Electronic Supplementary Material (ESI) for Integrative Biology.

Supplementary Material

Improving selective targeting to macrophage subpopulations through modifying liposomes with arginine based materials

Lilusi Ma,[1] *Hannah Bygd,* [1,+] *Kaitlin M. Bratlie*[1,2,3,*]

[1]Department of Materials Science & Engineering, Iowa State University, Ames, Iowa 50011

[2]Department of Chemical & Biological Engineering, Iowa State University, Ames, Iowa 50011

[3]Division of Materials Science & Engineering, Ames National Laboratory, Ames, Iowa 50011

Table S1. Connecting letters report for zeta potential for modified liposomes.

Material							
D	A						
C	A						
B	A						
E		B					
K		B	C				
J			C	D			
N			C	D			
A			C	D			
M			C	D	E		
L			C	D	E		
UM			C	D	E		
H				D	E		
G					E		
F						F	
I							G

Levels not connected by the same letter are significantly different ($p<0.05$)

Table S2. Connecting letters report for diameter for modified liposomes.

Material			
H	A		
N	A	B	
L	A	B	
I	A	B	
K	A	B	
J	A	B	
M	A	B	C
A	A	B	C
UM	A	B	C
G	A	B	C
B	A	B	C
C	A	B	C
F		B	C
E		B	C
D			C

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S3. Connecting letters report for cumulative release at 144 h.

Material				
G	A			
B	A			
A	A	B		
J	A	B		
UM	A	B	C	
C	A	B	C	
K	A	B	C	
I	A	B	C	
M	A	B	C	
L	A	B	C	
N		B	C	
H		B	C	
E		B	C	
D			C	
F				D

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S4. Connecting letters report for internalization at 37°C in M(LPS) macrophages.

Material		
N	A	
M	A	
H	A	
I	A	
L		B
G		B
UM		B
F		B
B		B
J		B
C		B
K		B
A		B
E		B
D		B

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S5. Connecting letters report for internalization at 37°C in M(IL-4) macrophages.

Material				
I	A			
H	A			
J	A			
N		B		
M		B		
F		B		
G		B		
K			C	
B				D
L				D
E				D
UM				D
D				D
C				D
A				D

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S6. Connecting letters report for internalization at 37°C in M(0) macrophages.

Material						
N	A					
B		B				
J			C			
I			C	D		
L			C	D	E	
E			C	D	E	
F				D	E	
C					E	F
K						F G
D						F G
UM						G
G						G
A						G
H						G
M						G

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S7. Connecting letters report for internalization at 4°C in M(LPS) macrophages.

Material			
J	A		
F	A	B	
G	A	B	
I	A	B	C
N		B	
H		B	
K		B	C
E		B	C
C		B	C
D		B	C
B		B	C
A		B	C
UM			C
M			C
L			C

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S8. Connecting letters report for internalization at 4°C in M(IL-4) macrophages.

Material					
J	A				
I	A	B			
H	A	B	C		
G		B	C	D	
K		B	C	D	
N		B	C	D	
E			C	D	
F			C	D	
C			C	D	
D			C	D	
B			C	D	
UM			C	D	
M			C	D	
A				D	
L					E

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S9. Connecting letters report for internalization at 4°C in M(0) macrophages.

Material					
C	A				
A	A				
B		B			
I		B	C		
UM		B	C		
G			C	D	
F			C	D	
N				D	
D				D	
H				D	
E				D	
M				D	
J				D	
K					E
L					E

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S10. Connecting letters report for IC_{50} of doxorubicin free and encapsulated in liposomes for M(LPS) macrophages.

Material					
A	A				
L	A				
D	A				
K	A	B			
E	A	B			
B	A	B			
F	A	B			
C	A	B			
M		B			
Free doxorubicin			C		
J				D	
N				D	
H				D	
I				D	
UM				D	
G					E

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S11. Connecting letters report for IC_{50} of doxorubicin free and encapsulated in liposomes for M(IL-4) macrophages.

Material							
C	A						
B		B					
A		B					
UM		B					
D			C				
Free doxorubicin			C				
M				D			
J				D			
N				D			
F					E		
G						F	
L						F	
K						F	
E							G
I							G
H							G

`Levels not connected by the same letter are significantly different ($p<0.05$)

Table S12. Connecting letters report for IC_{50} of doxorubicin free and encapsulated in liposomes for M(0) macrophages.

Material						
Free doxorubicin	A					
UM	A					
N	A					
A		B				
J			C			
H			C			
L			C			
M				D		
F					E	
G					E	
C					E	F
E					E	F
I					E	F
B					E	F
D					E	F
K						F

`Levels not connected by the same letter are significantly different ($p<0.05$)