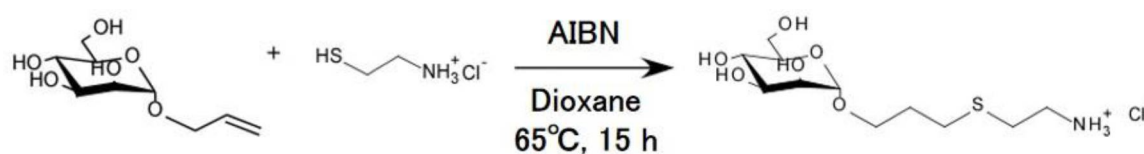


Supplementary Materials: Development of Mannose Residue-Introduced Curdlan-Modified Liposomes for Antigen Presenting Cell-Specific Antigen Delivery

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Scheme S1. Synthetic route of 6-amino-4-thiahexyl α -D-mannopyranoside.

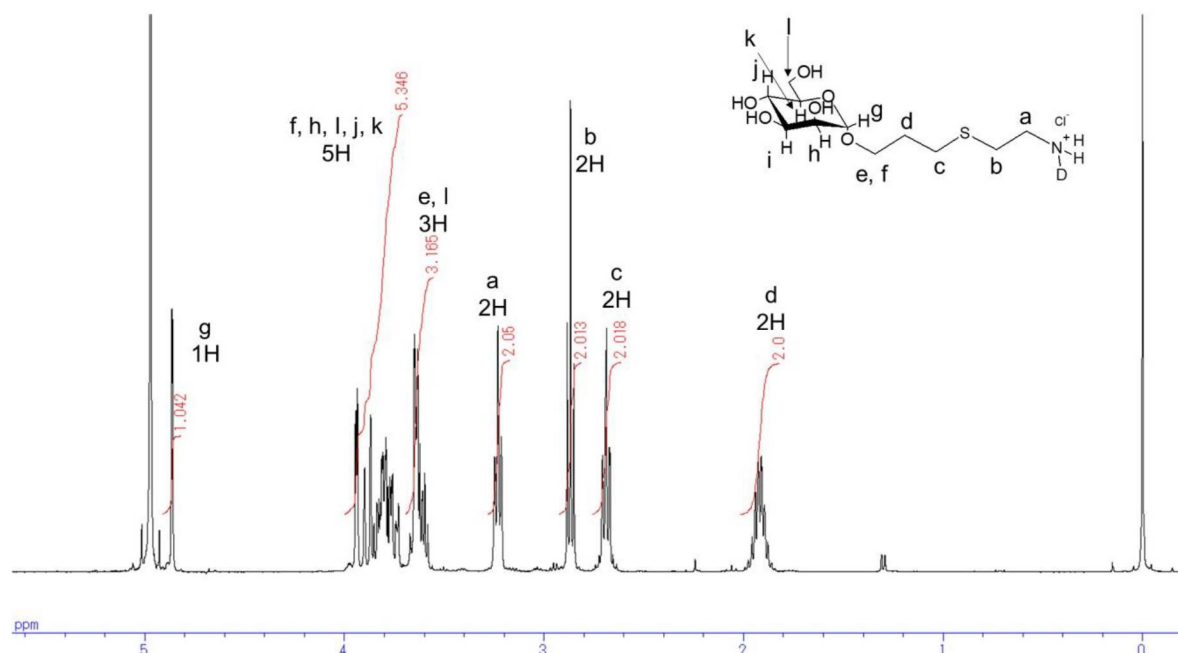


Figure S1. ^1H NMR spectrum for 6-amino-4-thiahexyl α -D-mannopyranoside ($\text{D}_2\text{O} + \text{DCl}$, 400 MHz).

Table S1. Synthesis of MGlu-Curd-A-Man.

Code	MGlu-Curd-A/mg	6-amino-4-thiahexyl α -D-mannopyranoside /mg	DMT-MM/mg	Yield		MGlu /%*	Anchor /%*	Mannose /%
				/g	/%			
Man3	154	59.1	51.5	129	79	31	5	3
Man5	153	57.6	50.9	135	82	48	5	5
Man7	300	59.7	49.3	294	76	49	5	7
Man10	154	97.3	90.1	142	72	45	6	10
Man14	151	130	121	179	98	55	7	14

*Determined by ^1H NMR.

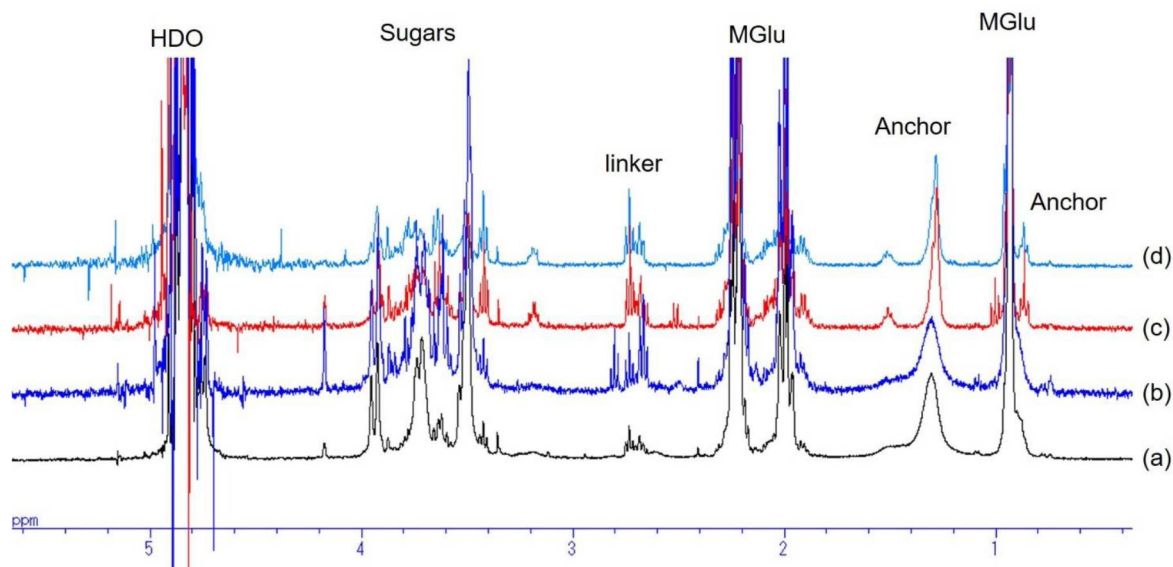


Figure S2. ^1H NMR spectra for hydrolyzed MGlucurd-A-Man3 (a), MGlucurd-A-Man5 (b), MGlucurd-A-Man10 (c), and MGlucurd-A-Man14 (d) ($\text{D}_2\text{O} + \text{NaOD}$, 400 MHz).

Table S2. Composition of Polymers.

Code	MGluc unit		Anchor unit		Mannose unit	
	/% for OH	/100 glucose	/% for OH	/100 glucose	/% for OH	/100 glucose
	unit	units	unit	units	unit	units
Man0	43	129	4	12	0	0
Man3	31	93	5	15	3	9
Man5	48	144	5	15	5	15
Man7	49	157	5	15	7	21
Man10	45	135	6	18	10	30
Man14	55	165	7	21	14	42

*Determined by ^1H NMR.

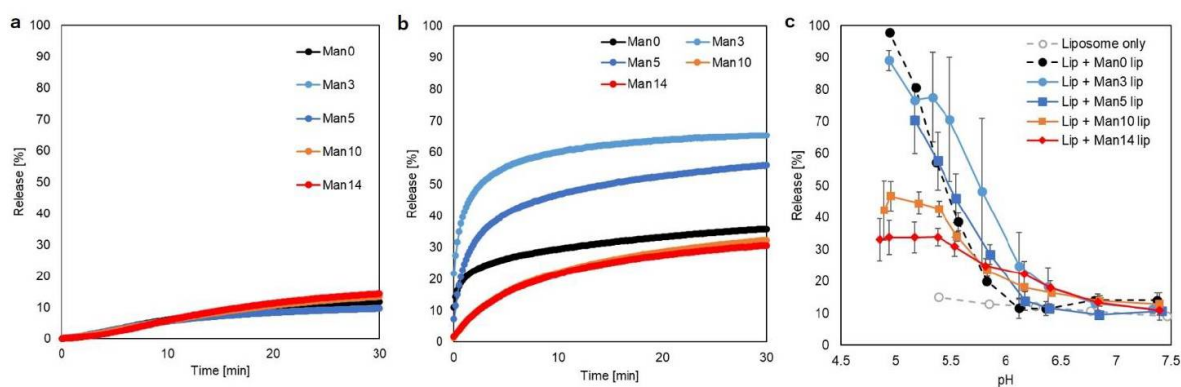


Figure S3. Time courses of pyranine release from EYPC liposome by addition of curdlin derivative-modified liposomes at pH 7.4 (a) and 5.5 (b). (c) pH-Dependence of pyranine release from EYPC liposome by addition of curdlin derivative-modified liposomes at 30 min.

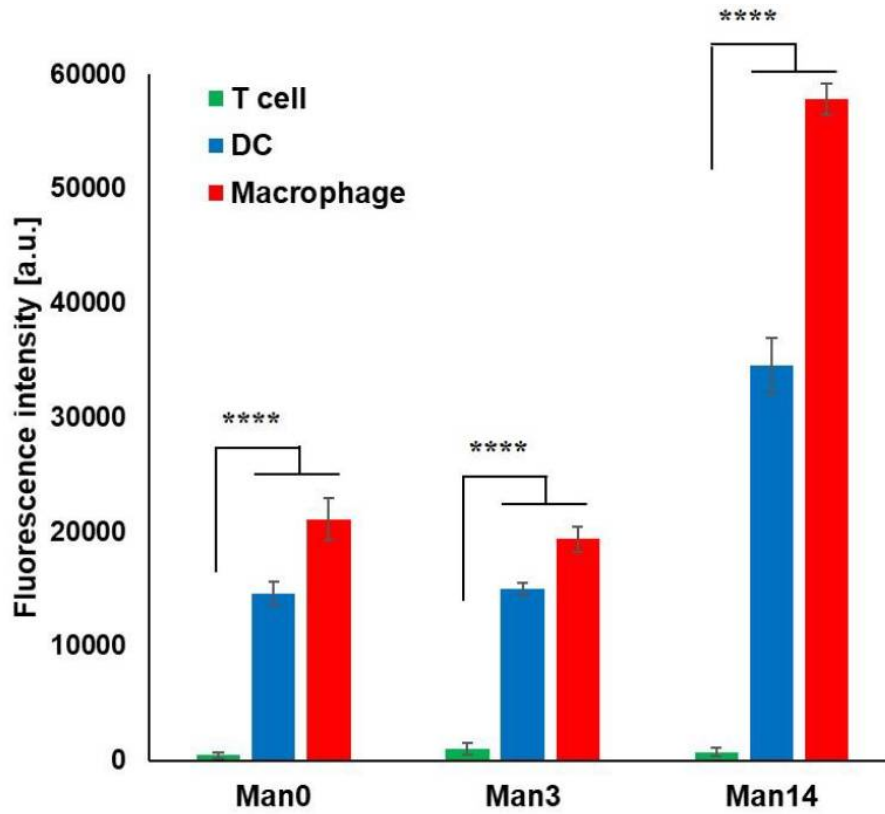


Figure S4. Mean fluorescence intensity of DiI-labeled liposome-treated splenocytes co-stained with anti-CD3 antibody (T lymphocyte), anti-CD11c+ antibody (dendritic cell), or anti-F4/80 antibody (macrophage). Statistical analysis was done using analysis of variance (ANOVA) with Tukey's test. **** $P < 0.0001$.

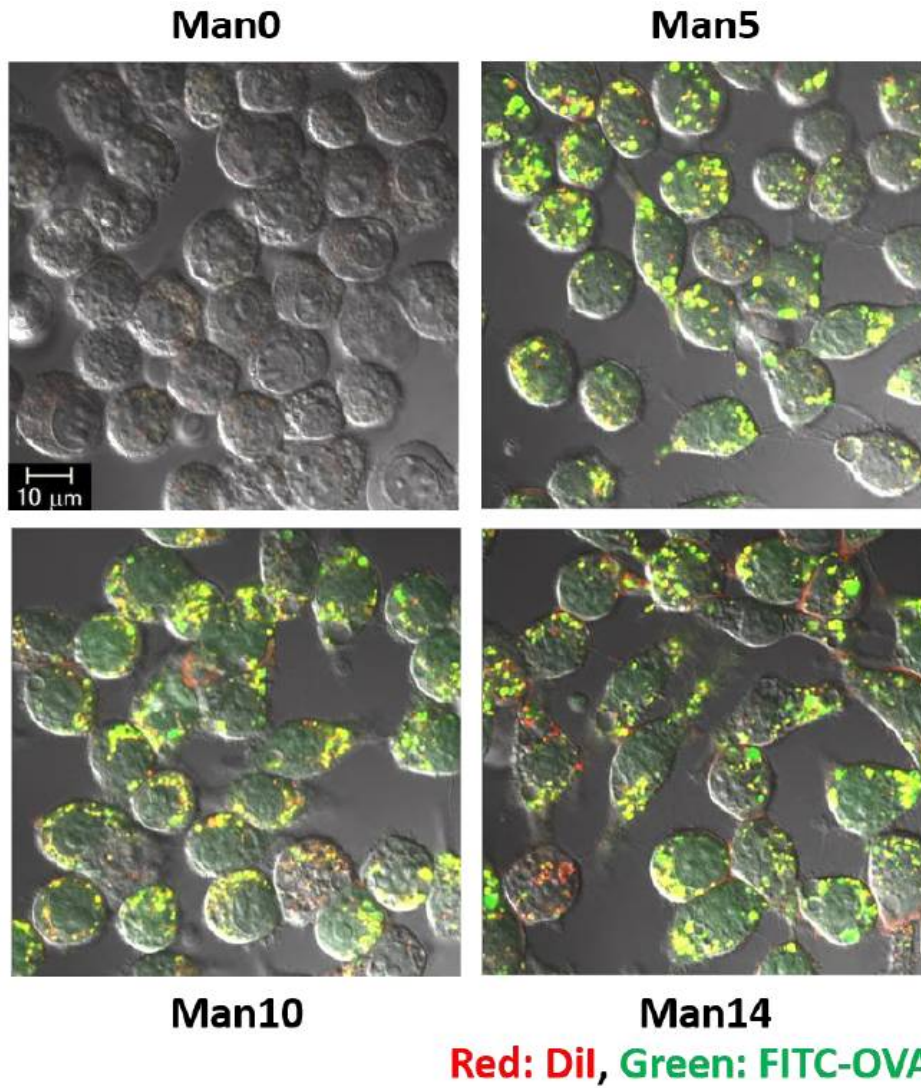


Figure S5. Confocal laser scanning microscopic (CLSM) images of RAW264.7 macrophages treated with DiI-labeled/FITC-OVA-loaded liposomes modified with curdlan derivatives (0.1 mM) for 4 h at 37 in serum-free DMEM.

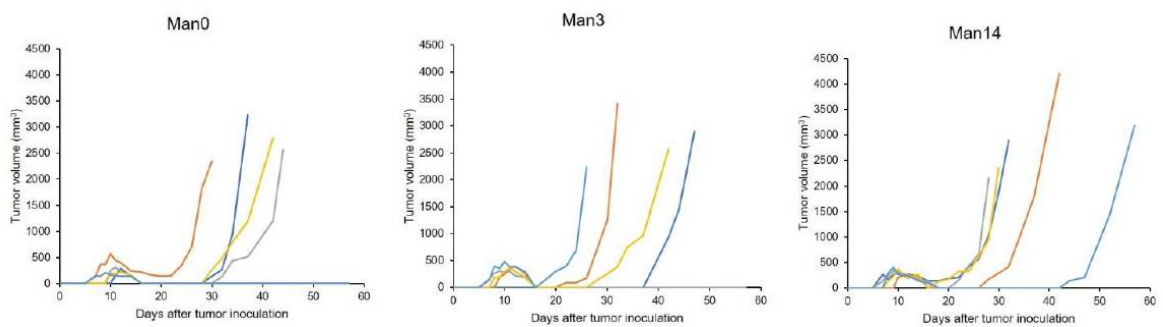


Figure S6. Individual tumor volume change of C57BL/6 mice treated with liposomes modified with various curdlan derivatives in Figure 6 ($n = 5$).