

Supporting Information

Enhancement of intercellular interaction between iPSC-derived neural progenitor cells and activated endothelial cells using cell surface modification with functional oligopeptides

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Table S1. Calculated values of number of Esbp-PEG(5k and 40k)-lipids per cell with mean and standard deviations.

(1) Esbp-PEG(5k)-lipids

Concentrations μM	Number per cell			Mean number	Std Dev
0	0	0	0	0	0
2.439	1.512×10^9	1.248×10^9	1.149×10^9	1.303×10^9	1.877×10^8
12.1951	3.999×10^9	3.942×10^9	4.021×10^9	3.987×10^9	4.052×10^7
24.3902	1.1027×10^{10}	1.0029×10^{10}	1.01×10^{10}	1.0385×10^{10}	5.566×10^8
121.9512	1.8274×10^{10}	1.8574×10^{10}	1.9436×10^{10}	1.8761×10^{10}	6.031×10^8
243.9024	1.6514×10^{10}	1.6657×10^{10}	1.655×10^{10}	1.6573×10^{10}	7.417×10^7

(1) Esbp-PEG(40k)-lipids

Concentrations μM	Number per cell			Mean number	Std Dev
0	0	0	0	0	0
2.439	2.774×10^5	2.032×10^5	4.487×10^5	3.098×10^5	1.258×10^5
12.1951	3.359×10^7	3.270×10^7	3.607×10^7	3.412×10^{10}	1.748×10^6
24.3902	3.991×10^7	3.780×10^7	3.670×10^7	3.814×10^7	1.630×10^6
121.9512	2.067×10^8	1.948×10^8	1.912×10^8	1.976×10^8	8.097×10^6
243.9024	2.323×10^8	2.323×10^8	2.323×10^8	2.323×10^8	0

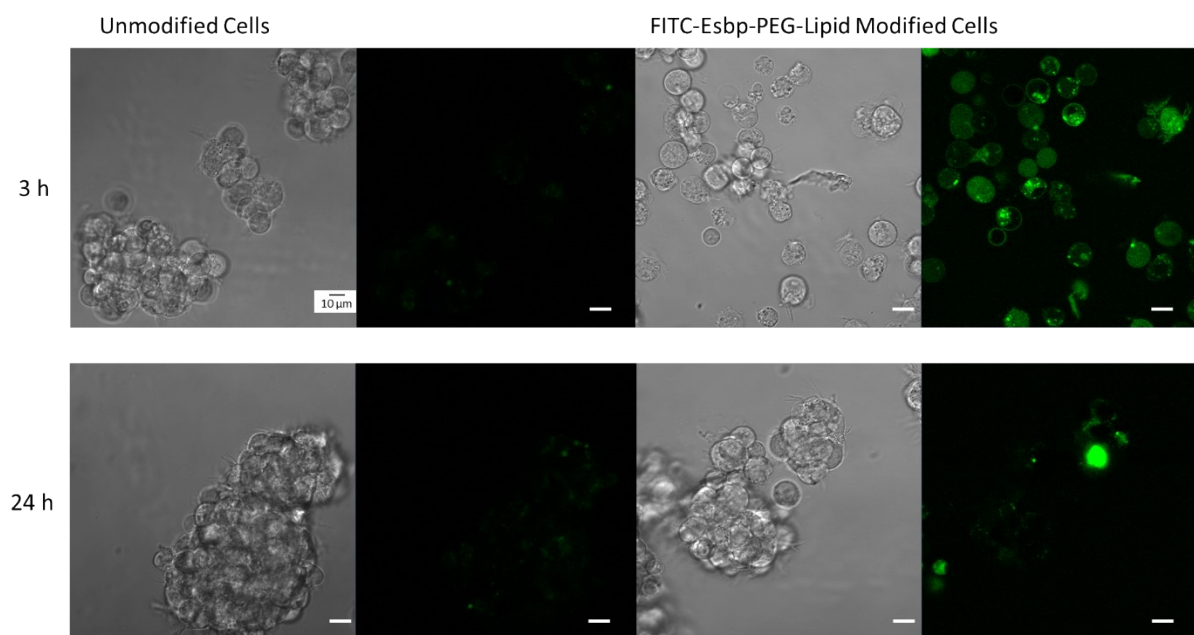


Figure S1. Confocal microscopy images of single NPCs treated with FITC-Esbp-PEG-lipid for 3 and 24 h and non-modified NPCs. No fluorescence could be observed in non-modified cells. In modified cells, a reduced fluorescence could be observed compared to control cells (treated for 0 h), which almost disappeared at 24 h, indicating that the cell surface is no longer modified.

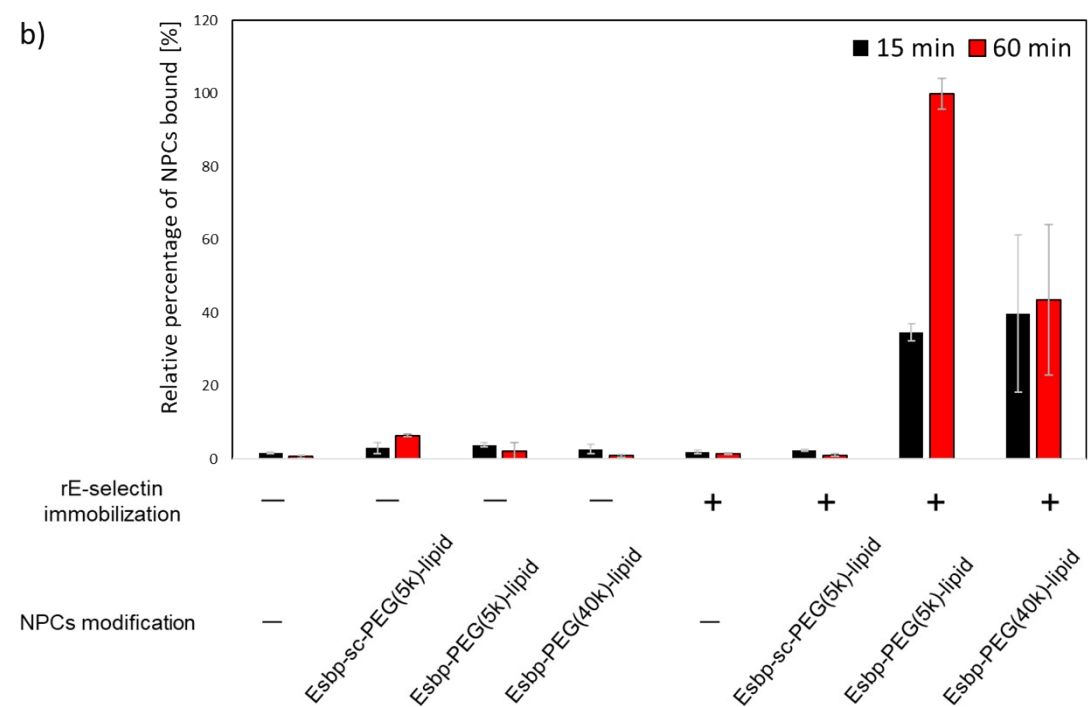
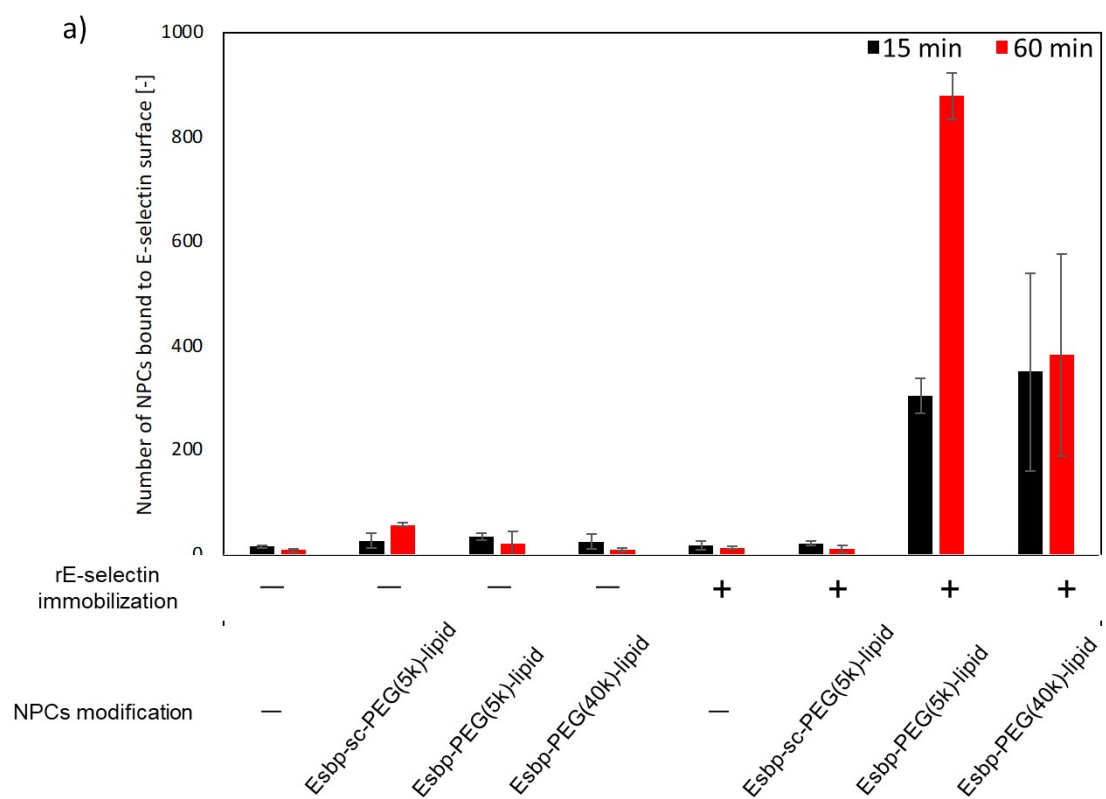


Figure S2. Graph representing (a) number of Esbp-PEG(5k and 40k)-lipid modified neural progenitor cells adhered to recombinant E-selectin surface at 15 and 60 min and (b) the relative number shown in Fig 5(b) without statistical bars. Experimental conditions included, i) non-modified TCPS surface and cells with no surface modification, Esbp-sc-PEG(5k)-lipid, Esbp-PEG(5k and 40k)-lipid modification and ii) rE-selectin surface with no cell modification, Esbp-sc-PEG(5k)-lipid, Esbp-PEG(5k and 40k)-lipid modification.

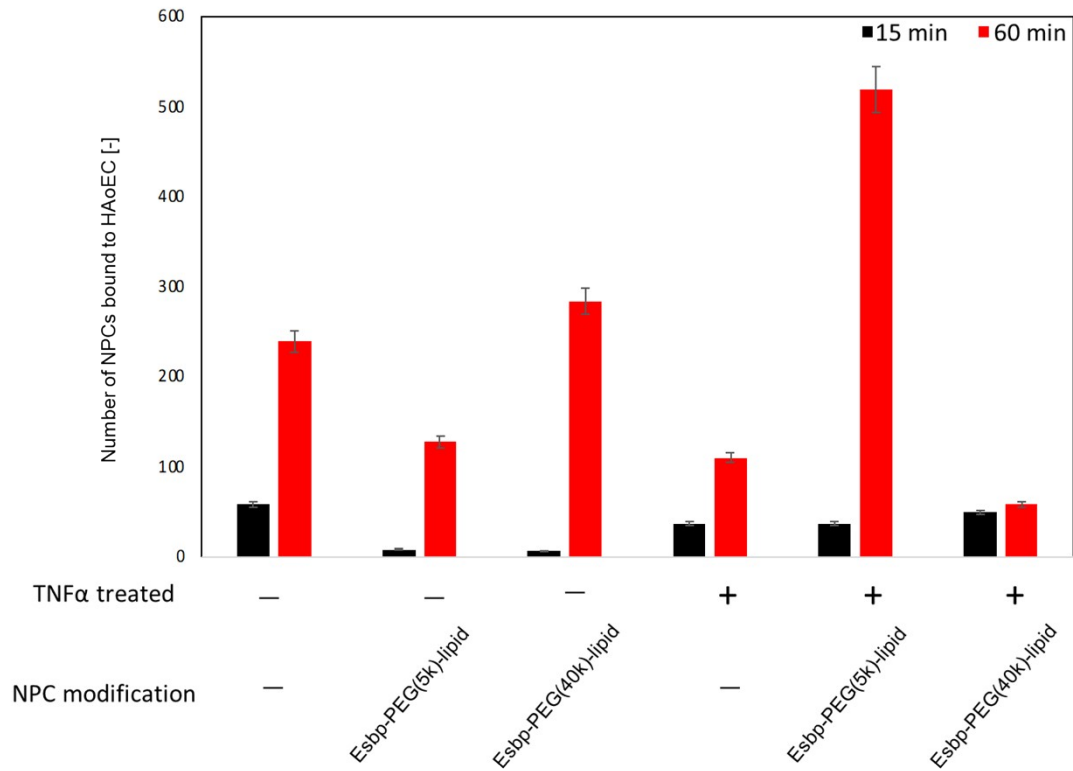


Figure S3. Graph representing number of Esbp-PEG(5k and 40k)-lipid modified neural progenitor cells adhered to activated endothelial cells at 15 and 60 min. Experimental conditions included, i) non-activated endothelial cells and neural progenitor cells with no surface modification or Esbp-PEG(5k and 40k)-lipid modification, and ii) activated endothelial cells with no NPC surface modification or Esbp-PEG(5k and 40k)-lipid modification.