0**	**0.8**	**0.4**	**0.4**	**0.2**	**0.3**	**0.1**	**36.6**	**7.7**	**7**	**51.1**	**15.3**	**0**	**7.2**	**0.6**	**5.8**	**8.1**
SEM	**1.4**	**0**	**0.3**	**0.1**	**0.1**	**0.1**	**0.1**	**0**	**11.6**	**2.4**	**2.2**	**16.2**	**4.8**	**0**	**2.3**	**0.2**	**1.8**	**2.6**
N	**10**	**4**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S34. Hematology parameters, group 9, male, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
49	24.5	0.3	7.1	8.9	4.7	2	2.7	0.7	142	85	15	48	60	0.1	153	4.2	117	36
50	21.8	0.2	4.8	9.4	5	2.2	2.8	0.8	138	110	25	55	69	0.1	148	3.9	114	38
51	20.1	0.2	6.5	9.6	4.7	2.1	2.6	0.8	148	82	18	84	60	0.1	147	3.9	115	38
52	16.3	< 0.2	8.7	10.1	4.6	2	2.6	0.8	170	82	16	56	57	0.1	147	3.6	112	41
53	23.7	0.3	6.9	9.7	5	2.1	2.9	0.7	220	116	29	49	69	0.1	146	3.5	114	42
54	24.2	0.4	7.2	8.9	4.4	1.8	2.6	0.7	210	97	34	110	62	0.1	138	5	106	28
55	19.3	0.3	7.9	9.2	4.7	2	2.7	0.7	166	97	56	156	68	0.1	146	4.1	114	36
56	18.5	0.3	6	8.9	5	2.1	2.9	0.7	256	129	23	50	85	0.1	149	3.8	120	39
57	22.7	0.3	5.8	8.9	4.6	2	2.6	0.8	191	105	19	60	78	0.1	146	4.8	112	30
58	18.5	< 0.2	7.6	10.5	5	2.1	2.9	0.7	193	121	46	91	80	0.1	149	3.7	115	40
Mean	**21**	**0.3**	**6.9**	**9.4**	**4.8**	**2**	**2.7**	**0.7**	**183.4**	**102.4**	**28.1**	**75.9**	**68.8**	**0.1**	**146.9**	**4.1**	**113.9**	**36.8**
SD	**2.8**	**0.1**	**1.1**	**0.6**	**0.2**	**0.1**	**0.1**	**0.1**	**38**	**16.7**	**13.6**	**35.2**	**9.5**	**0**	**3.8**	**0.5**	**3.6**	**4.6**
SEM	**0.9**	**0**	**0.4**	**0.2**	**0.1**	**0**	**0**	**0**	**12**	**5.3**	**4.3**	**11.1**	**3**	**0**	**1.2**	**0.2**	**1.1**	**1.4**
N	**10**	**8**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S35. Hematology parameters, group 10, female, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
59	23.9	< 0.2	8.2	9.4	4.5	2.2	2.3	1	228	98	34	97	76	0.1	141	3.2	107	44
60	20.3	< 0.2	6.4	9.3	4.9	2.4	2.5	1	115	93	55	156	80	0.1	149	4.3	116	35
61	21.4	< 0.2	6.9	9.2	4.5	2.1	2.4	0.9	152	112	38	204	75	0.1	136	4.3	103	32
62	24.2	< 0.2	6.6	9.1	4.8	2.6	2.2	1.2	143	103	25	93	75	0.1	147	2.5	111	59
63	23.8	0.2	6	8.4	4.6	2.5	2.1	1.2	205	87	24	63	85	0.1	144	3.2	111	45
64	26.5	< 0.2	5.7	8.9	4.4	2.1	2.3	0.9	141	70	35	150	77	0.1	144	4.4	110	33
65	24.9	< 0.2	5.9	8.7	3.7	1.7	2	0.9	151	68	36	158	59	0.1	135	3	102	45
66	21.7	0.2	6.2	8.4	4.7	2.1	2.6	0.8	129	95	37	126	106	0.1	142	4.5	109	32
67	23.9	< 0.2	5.7	9	4.6	2.2	2.4	0.9	165	88	27	79	85	0.1	146	3.7	110	39
68	30.5	< 0.2	7.6	8.8	4.3	2.2	2.1	1	215	102	34	124	77	0.2	148	4.2	114	35
Mean	**24.1**	**0.2**	**6.5**	**8.9**	**4.5**	**2.2**	**2.3**	**1**	**164.4**	**91.6**	**34.5**	**125**	**79.5**	**0.1**	**143.2**	**3.7**	**109.3**	**39.9**
SD	**2.9**	**0**	**0.8**	**0.3**	**0.3**	**0.3**	**0.2**	**0.1**	**38.4**	**14**	**8.8**	**43.1**	**11.8**	**0**	**4.8**	**0.7**	**4.4**	**8.5**
SEM	**0.9**	**0**	**0.3**	**0.1**	**0.1**	**0.1**	**0.1**	**0**	**12.2**	**4.4**	**2.8**	**13.6**	**3.7**	**0**	**1.5**	**0.2**	**1.4**	**2.7**
N	**10**	**2**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**

Table S36. Hematology parameters, group 11, male, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
69	16.1	0.2	6.6	9.2	5	2.2	2.8	0.8	193	127	31	49	91	0.1	149	4.5	117	33
70	22.4	0.3	5.4	9	4.8	2.1	2.7	0.8	221	126	28	50	78	0.1	150	3.9	116	38
71	19.5	0.3	6.2	9.5	4.5	1.9	2.6	0.7	214	91	19	49	96	0.1	149	3.6	115	41
Mean	**19.3**	**0.3**	**6.1**	**9.2**	**4.8**	**2.1**	**2.7**	**0.8**	**209.3**	**114.7**	**26**	**49.3**	**88.3**	**0.1**	**149.3**	**4**	**116**	**37.3**
SD	**3.2**	**0.1**	**0.6**	**0.3**	**0.3**	**0.2**	**0.1**	**0.1**	**14.6**	**20.5**	**6.2**	**0.6**	**9.3**	**0**	**0.6**	**0.5**	**1**	**4**
SEM	**1.8**	**0**	**0.4**	**0.1**	**0.1**	**0.1**	**0.1**	**0**	**8.4**	**11.8**	**3.6**	**0.3**	**5.4**	**0**	**0.3**	**0.3**	**0.6**	**2.3**
N	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S37. Hematology parameters, group 12, female, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
72	26.2	0.2	6.4	8.4	4.7	2.2	2.5	0.9	132	91	26	92	90	0.1	146	4.1	114	36
73	19.2	0.2	6.1	8.7	5	2.2	2.8	0.8	216	86	45	113	103	0.1	147	3.3	114	45
74	32	0.2	8.1	9.4	4.8	2.1	2.7	0.8	263	86	25	67	101	0.1	140	2.8	107	50
Mean	**25.8**	**0.2**	**6.9**	**8.8**	**4.8**	**2.2**	**2.7**	**0.8**	**203.7**	**87.7**	**32**	**90.7**	**98**	**0.1**	**144.3**	**3.4**	**111.7**	**43.7**
SD	**6.4**	**0**	**1.1**	**0.5**	**0.2**	**0.1**	**0.2**	**0.1**	**66.4**	**2.9**	**11.3**	**23**	**7**	**0**	**3.8**	**0.7**	**4**	**7.1**
SEM	**3.7**	**0**	**0.6**	**0.3**	**0.1**	**0**	**0.1**	**0**	**38.3**	**1.7**	**6.5**	**13.3**	**4**	**0**	**2.2**	**0.4**	**2.3**	**4.1**
N	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S38. Hematology parameters, group 13, male, no tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
75	20.8	0.2	7.2	8.6	4.6	2	2.6	0.8	194	99	56	117	84	0.1	149	4.6	117	32
76	29.7	0.2	6.6	9.5	5	2.1	2.9	0.7	233	127	19	44	79	0.1	149	3.3	116	45
77	23.9	< 0.2	7.5	8.7	4.9	2.1	2.8	0.8	242	117	31	75	84	0.1	149	3.2	116	47
Mean	**24.8**	**0.2**	**7.1**	**8.9**	**4.8**	**2.1**	**2.8**	**0.8**	**223**	**114.3**	**35.3**	**78.7**	**82.3**	**0.1**	**149**	**3.7**	**116.3**	**41.3**
SD	**4.5**	**0**	**0.5**	**0.5**	**0.2**	**0.1**	**0.2**	**0.1**	**25.5**	**14.2**	**18.9**	**36.6**	**2.9**	**0**	**0**	**0.8**	**0.6**	**8.1**
SEM	**2.6**	**0**	**0.3**	**0.3**	**0.1**	**0**	**0.1**	**0**	**14.7**	**8.2**	**10.9**	**21.2**	**1.7**	**0**	**0**	**0.5**	**0.3**	**4.7**
N	**3**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S39. Hematology parameters, group 14, female, no tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 2.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
78	20.2	0.2	5.8	8.5	4.6	2.2	2.4	0.9	183	97	30	62	112	0.1	146	3.4	112	43
79	17.5	< 0.2	6.7	8.6	4.4	1.9	2.5	0.8	257	86	30	47	63	0.1	141	2.8	109	50
80	29.8	0.2	4.8	9.3	4.7	2.2	2.5	0.9	185	90	22	62	94	0.1	146	2.9	113	50
Mean	**22.5**	**0.2**	**5.8**	**8.8**	**4.6**	**2.1**	**2.5**	**0.9**	**208.3**	**91**	**27.3**	**57**	**89.7**	**0.1**	**144.3**	**3**	**111.3**	**47.7**
SD	**6.5**	**0**	**1**	**0.4**	**0.2**	**0.2**	**0.1**	**0.1**	**42.2**	**5.6**	**4.6**	**8.7**	**24.8**	**0**	**2.9**	**0.3**	**2.1**	**4**
SEM	**3.7**	**0**	**0.5**	**0.3**	**0.1**	**0.1**	**0**	**0**	**24.3**	**3.2**	**2.7**	**5**	**14.3**	**0**	**1.7**	**0.2**	**1.2**	**2.3**
N	**3**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**

Table S40. Hematology parameters, group 15, male, tumor, vehicle control (saline), day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
81	18.2	0.3	6.5	8	4.4	2	2.4	0.8	128	106	28	571	40	0.1	153	3.7	116	41
82	18.1	0.2	9	9.2	4.1	1.8	2.3	0.8	215	79	32	> 1000	33	0.1	151	3.6	113	42
83	22.2	0.2	7.2	8.3	4.1	1.7	2.4	0.7	185	98	22	237	66	0.1	151	3.3	117	46
84	30.4	0.5	6.2	8.6	3.9	1.6	2.3	0.7	183	100	32	728	52	0.1	not measured	not measure	not measured	not measured
85	25.6	0.2	6.8	8.6	4.7	2.2	2.5	0.9	83	85	18	64	54	0.3	155	3.9	124	40
Mean	**22.9**	**0.3**	**7.1**	**8.5**	**4.2**	**1.9**	**2.4**	**0.8**	**158.8**	**93.6**	**26.4**	**400**	**49**	**0.1**	**152.5**	**3.6**	**117.5**	**42.3**
SD	**5.2**	**0.1**	**1.1**	**0.4**	**0.3**	**0.2**	**0.1**	**0.1**	**52.7**	**11.2**	**6.2**	**303.5**	**12.8**	**0.1**	**1.9**	**0.3**	**4.7**	**2.6**
SEM	**2.3**	**0.1**	**0.5**	**0.2**	**0.1**	**0.1**	**0**	**0**	**23.6**	**5**	**2.8**	**151.7**	**5.7**	**0**	**1**	**0.1**	**2.3**	**1.3**
N	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**4**	**5**	**5**	**4**	**4**	**4**	**4**

Table S41. Hematology parameters, group 16, female, tumor, vehicle control (saline), day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
86	25	< 0.2	5.4	8.7	4.4	2	2.4	0.8	140	74	45	> 1000	53	0.1	154	3.5	118	44
87	37.4	< 0.2	7.7	9.2	4.3	1.7	2.6	0.7	179	75	54	> 1000	44	0.1	152	3.6	119	42
88	33.6	0.2	9.1	7.3	4.6	2.1	2.5	0.8	183	94	40	> 1000	43	0.1	152	4.1	118	37
89	20.3	0.2	4.9	9.4	4.5	1.9	2.6	0.7	110	85	60	> 1000	41	0.2	154	3.6	115	43
90	46.5	0.2	6.2	10.5	4	1.7	2.3	0.7	210	69	55	> 1000	44	0.3	154	3.6	118	43
Mean	**32.6**	**0.2**	**6.7**	**9**	**4.4**	**1.9**	**2.5**	**0.7**	**164.4**	**79.4**	**50.8**	Not calculated	**45**	**0.2**	**153.2**	**3.7**	**117.6**	**41.8**
SD	**10.3**	**0**	**1.7**	**1.2**	**0.2**	**0.2**	**0.1**	**0.1**	**39.3**	**10**	**8.1**	Not calculated	**4.6**	**0.1**	**1.1**	**0.2**	**1.5**	**2.8**
SEM	**4.6**	**0**	**0.8**	**0.5**	**0.1**	**0.1**	**0.1**	**0**	**17.6**	**4.5**	**3.6**	Not calculated	**2.1**	**0**	**0.5**	**0.1**	**0.7**	**1.2**
N	**5**	**3**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**

Table S42. Hematology parameters, group 17, male, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
91	21.6	0.4	6.4	8.6	4.7	2	2.7	0.7	97	86	39	> 1000	44	0.1	155	4	119	39
92	24.2	0.3	6.3	7.6	4.6	2	2.6	0.8	131	100	40	982	45	0.1	153	3.3	117	46
93	20.2	0.2	6.8	8.4	4.5	2	2.5	0.8	151	100	48	945	52	0.1	153	4.3	117	36
94	21.1	0.3	5	8.7	4.5	2	2.5	0.8	149	88	39	> 1000	37	0.1	154	4	118	39
95	26.7	0.4	8	8.8	4.6	2.1	2.5	0.8	167	98	43	574	61	0.1	155	3.3	120	47
Mean	**22.8**	**0.3**	**6.5**	**8.4**	**4.6**	**2**	**2.6**	**0.8**	**139**	**94.4**	**41.8**	**833.7**	**47.8**	**0.1**	**154**	**3.8**	**118.2**	**41.4**
SD	**2.7**	**0.1**	**1.1**	**0.5**	**0.1**	**0**	**0.1**	**0**	**26.7**	**6.8**	**3.8**	**225.6**	**9.1**	**0**	**1**	**0.5**	**1.3**	**4.8**
SEM	**1.2**	**0**	**0.5**	**0.2**	**0**	**0**	**0**	**0**	**11.9**	**3.1**	**1.7**	**130.3**	**4.1**	**0**	**0.4**	**0.2**	**0.6**	**2.2**
N	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**3**	**5**	**5**	**5**	**5**	**5**	**5**

Table S43. Hematology parameters, group 18, female, tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
96	27.3	0.2	10.9	9.2	4.7	2.1	2.6	0.8	95	95	43	100	49	0.2	155	4.5	122	34
97	35.5	0.2	8.5	9.1	4.4	1.9	2.5	0.8	213	98	45	> 1000	41	0.1	154	4	120	39
98	26.6	< 0.2	8.3	9.2	4.3	1.9	2.4	0.8	182	117	57	> 1000	41	0.1	152	3.7	115	41
99	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
100	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
Mean	**29.8**	**0.2**	**9.2**	**9.2**	**4.5**	**2**	**2.5**	**0.8**	**163.3**	**103.3**	**48.3**	Not calculated	**43.7**	**0.1**	**153.7**	**4.1**	**119**	**38**
SD	**4.9**	**0**	**1.4**	**0.1**	**0.2**	**0.1**	**0.1**	**0**	**61.2**	**11.9**	**7.6**	Not calculated	**4.6**	**0.1**	**1.5**	**0.4**	**3.6**	**3.6**
SEM	**2.9**	**0**	**0.8**	**0**	**0.1**	**0.1**	**0.1**	**0**	**35.3**	**6.9**	**4.4**	Not calculated	**2.7**	**0**	**0.9**	**0.2**	**2.1**	**2.1**
N	**3**	**2**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3.0**	**3**	**3**	**3**	**3**	**3**	**3**

Table S44. Hematology parameters, group 19, male, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
101	23.1	0.4	6.4	8.1	4.4	2	2.4	0.8	163	82	37	> 1000	44	0.1	154	4.3	121	36
102	26.2	0.2	9.7	8.9	4.2	1.7	2.5	0.7	143	81	29	> 1000	43	0.1	156	4	122	39
103	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
104	24.7	0.6	> 15.0	11.5	5.1	2.3	2.8	0.8	170	110	66	842	63	0.1	156	11.8	123	13
105	21.8	0.2	7	8.5	3.9	1.7	2.2	0.8	143	72	40	> 1000	39	0.1	154	3.5	118	44
Mean	**24**	**0.4**	**7.7**	**9.3**	**4.4**	**1.9**	**2.5**	**0.8**	**154.8**	**86.3**	**43**	**842**	**47.3**	**0.1**	**155**	**5.9**	**121**	**33**
SD	**1.9**	**0.2**	**1.8**	**1.5**	**0.5**	**0.3**	**0.3**	**0.1**	**13.9**	**16.5**	**16**	Not calculated	**10.7**	**0**	**1.2**	**3.9**	**2.2**	**13.7**
SEM	**1**	**0.1**	**1**	**0.8**	**0.3**	**0.1**	**0.1**	**0**	**6.9**	**8.2**	**8**	Not calculated	**5.4**	**0**	**0.6**	**2**	**1.1**	**6.9**
N	**4**	**4**	**3**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**

Table S45. Hematology parameters, group 20, female, tumor, test article cRGDY-PEG-cw800-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
106	21.9	0.2	4.7	8.5	4.4	1.9	2.5	0.8	126	70	46	> 1000	46	0.5	154	4.6	121	33
107	23.1	0.2	7	7	4.1	1.9	2.2	0.9	217	117	51	> 1000	42	0.1	151	4.1	116	37
108	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
109	23.7	0.2	10.3	8.7	4.6	1.9	2.7	0.7	194	87	51	> 1000	40	0.1	154	4.2	120	37
110	25.7	0.2	10.9	7.9	4.2	1.8	2.4	0.8	173	94	61	> 1000	43	0.1	151	4.1	120	37
Mean	**23.6**	**0.2**	**8.2**	**8**	**4.3**	**1.9**	**2.5**	**0.8**	**177.5**	**92**	**52.3**	Not calculated	**42.8**	**0.2**	**152.5**	**4.3**	**119.3**	**36**
SD	**1.6**	**0**	**2.9**	**0.8**	**0.2**	**0**	**0.2**	**0.1**	**38.8**	**19.5**	**6.3**	Not calculated	**2.5**	**0.2**	**1.7**	**0.2**	**2.2**	**2**
SEM	**0.8**	**0**	**1.5**	**0.4**	**0.1**	**0**	**0.1**	**0**	**19.4**	**9.7**	**3.1**	Not calculated	**1.3**	**0.1**	**0.9**	**0.1**	**1.1**	**1**
N	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4**	**4.0**	**4**	**4**	**4**	**4**	**4**	**4**

Table S46. Hematology parameters, group 21, male, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
111	28.8	0.2	6.6	9	4.7	2	2.7	0.7	180	106	22	55	69	0.1	152	4.2	119	36
112	18.9	0.2	6.7	8.9	5	2.1	2.9	0.7	254	111	22	41	84	0.1	150	4.3	115	35
113	22.6	< 0.2	7.5	8.9	4.7	1.9	2.8	0.7	238	107	19	39	87	0.1	152	3.6	118	42
Mean	23.4	0.2	6.9	8.9	4.8	2	2.8	0.7	224	108	21	45	80	0.1	151.3	4	117.3	37.7
SD	5	0	0.5	0.1	0.2	0.1	0.1	0	38.9	2.6	1.7	8.7	9.6	0	1.2	0.4	2.1	3.8
SEM	2.9	0	0.3	0	0.1	0.1	0.1	0	22.5	1.5	1	5	5.6	0	0.7	0.2	1.2	2.2
N	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Table S47. Hematology parameters, group 22, female, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
114	32.8	0.3	7.6	8.9	4.8	2.1	2.7	0.8	191	75	25	60	73	0.1	151	4.7	118	32
115	28.2	0.3	7.1	8.4	4.5	2.1	2.4	0.9	224	68	45	85	73	0.2	150	4	118	38
116	30.6	0.3	7.9	8.4	4.6	2	2.6	0.8	214	81	53	106	90	0.2	152	3.8	121	40
Mean	30.5	0.3	7.5	8.6	4.6	2.1	2.6	0.8	209.7	74.7	41	83.7	78.7	0.2	151	4.2	119	36.7
SD	2.3	0	0.4	0.3	0.2	0.1	0.2	0.1	16.9	6.5	14.4	23	9.8	0.1	1	0.5	1.7	4.2
SEM	1.3	0	0.2	0.2	0.1	0	0.1	0	9.8	3.8	8.3	13.3	5.7	0	0.6	0.3	1	2.4
N	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Table S48. Hematology parameters, group 23, male, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
117	30.9	< 0.2	10.1	8.5	5.5	1.9	3.6	0.5	128	159	25	67	46	0.1	148	5.3	118	28
118	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD	DEAD
119	34.6	< 0.2	8.4	9.3	5.6	2.4	3.2	0.8	180	157	18	56	51	0.1	149	4.4	115	34
Mean	32.8	#DIV/0!	9.3	8.9	5.6	2.2	3.4	0.7	154	158	21.5	61.5	48.5	0.1	148.5	4.9	116.5	31
SD	2.6	#DIV/0!	1.2	0.6	0.1	0.4	0.3	0.2	36.8	1.4	4.9	7.8	3.5	0	0.7	0.6	2.1	4.2
SEM	1.9	#DIV/0!	0.9	0.4	0	0.3	0.2	0.2	26	1	3.5	5.5	2.5	0	0.5	0.5	1.5	3
N	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Table S49. Hematology parameters, group 24, female, no tumor, test article αMSH-PEG-Cy5.5-C′ dots at 1.2 nmol, day 14.

Animal No	BUN	Creatinine	Phosphorus	Calcium	Total Protein	Albumin	Globulin	Alb/Glob Ratio	Glucose	Cholesterol	ALT (GPT)	AST (GOT)	ALP	Total Bilirubin	Sodium	Potassium	Chloride	Na/K Ratio
	mg/dl	mg/dl	mg/dl	mg/dl	g/dl	g/dl	g/dl	--	mg/dl	mg/dl	IU/L	IU/L	IU/L	mg/dl	mEq/L	mEq/L	mEq/L)	--
	41.3-53.3	3.9-5.5	6.2-8.2	10.9-13.9	2.9-4.1	3.3-4.5			223-279	87-121	66-96	157-207	228-334	2.8-4.4	114-140	5.1-6.5	75-95	
120	34.9	0.2	7.8	8.7	4.8	2.3	2.5	0.9	196	71	36	74	103	0.2	151	4.1	119	37
121	30.8	0.2	7.4	8.6	4.8	2.1	2.7	0.8	197	75	25	61	115	0.1	152	3	120	51
122	31.9	0.2	8.2	8.7	4.8	2.1	2.7	0.8	218	89	27	60	96	0.1	149	3.1	117	48
Mean	32.5	0.2	7.8	8.7	4.8	2.2	2.6	0.8	203.7	78.3	29.3	65	104.7	0.1	150.7	3.4	118.7	45.3
SD	2.1	0	0.4	0.1	0	0.1	0.1	0.1	12.4	9.5	5.9	7.8	9.6	0.1	1.5	0.6	1.5	7.4
SEM	1.2	0	0.2	0	0	0.1	0.1	0	7.2	5.5	3.4	4.5	5.5	0	0.9	0.4	0.9	4.3
N	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3