Supplementary Information

Conductive PEDOT/Alginate Porous Scaffold as a Platform to Modulate the Biological Behaviors of Brown Adipose-Derived Stem Cells

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Figure S1. $PEDOT_5Alg_5$ hydrogel is capable of bearing the 50 g of weight.

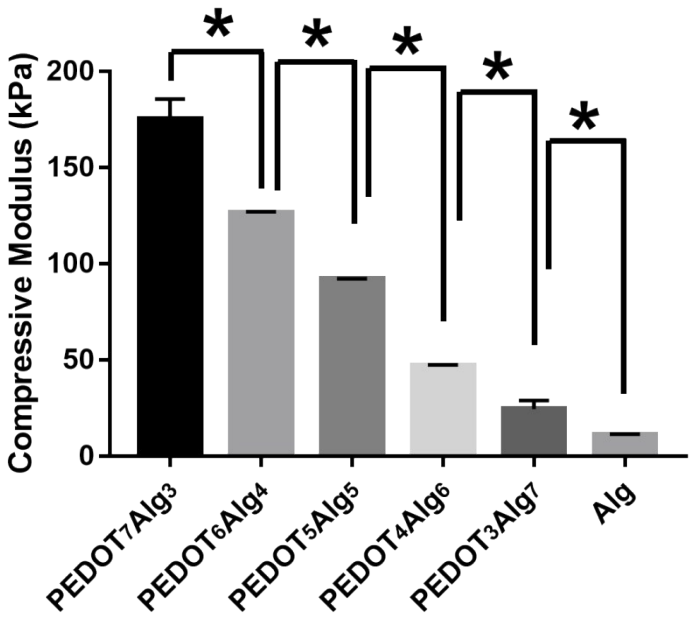

Figure S2. Compressive modulus of PEDOT/Alg scaffolds. n = 6 independent measurements per group; *p < 0.05.

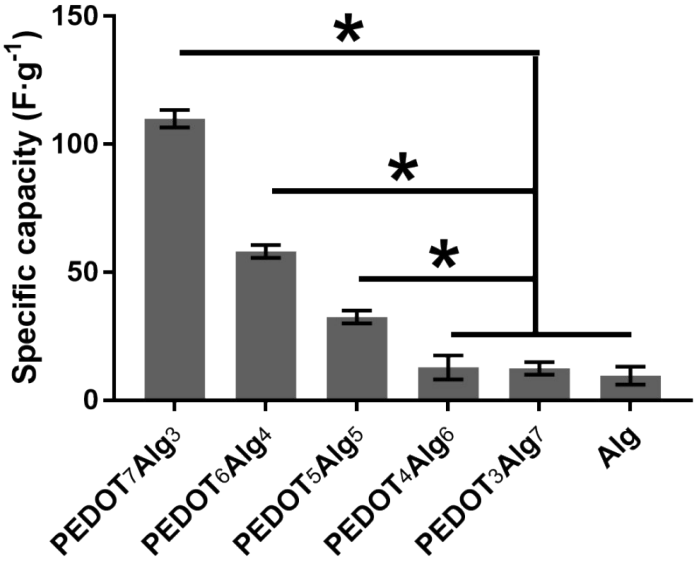

Figure S3. Specific capacity of the PEDOT/Alg scaffolds. n = 6 independent measurements per group; *p < 0.05.

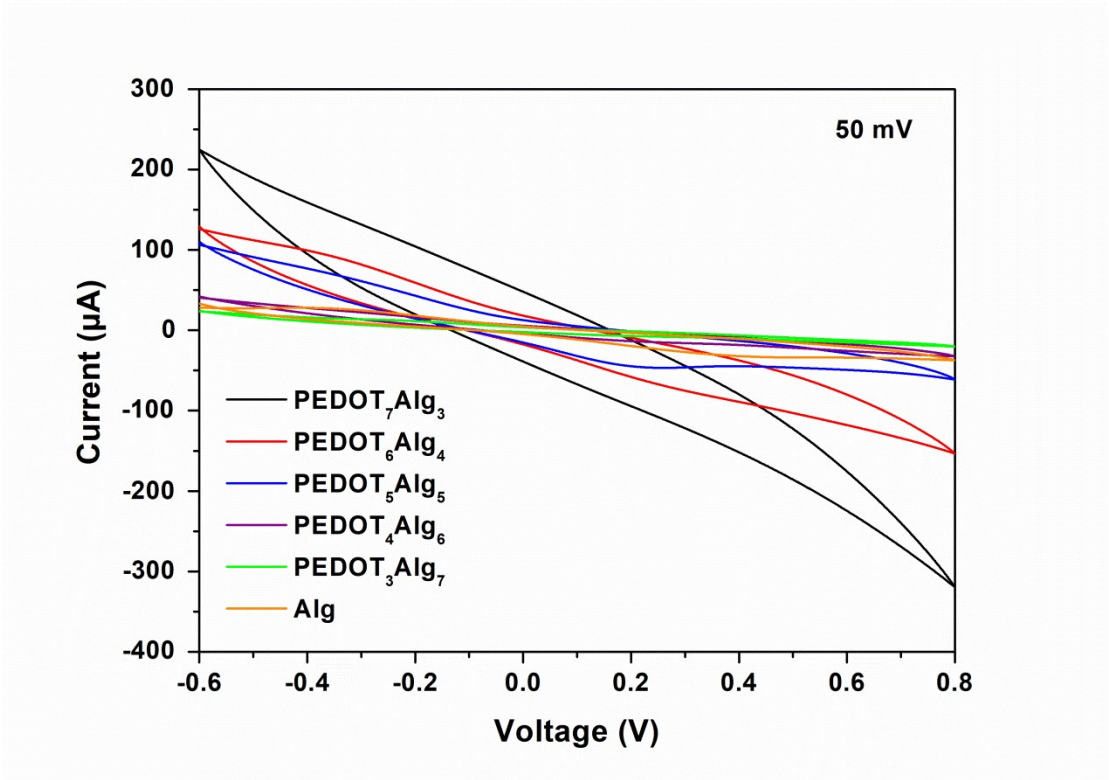

Figure S4. CV curves of PEDOT/Alg scaffolds at a scan rate of 50 mV/s.

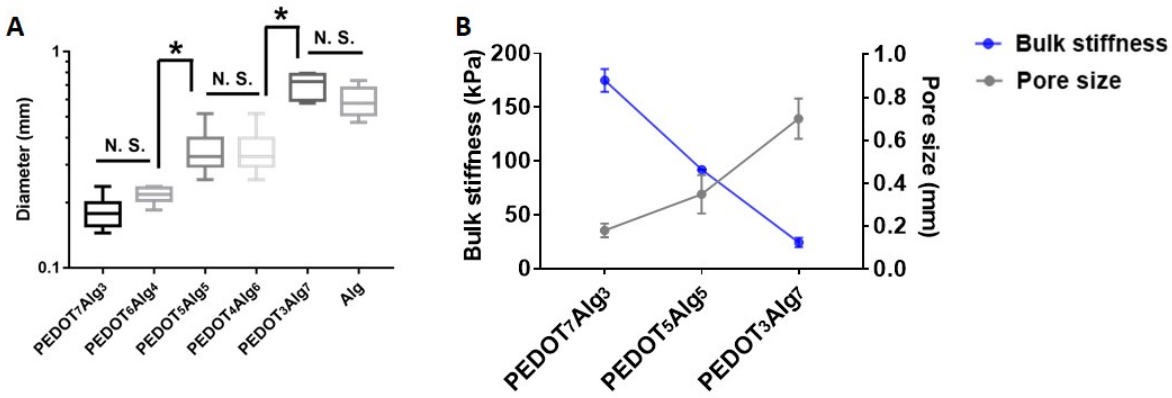

Figure S5. (A) Pores size of the PEDOT/Alg scaffolds. n = 10–20 pores; *p < 0.05, N.S. indicates no statistical difference. (B) Stiffness control using varied ratios of PEDOT/Alg caused a change in scaffold pore size (stiffness, n = 6; pore size, n = 10–20).

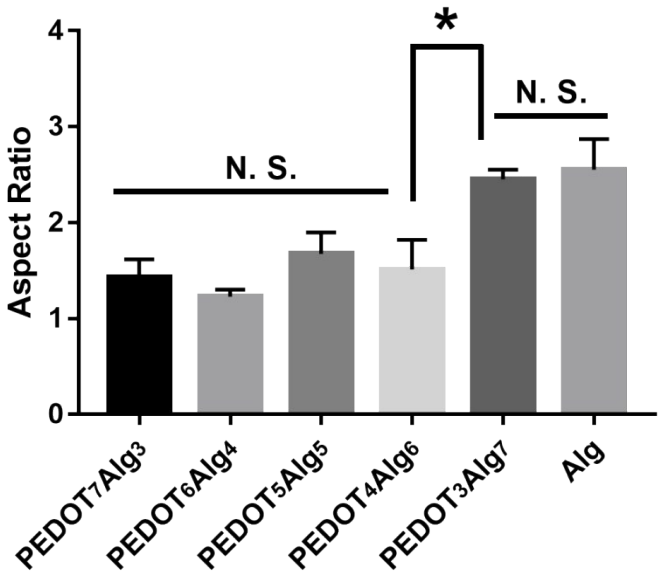

Figure S6. Aspect ratio of the pores in the PEDOT/Alg scaffolds. n = 10–20 pores; *p < 0.05, N.S. indicates no statistical difference.

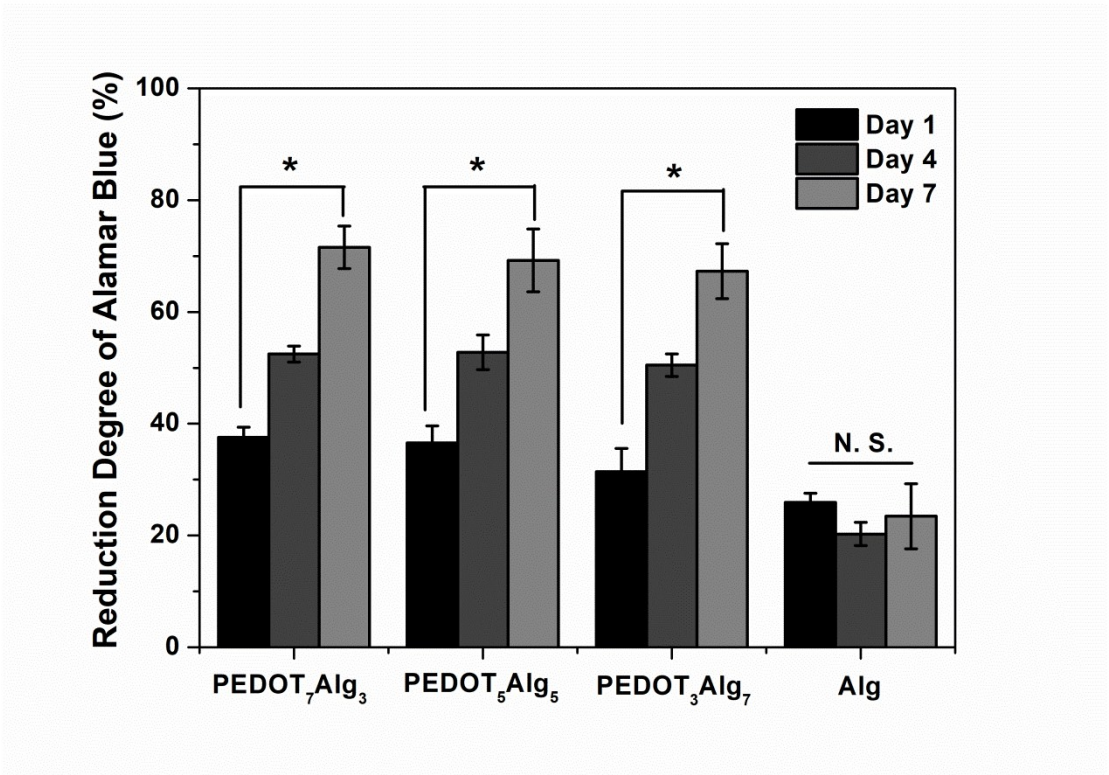

Figure S7. Proliferative behaviors of BADSCs seeded in PEDOT/Alg scaffolds. n= 6 independent measurements, mean ± s.d., from 2 biologically independent experiments. *p < 0.05, N.S. indicates no statistical difference.

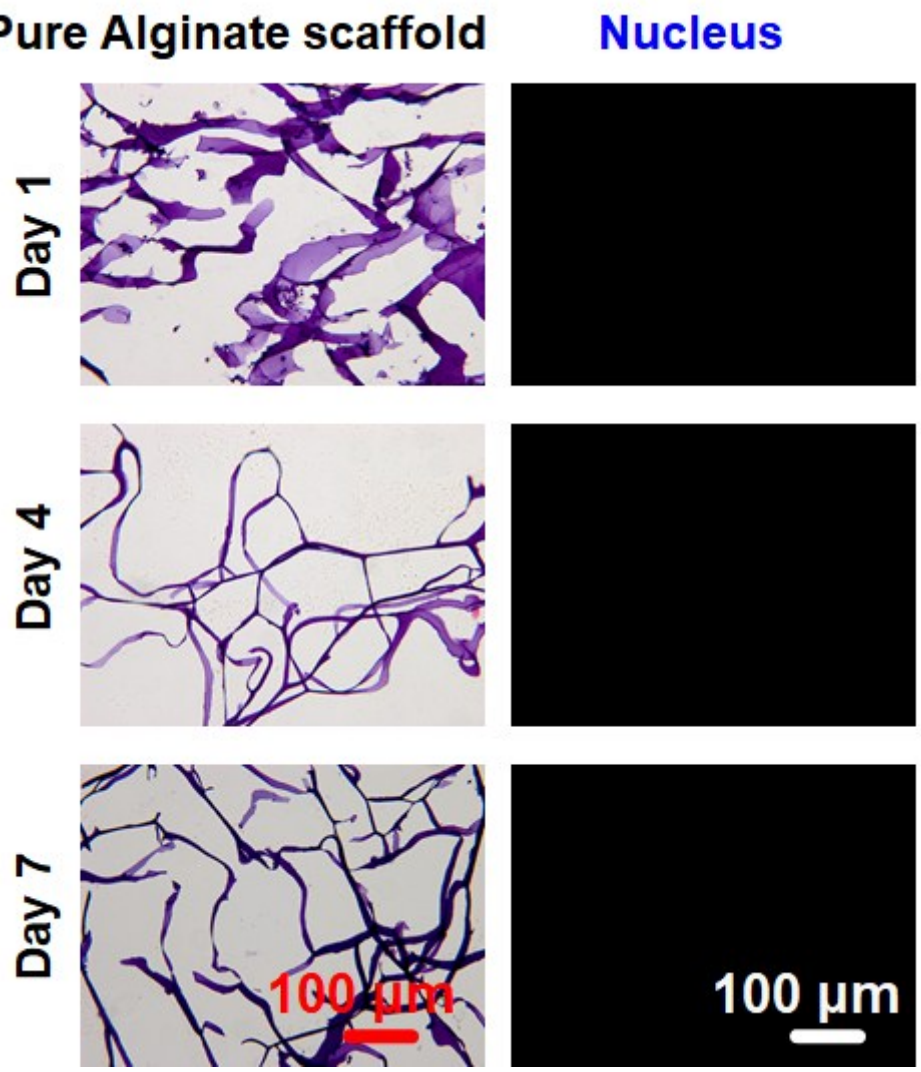

Figure S8. Fluorescence staining of BADSCs cultured in pure alginate scaffolds at day 1, 4 and 7. (Blue: Nucleus)

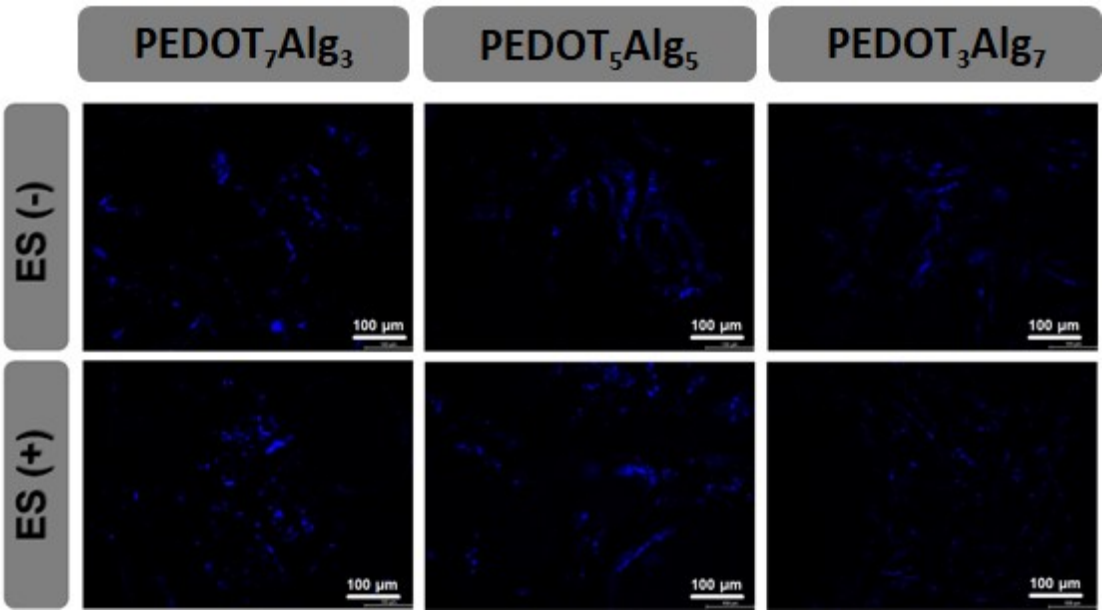

Figure S9. cTnT immunofluorescence staining of BADSCs cultured in PEDOT/Alg scaffolds at day 1. (Blue: Nucleus; Green: cTnT)

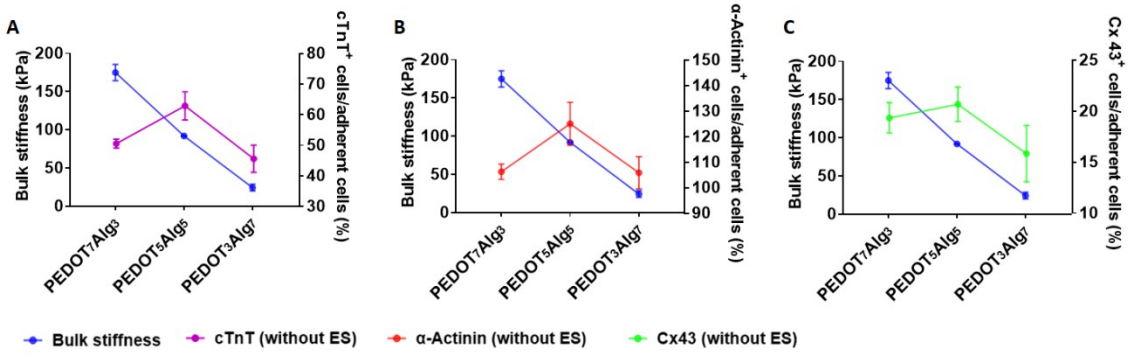

Figure S10. (A) The relative cTnT^{+} fluorescence density of cells in PEDOT/Alg scaffold after 7d changed with bulk stiffness (without electrical stimulation) (B) The relative α-actinin^{+} fluorescence density of cells in PEDOT/Alg scaffold after 7d changed with bulk stiffness (without electrical stimulation) (C) The relative Cx43^{+} fluorescence density of cells in PEDOT/Alg scaffold after 7d changed with bulk stiffness (without electrical stimulation)