Electronic Supplementary Material (ESI) for Biomaterials Science.

SUPPLEMENTARY FIGURES

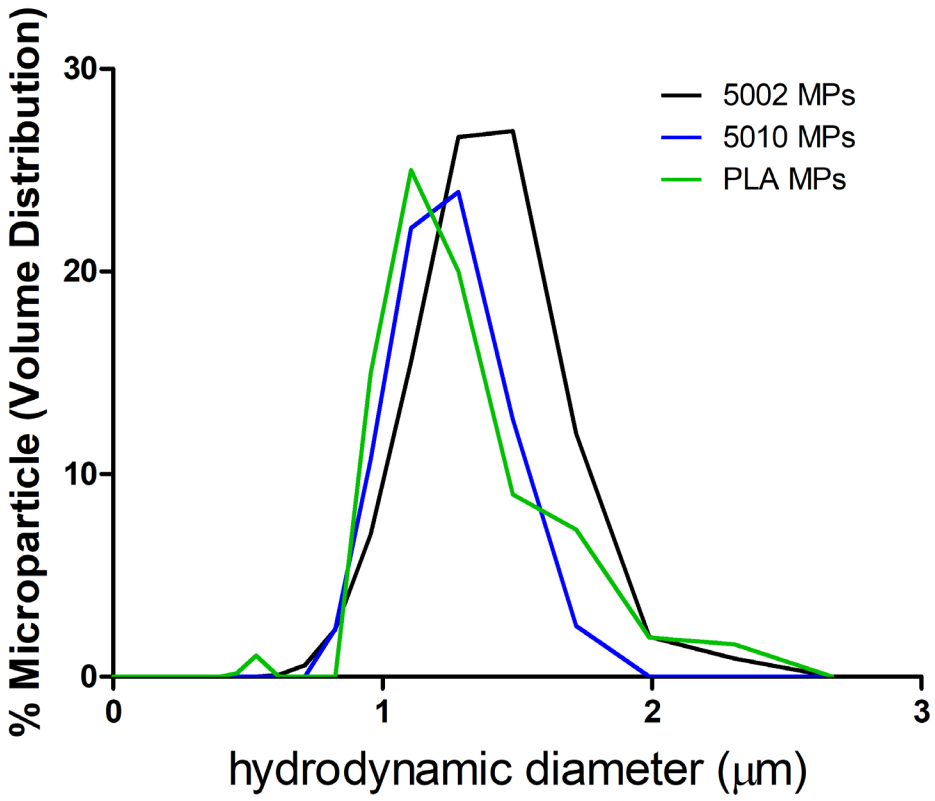


Figure S1. Size distribution (by volume) of fabricated MPs using Dynamic Light Scattering.

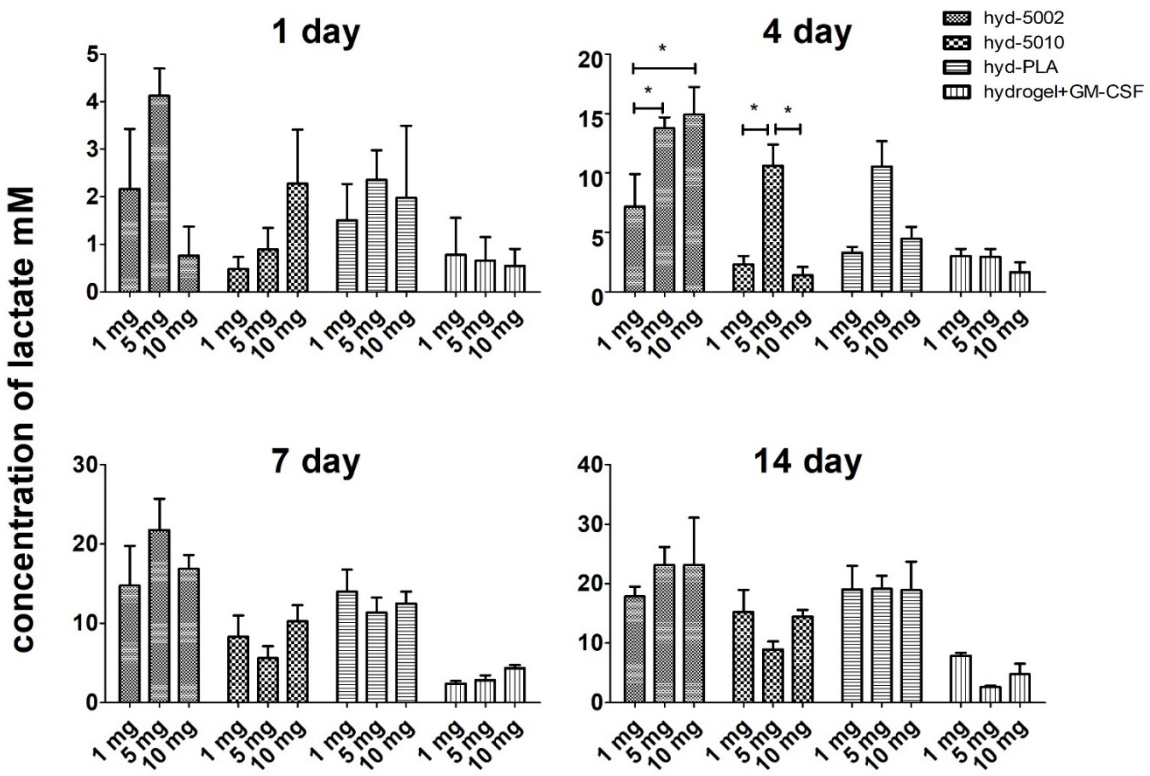


Figure S2. Concentrations of lactate in the hydrogel increase over time. This figure shows the same data as Figure 2, however, statistical significances are denoted between mass of particle from the same PLGA MP formulation. The * symbol represents a pairwise significance difference ($p < 0.05$; $n = 3$ biological replicates per formulation per time point). Significance was determined using two-way ANOVA of the entire data set followed by comparisons of the means of each treatment group at each time point using a posthoc Tukey test.

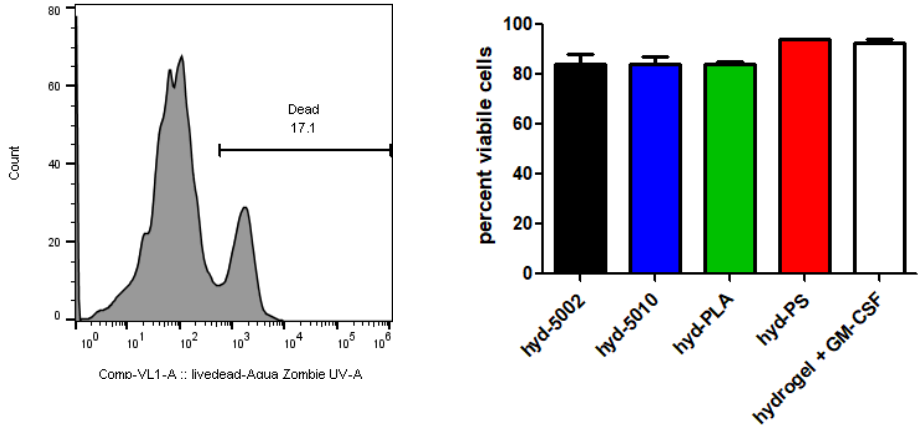
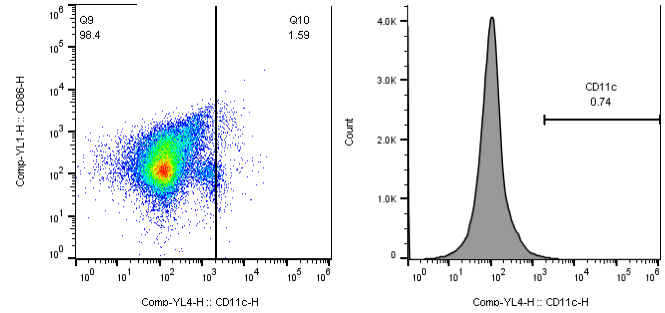
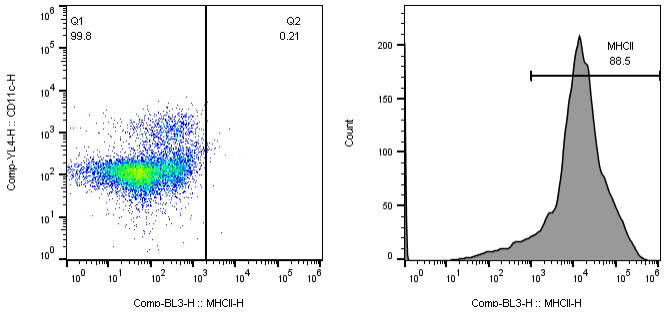


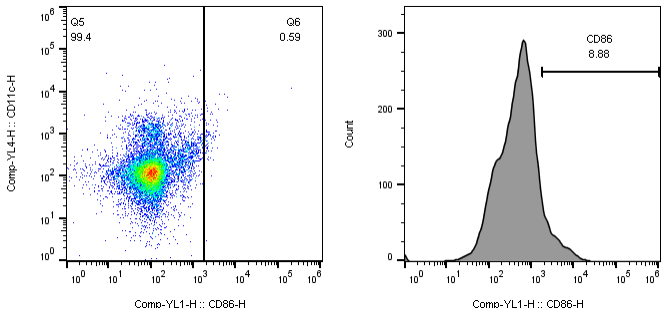
Figure S3. Cells remain viable in the hydrogel after 14 days of incubation. Cell viability within the hydrogel environment was measured after 14 days using a fixable Live/Dead dye and flow cytometric quantification. There were no significant difference in viability in cells that were cultured with hydrogels loaded with MPs and hydrogels without MPs.

DCs

FMO | Experimental Sample



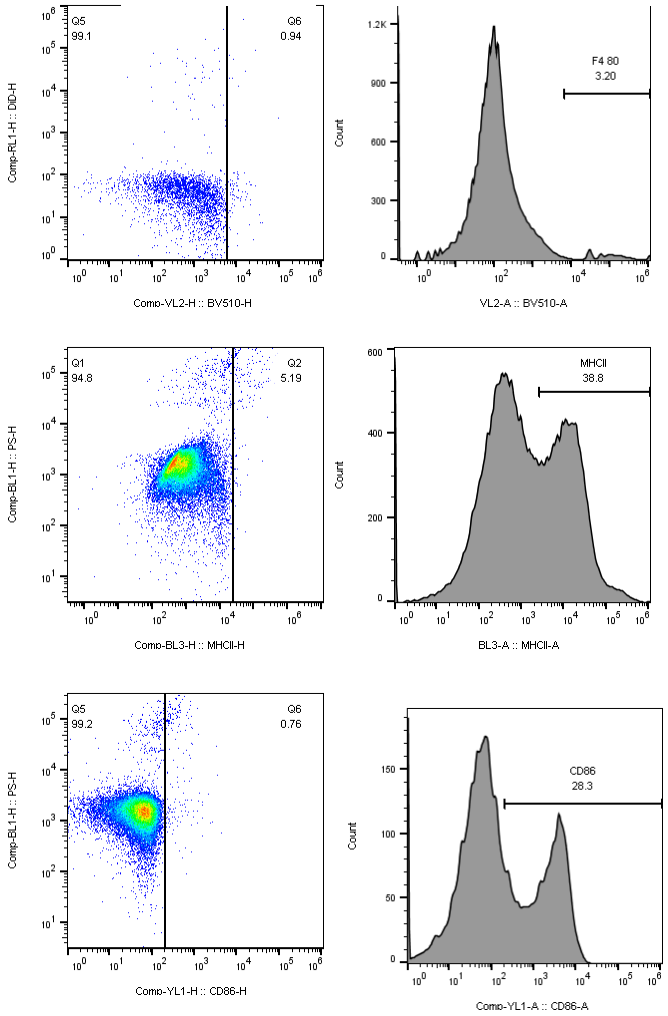




MΦs

FMO

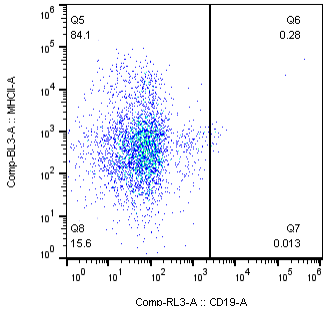
Experimental Sample

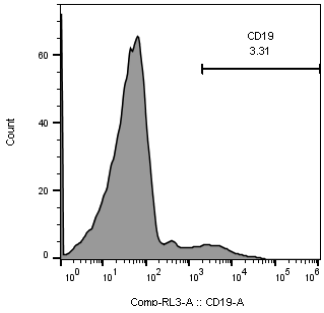


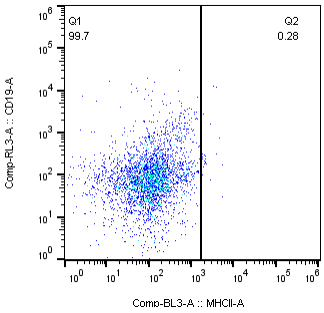
B cells

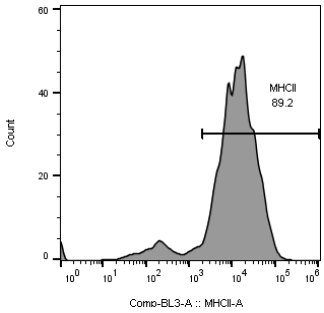
FMO

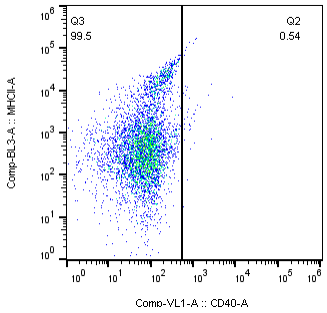
Experimental Sample

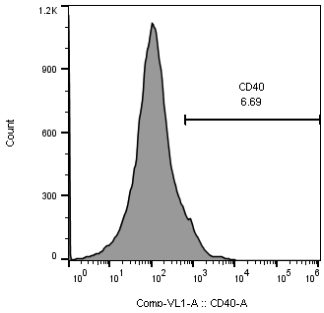


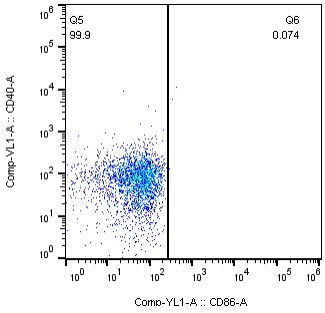


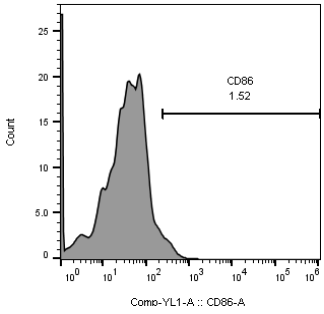






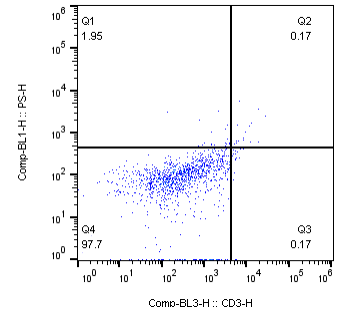


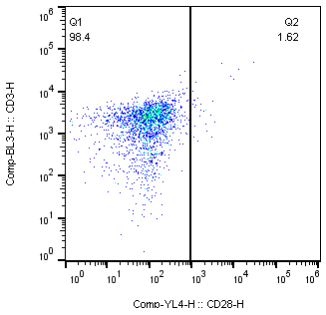


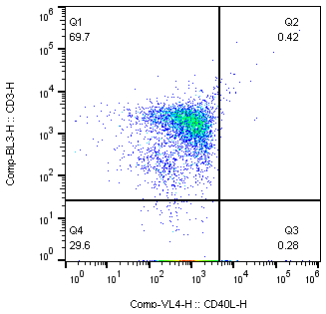


T cells

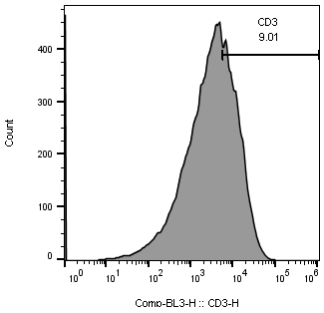
FMO

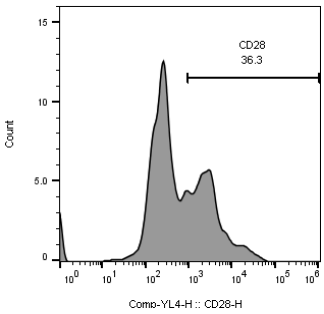






Experimental Sample





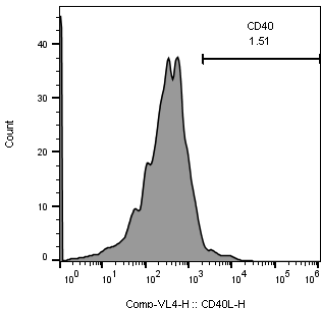


Figure S4. Representative flow cytometry plots from immunophenotype studies. The gating strategy for the data displayed in **Figure 4 and Figure 5** is shown. The percent expression of each marker was determined using Fluorescence Minus One (FMO) controls. Each sample was analyzed in the same manner.

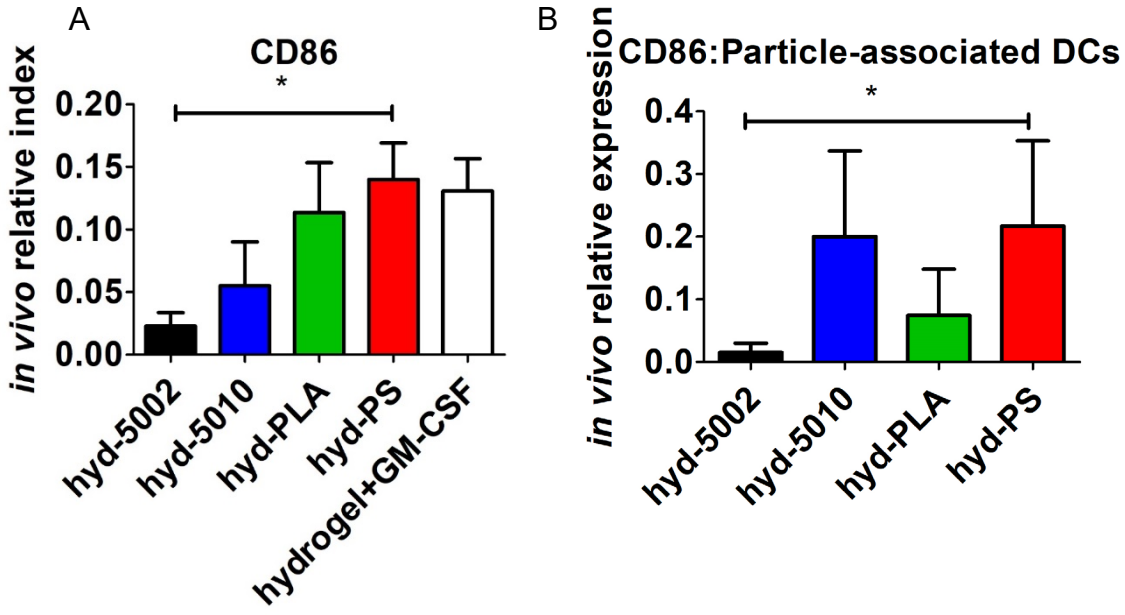


Figure S5. **Peptide hydrogel loaded with degradable PLGA MPs exert lasting immunophenotypic effects beyond the immediate injection area**. Dendritic cells in the inguinal lymph node, an immediate draining lymph node from the injection site, were phenotyped 7 days after the hydrogel injection. The *in vivo* relative index of CD86 expression on (A) DCs the iLN and (B) particle-associated DCs the iLN are shown. The * symbol represents a pairwise significance difference ($p < 0.05$; $n = 3$ biological replicates per formulation per time point). Significance was determined using two-way ANOVA of the entire data set followed by comparisons of the means of each treatment group at each time point using a posthoc Tukey test.

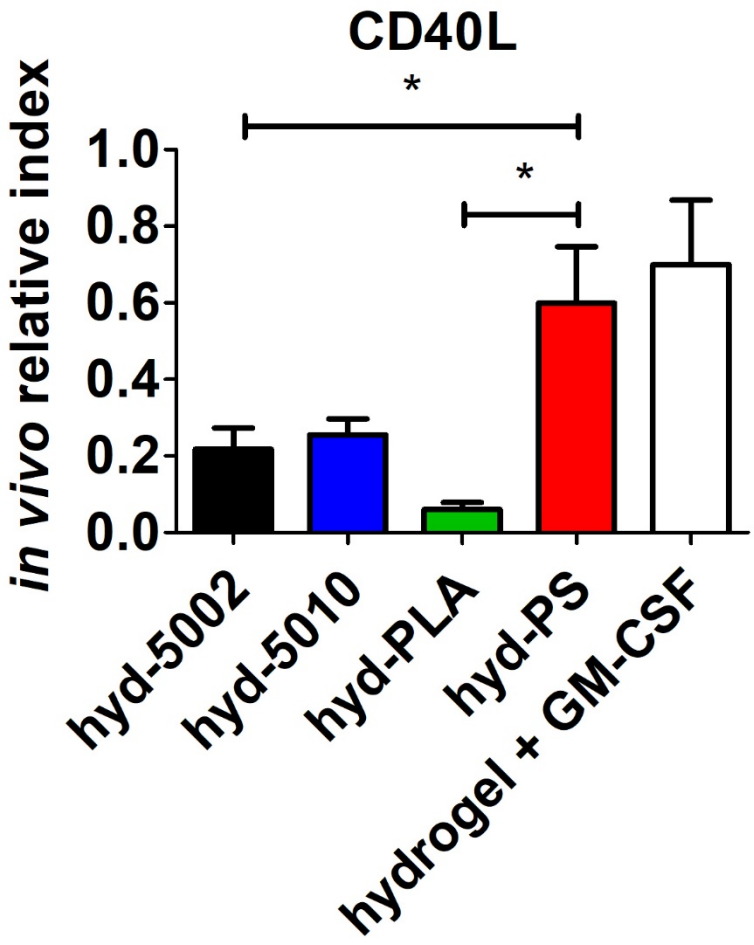


Figure S6. Peptide hydrogel loaded with degradable PLGA MPs have lasting effects on adaptive cell beyond the immediate injection area. T cells in the inguinal lymph node, an immediate draining lymph node from the injection site, were phenotyped 14 days after the hydrogel injection. The *in vivo* relative index of CD40L expression on T cells in the iLN is shown, The * symbol represents a pairwise significance difference ($p < 0.05$; $n = 3$ biological replicates per formulation per time point). Significance was determined using two-way ANOVA of the entire data set followed by comparisons of the means of each treatment group at each time point using a posthoc Tukey test.