Electronic Supplementary Information

Dendrimer-functionalized electrospun cellulose acetate nanofibers for targeted cancer cell capture applications[†]

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Figure S1. ¹H NMR spectrum of G5.NH₂-FI-FA conjugate with related peak integrations. The integration area of FA, FI, and G5 dendrimer are 12.91 (1.00 + 6.66 + 5.25), 13.83 (4.84 + 8.99), and 1291.33, respectively. Based on the effective number of protons (G5 dendrimer = 1876, FA = 5, and

FI = 6) and the integration area, the numbers of FA and FI moieties attached onto each dendrimer molecule were estimated to be 3.8 and 3.4, respectively.



Figure S2. ¹H NMR spectrum of G5.NH₂-FI conjugate with related peak integrations.



Figure S3. UV-vis spectra of G5.NH₂-FI-FA and G5.NH₂-FI conjugates.



Figure S4. SEM micrographs of CA nanofibrous mat after hydrolysis for (a) 1 h, (b) 2 h, (c) 4 h, and

(d) 8 h in an ethanol solution containing 0.05 M NaOH.



Figure S5. Photos of hydrolyzed CA nanofibrous mat (a), and CA nanofibrous mats modified with G5.NHAc-FI-FA (b) and G5.NHAc-FI (c).



Figure S6. Absorbance of G5.NH₂-FI-FA conjugate with different concentrations at 500 nm before and after modification onto the CA nanofibers.



Figure S7. Absorbance/concentration calibration curve of G5.NH₂-FI-FA (a) and G5.NH₂-FI (c) at 500 nm, and the UV-vis spectra of G5.NH₂-FI-FA (b) and G5.NH₂-FI (d) conjugates before and after modification.



Figure S8. CLSM images of L929 cells captured on the surface G5.NHAc-FI- (a) and G5.NHAc-FI-FA-modified (b) CA nanofibrous mats at different time points.

Table S1. The efficiency (%) of G5.NHAc-FI- and G5.NHAc-FI-FA-modified CA nanofibrous matsto capture KB-LFAR, L929, and KB-LFAR cells at different time points.

Cells		5 min	20 min	40 min	60 min
KB- HFAR cells	G5.NHAc-FI-modified CA nanofibrous mats	4.8 ± 1.1	10.7 ± 1.2	19.2 ± 8.2	38.3 ± 4.4
	G5.NHAc-FI-FA-modified CA nanofibrous mats	5.9 ± 4.4	12.7 ± 2.7	36.3 ± 1.6	82.7 ±1.1
L929 cells	G5.NHAc-FI-modified CA nanofibrous mats	16.6 ± 0.2	15.1 ± 1.5	55.5 ± 5.8	58.3 ± 2.5
	G5.NHAc-FI-FA-modified CA nanofibrous mats	7.0 ± 6.7	20.0 ± 2.2	60.6 ± 4.3	59.0 ± 8.3
KB-LFAR	G5.NHAc-FI-modified CA nanofibrous mats	20.8 ± 5.8	26.6 ± 5.7	52.3 ± 0.7	67.8 ± 4.4
cells	G5.NHAc-FI-FA-modified CA nanofibrous mats	16.3 ± 8.3	37.3 ± 1.5	61.9 ± 0.8	65.9 ± 2.3