Electronic Supplementary Information (ESI)

Self-Assembly of Pentapeptides in Ethanol to Develop Organogels

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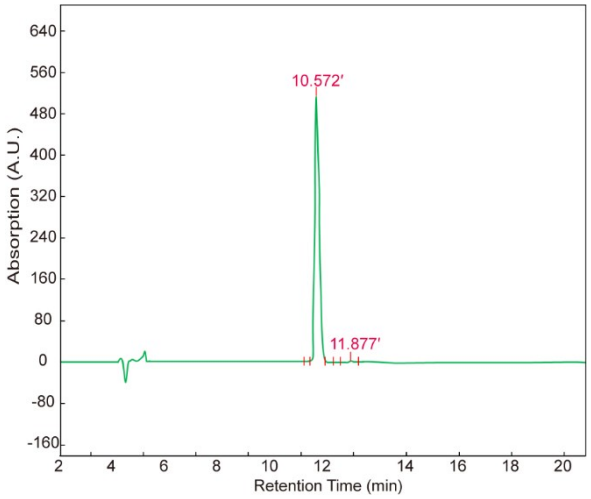

Fig. S1. HPLC chromatograms of the EAF-5 peptide. The product peak was located at retention time of 10.572 min. Column eluate was monitored at 220 nm and a flow rate of 1.0 ml/min with 0.1 % Trifluoroacetic Acid in 100 % Acetonitrile. The EAF-5 peptide obtained has a purity of 98.54 %.

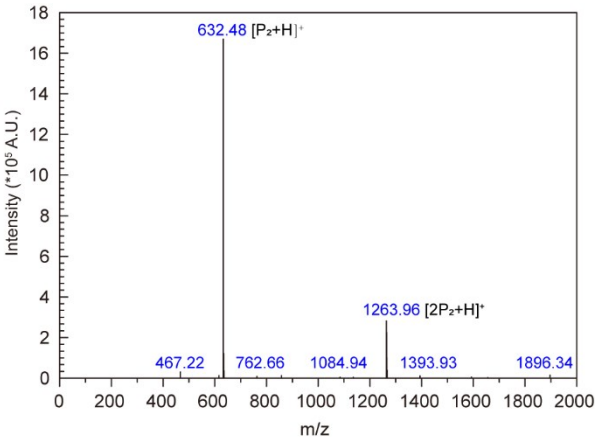

Fig. S2. ESI/Mass spectrometry indicating that the molecular weight of the EAF-5 peptide is 631.48.

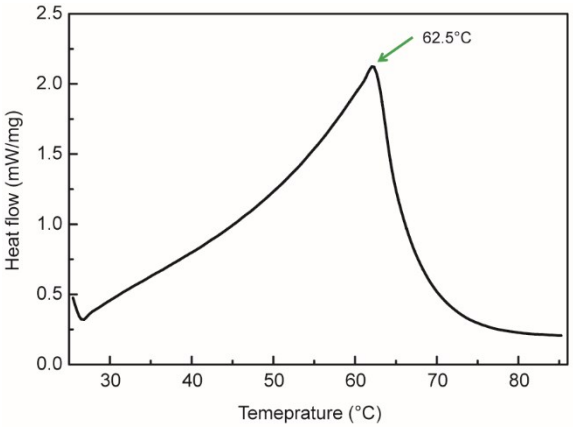

Fig. S3 Differential scanning calorimetric (DSC) thermogram of the EAF-5 ethanol gel.

Supplementary Note

Synthesis of EAF-5 peptide

The EAF-5 peptide was synthesized by standard solid-phase peptide synthesis (SPPS) procedures (Amino Acids, 2018, 50, 39–68). The resin was selected as the solid-phase support which swelled in organic solvents before initiating the elongation of the peptide primary sequence. Fmoc deprotection was achieved by treating with piperidine. The amino acid coupling was performed by adding Fmoc-amino acid, and mixing with 2-(1h-benzotriazol-1-yl)-1,1,3,3-tetramethyluronium hexafluorophosphate (HBTU) and N,N-Diisopropylethylamine (DIEA). Such a reaction circle was repeated from the C-terminus towards to the N-terminus subsequently to couple the five residues of ECAYF. Crude peptides were cleaved from the resin and purified by high performance liquid chromatography (HPLC). ESI-Mass spectra were obtained to identify the product. The purified samples were lyophilized into white powders, which were stored in the refrigerator at -20 °C for later use.

DSC experimental section

10 mg EAF-5 peptide ethanol gels (25 mg/ml) were placed in the aluminum crucible of a differential scanning calorimeter (Perkin-Elmer DSC-2). The heating temperature ranged from 27°C to 75°C and the heating rate was maintained at 5 k/min.