Supplementary Information (SI) for Journal of Materials Chemistry B.


# Supplementary Information

## Disassembly of Self-Assembling Peptide Hydrogels as a Versatile Method for Cell Extraction and Manipulation

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## Supplementary Figures

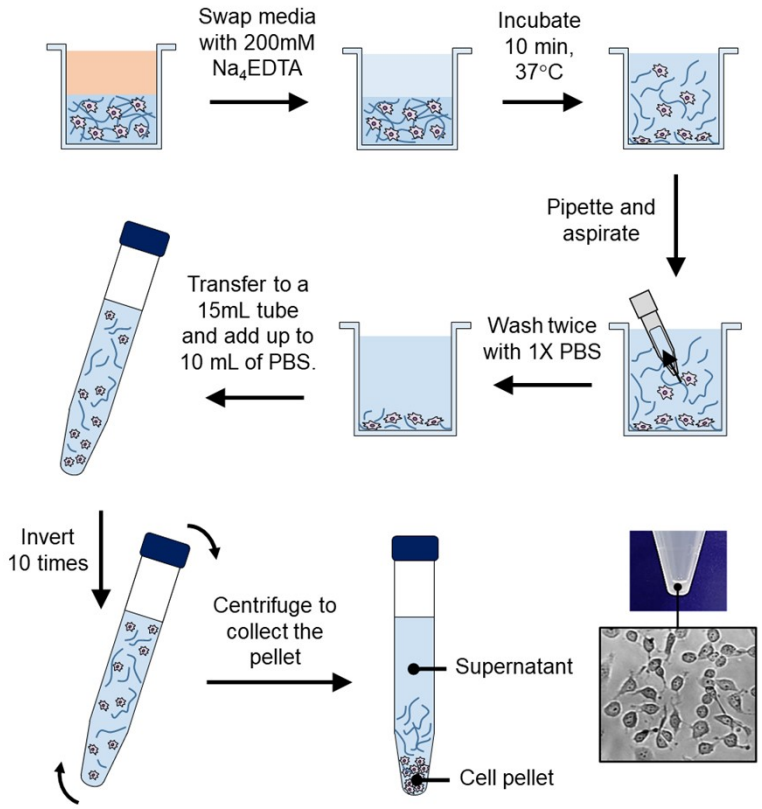


**Figure S1.** Schematics of the disassembly protocol to retrieve cells from 3D PA hydrogels.

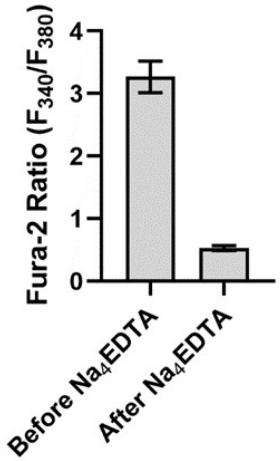


**Figure S2.** Amount of calcium ions present in PA gels before and after addition of $Na_4EDTA$.

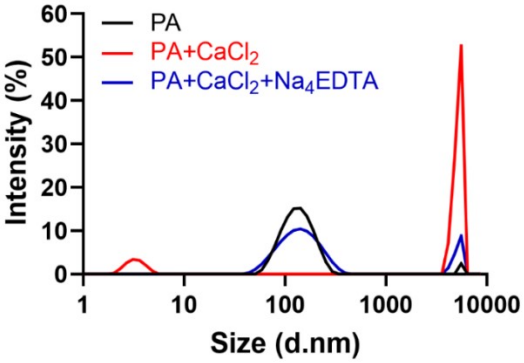


**Figure S3.** Dynamic light scattering shows size distribution of PA nanofibres in solution (black line), as gel (red line) and as solution after effect of $Na_4EDTA$ (blue line).

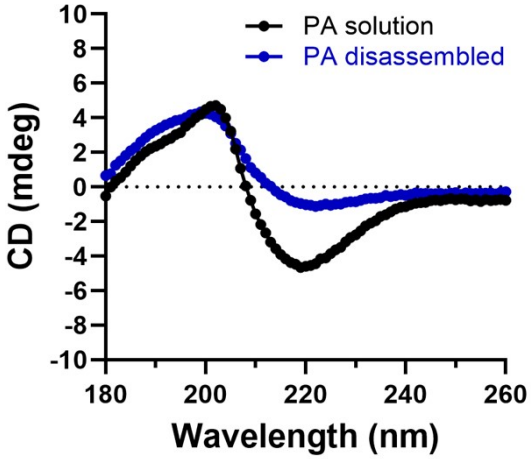


**Figure S4.** Circular dichroism spectra of PA solution (black line) and PA gel disassembled with $Na_4EDTA$ (blue line).

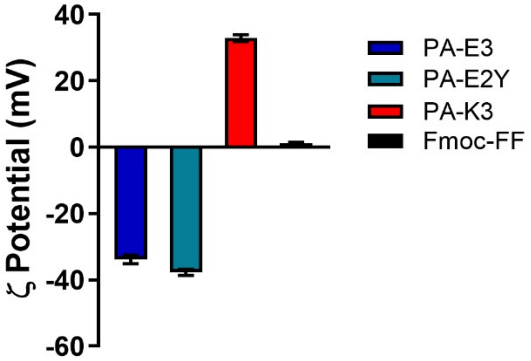


**Figure S5.** Zeta potential values for the negatively-charged (PA-E3, PA-E3Y), positively-charged (PA-K3) and neutral (Fmoc-FF) peptides tested.

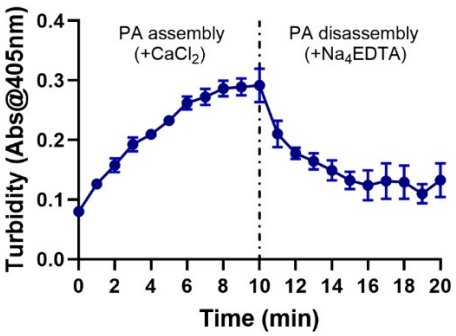


**Figure S6.** Turbidity measurements of PA solution during assembly and disassembly.

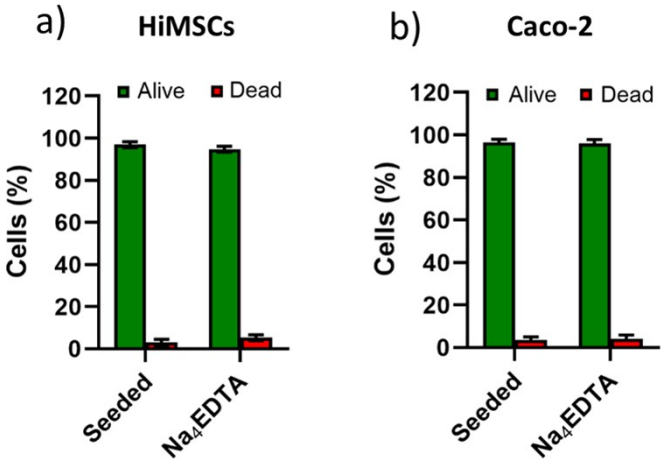


**Figure S7.** Percentages of alive and dead cells before and after PA-E3 hydrogel disassembly by $Na_4EDTA$. (a) Cell viability of seeded HiMSCs and extracted HiMSCs. (b) Cell viability of seeded and extracted Caco-2 cells.

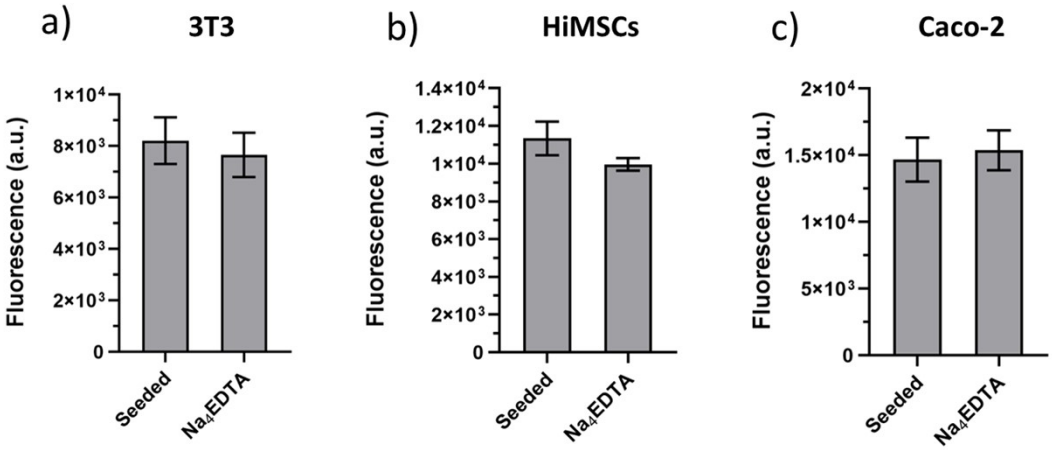


**Figure S8.** Metabolic activity assessed by PrestoBlue assay for (a) 3T3, (b) HiMSCs and (c) Caco-2 cells before and after PA hydrogel disassembly by $Na_4EDTA$.

**Table S1.** Primers used for qPCR analysis of CaCo-2 cell gene expression.

| Human gene | Forward primer | Reverse Primer |
|---|---|---|
| *ANPEP* | CATTATGACACACCCTACCCACT | CTCATGAGCAATCACAGTGACC |
| *MUC2* | ACCCGCACTATGTCACCTTC | GGACAGGACACCTTGTCGTT |
| *CDH1* | GGTGCTGAGGATGAAAAGGGT | GGCAGTGTCTCTCCAAATCCG |
| *MKi67* | AGGGAATGAAAGTGCGTGGA | GCTTCTGCTTGGGCTTCTTT |
| *GAPDH* | GAGTCAACGGATTTGGTCGT | TTGATTTTGGAGGGATCTCG |

**Table S2.** Detailed proportions of HSC population after flow cytometry. Average percentages of positive and negative cells (HSC %) were obtained from 4 independent experiments (n=4).

| | **Lineage** | | | **CD34** | | | **CD38** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Positive | Negative | SD | Positive | Negative | SD | Positive | Negative | SD |
| HSC % | 19.05 | 80.95 | ±8.55 | 8.04 | 91.96 | ±4.16 | 1.43 | 98.56 | ±0.28 |