Annexin V-Conjugated Micelles as a Novel Potential Drug Delivery System for Targeted Thrombolysis

1. Characterizing Annexin V conjugated micelles by sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE).

A discontinuous gel system consist of 4% stacking gel and 10% separation gel was used herein. Anx-M was concentrated 5 times by ultracentrifuge tube before loading. Protein marker and other 4 samples mixed loading buffer (5×) were heated 5 min in boiling water. 10 µL of each sample was loaded on SDS-PAGE gel. The protein content in Annexin V, Anx-M and Anx-M/micelles physical mixture were 2 µg, ~1 µg, and 1 µg relatively. Then the sample were separated by electrophoresis at a voltage of 80 V in stacking gel and 120 V in separation gel. SDS-PAGE gel was stained by Coomassie® G-250.
Figure S1. $^1$HNMR spectrum of synthesized polymers. (A) PCL, (B) PCL-Br, (C) PCD, (D) PCDH in CDCl$_3$ and (E) PCDH-COOH in DMSO-$d_6$. 
Figure S2. $^1$HNMR spectrum of (A) PCDH and (B) PCDH-COOH in DMSO-$d_6$. 
Figure S3. FTIR spectra of synthesized polymers. (A) PCL, (B) PCL-Br, (C) PCD, (D) PCDH.
**Table S1.** Characterization of synthesized polymers by GPC.

<table>
<thead>
<tr>
<th>Sample</th>
<th>DP&lt;sup&gt;a&lt;/sup&gt;</th>
<th>CL</th>
<th>DMAEMA</th>
<th>HEMA</th>
<th>M&lt;sub&gt;n&lt;/sub&gt;&lt;sup&gt;b&lt;/sup&gt; (kDa)</th>
<th>M&lt;sub&gt;n&lt;/sub&gt;&lt;sup&gt;c&lt;/sup&gt; (kDa)</th>
<th>M&lt;sub&gt;w&lt;/sub&gt;/M&lt;sub&gt;n&lt;/sub&gt;&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCL</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.98</td>
<td>5.96</td>
<td>1.676</td>
<td>74.85</td>
</tr>
<tr>
<td>PCD</td>
<td>40</td>
<td>24</td>
<td>-</td>
<td>-</td>
<td>8.74</td>
<td>8.69</td>
<td>1.657</td>
<td>69.77</td>
</tr>
<tr>
<td>PCDH</td>
<td>40</td>
<td>24</td>
<td>10</td>
<td>-</td>
<td>10.04</td>
<td>9.37</td>
<td>1.628</td>
<td>57.05</td>
</tr>
<tr>
<td>PCDH-COOH</td>
<td>40</td>
<td>24</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>10.81</td>
<td>1.690</td>
<td>81.39</td>
</tr>
</tbody>
</table>

<sup>a</sup> The unit numbers of CL, DMAEMA, HEMA were determined by <sup>1</sup>H NMR.

<sup>b</sup> The molecular weight of polymers were calculated by <sup>1</sup>H NMR.

<sup>c</sup> The molecular weight and molecular weight distribution were determined by GPC.

**Figure S4.** GPC trace of synthesized polymers.
Figure S5. SDS-PAGE image. Lane A, Anx-M. Lane B, Annexin V/micelles physical mixture. Lane C, micelles. Lane D, Annexin V. Lane E, protein marker.

Figure S6. The relative scattering intensity of LKTM in 10% FBS for 8 h measured by DLS (n=3).
**Figure S7.** Standard curve of LK for enzymatic activity measurement of (A) LKM, (B) LK and LKTM. (C) Results of enzymatic activity assessment.

**Figure S8.** The UV scanning curve of different materials.