

Biomimetic Electrospun Self-Assembling Peptide Scaffolds for Neural Stem Cell Transplantation in Neural Tissue Engineering

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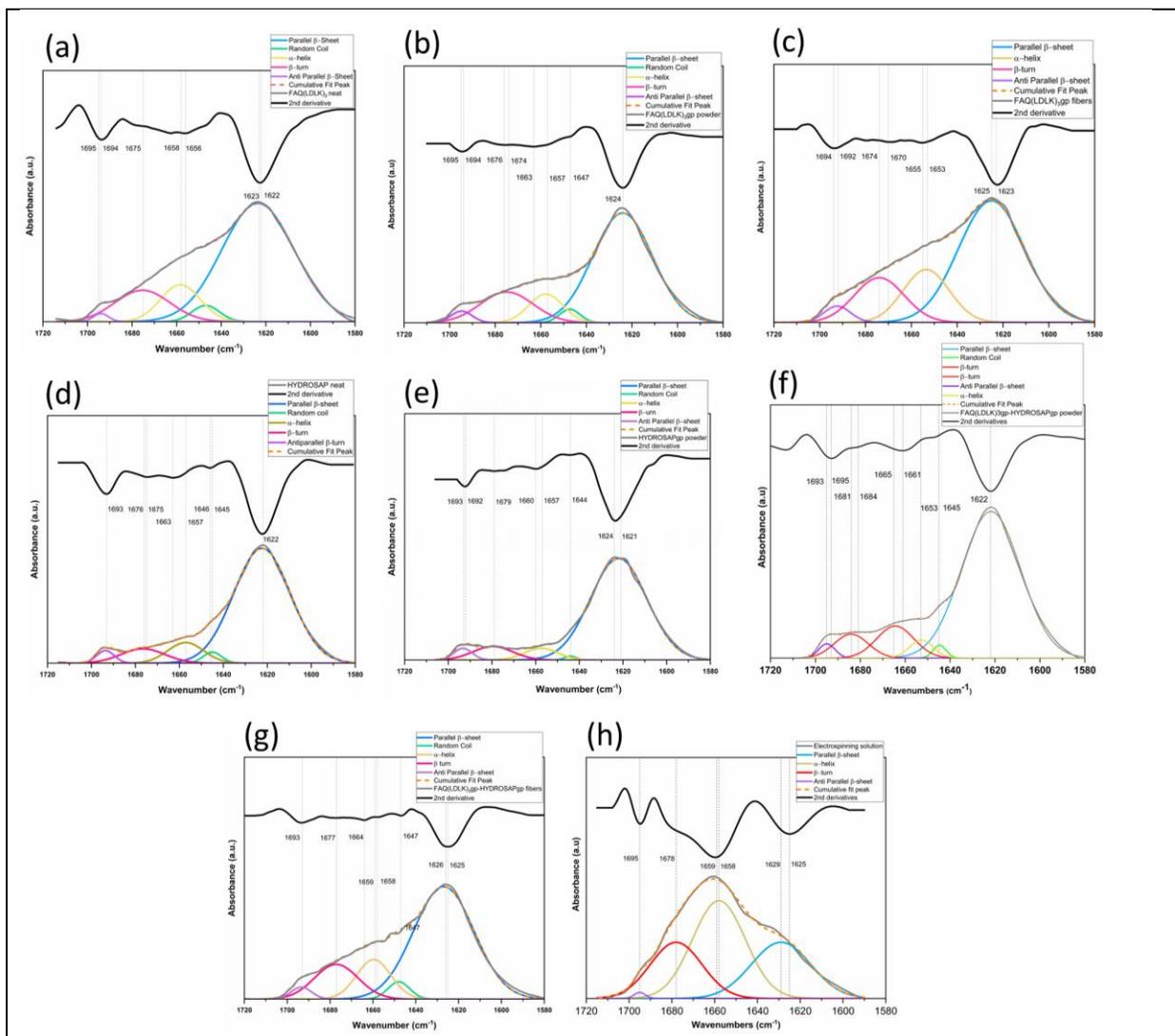


Figure S1. Deconvolution and second-derivative procedures were used to facilitate finding the peak positions of the amide I bands in their IR spectra and quantitative analysis of the secondary structure components. (a) FAQ(LDLK)₃ neat, (b) FAQ(LDLK)₃gp powder, (c) FAQ(LDLK)₃gp fibers, (d) HYDROSAP neat, (e) HYDROSAPgp powder, and (f) FAQ(LDLK)₃gp-HYDROSAPgp powder, (g) FAQ(LDLK)₃gp-HYDROSAPgp fibers, and (h) electrospinning solution.

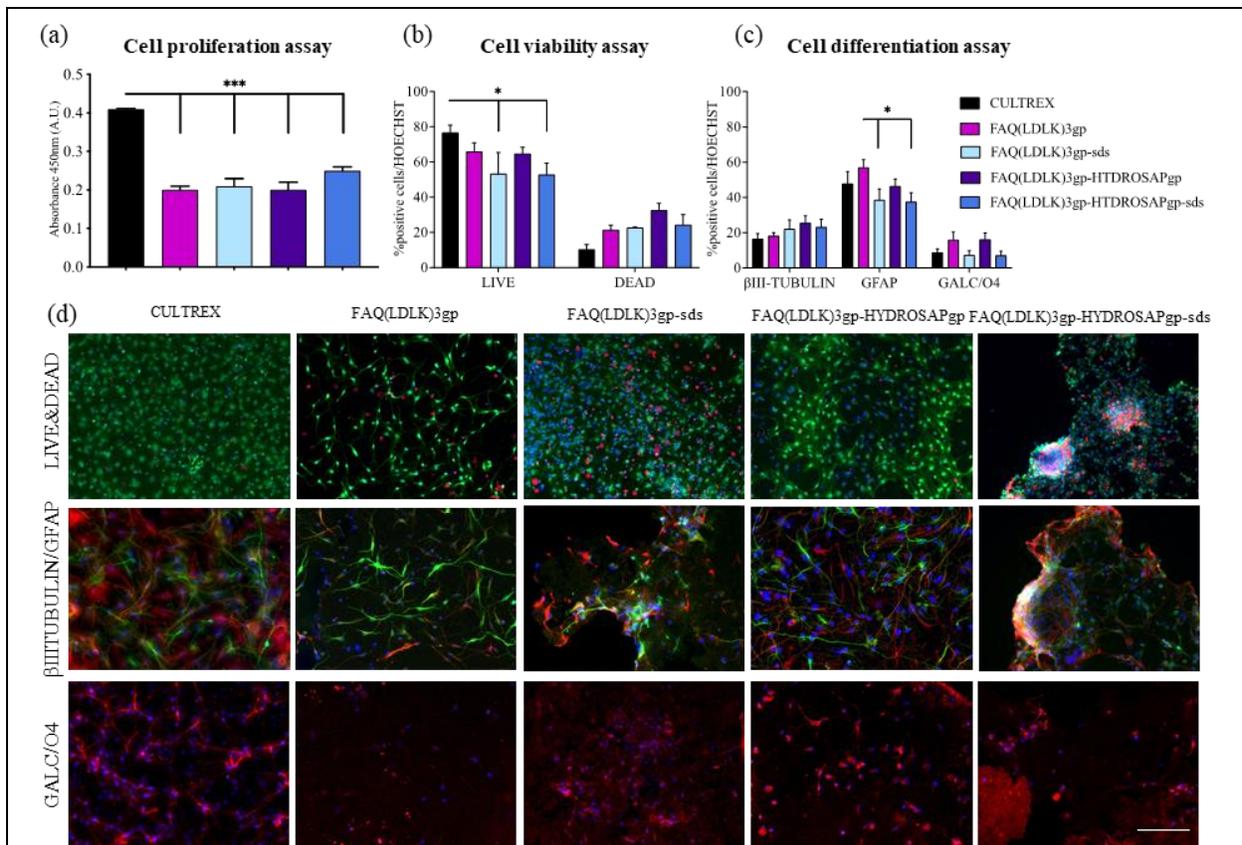


Figure S2. Proliferation, viability, and differentiation assays of mNSCs seeded on 2D scaffolds of FAQ(LDLK)3gp, FAQ(LDLK)3gp-sds, FAQ(LDLK)3gp-HYDROSAPgp and FAQ(LDLK)3gp-HYDROSAPgp -sds for 7 days in vitro. Cultrex was used as a positive control. (a) Colorimetric MTS assay for measurement of cell proliferation. Absorbance values were detected at 490 nm (A.U., Arbitrary Units). (b) LIVE/DEAD Cell Viability/Cytotoxicity test to determine cell viability. (c) Quantification of positive cells for β III-Tubulin (neurons), GFAP (astrocytes), and GALC/O4 (oligodendrocytes). (d) Representative fluorescence images for cell viability assay (top), neural and astroglial differentiation (middle), and oligodendroglial differentiation (bottom). Live cells are labeled in green, dead cells in red; neurons are stained with the β III-tubulin marker in green, astrocytes with GFAP marker in red, and oligodendrocytes in red with GALC/O4 marker. Cell nuclei were stained with HOECHST (in blue). Data are represented as mean \pm SEM. Statistical analysis shows significant differences between conditions (* $p < 0.05$; *** $p < 0.001$). All measures were performed in triplicate. Scale bar, 100 μ m.