Supporting Information: Cancer cell membrane-derived nanoparticles improve the activity of gemcitabine and paclitaxel on pancreatic cancer cells and coordinate immunoregulatory properties on professional antigen-presenting cells.

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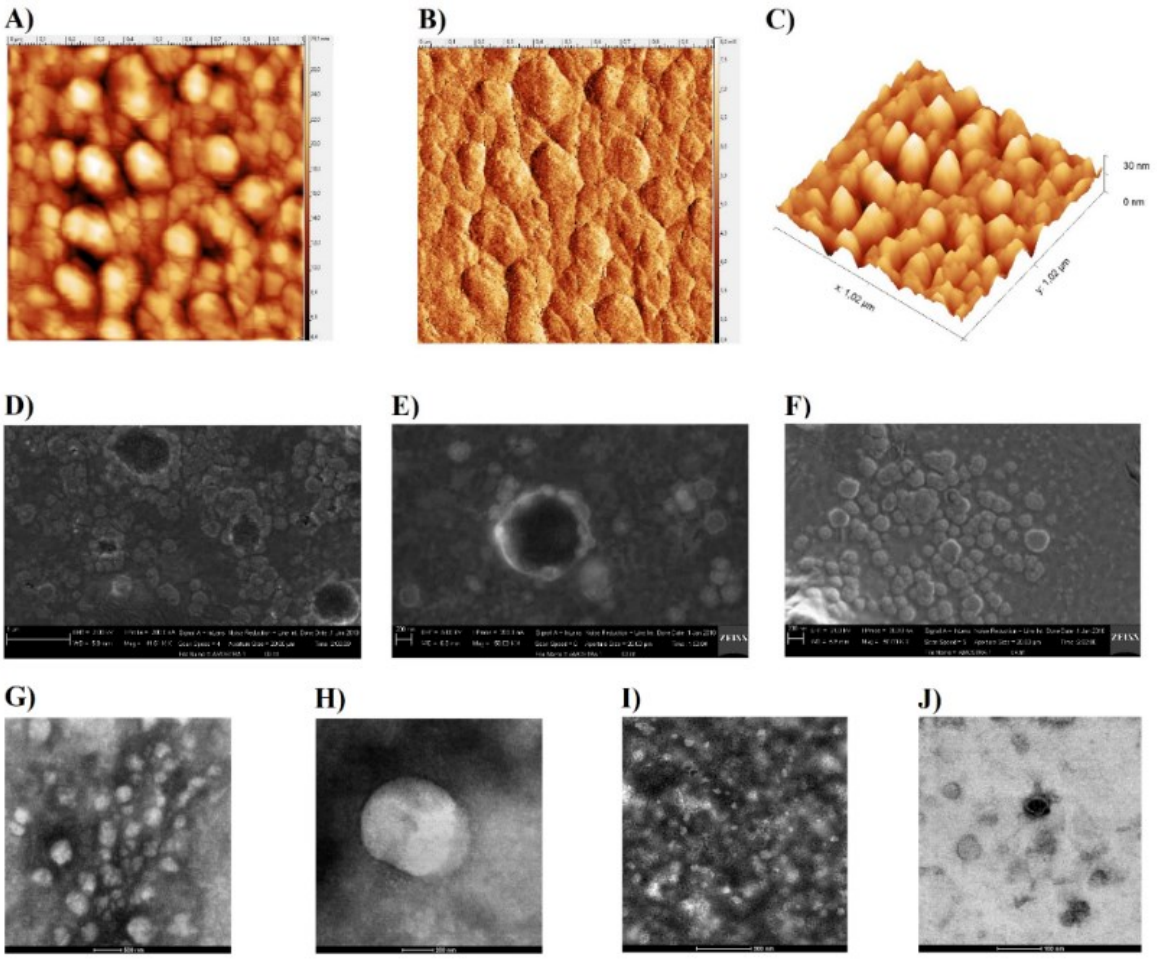

Fig. S1. Image of plasma membrane nanoparticles (MNPs) extracted from the cancer cell by AFM, with reconstruction of Z-axis (a), amplitude (b), and three-dimensional (3-D) (c) imagens. FEG-MEV (d-f) and TEM (g-j) analysis at different magnifications, with scale bar at 1 um and 200 nm.

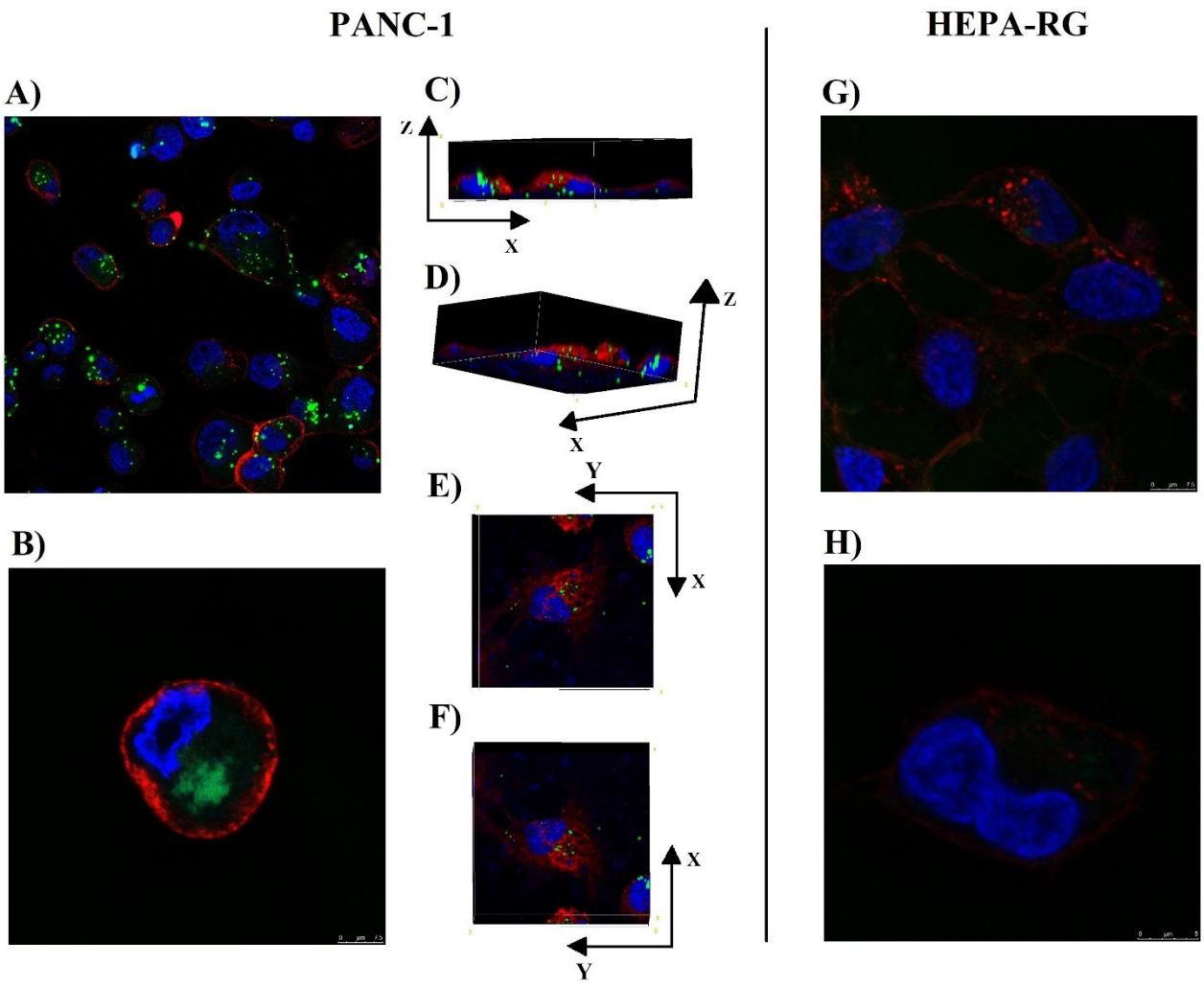

Fig.S2. Confocal microscopy of pancreatic cancer cells (PANC-1) (a and b) after 24h exposed to FITC labeled nanoparticles. Incorporation of MNPs-FITC is exhibited by green fluorescence in cell cytoplasm while plasma membrane was stained using wheat germ agglutinin (WGA) conjugated to Texas Red, and DAPI molecules identified cell nucleus. 3D confocal microscopy shows MNPs conjugated with FITC in PANC-1 cytoplasm and cell membrane (c-f). In hepatic cells (g and h), we observed a reduction in the frequency of green signals in HEPA-RG cells.

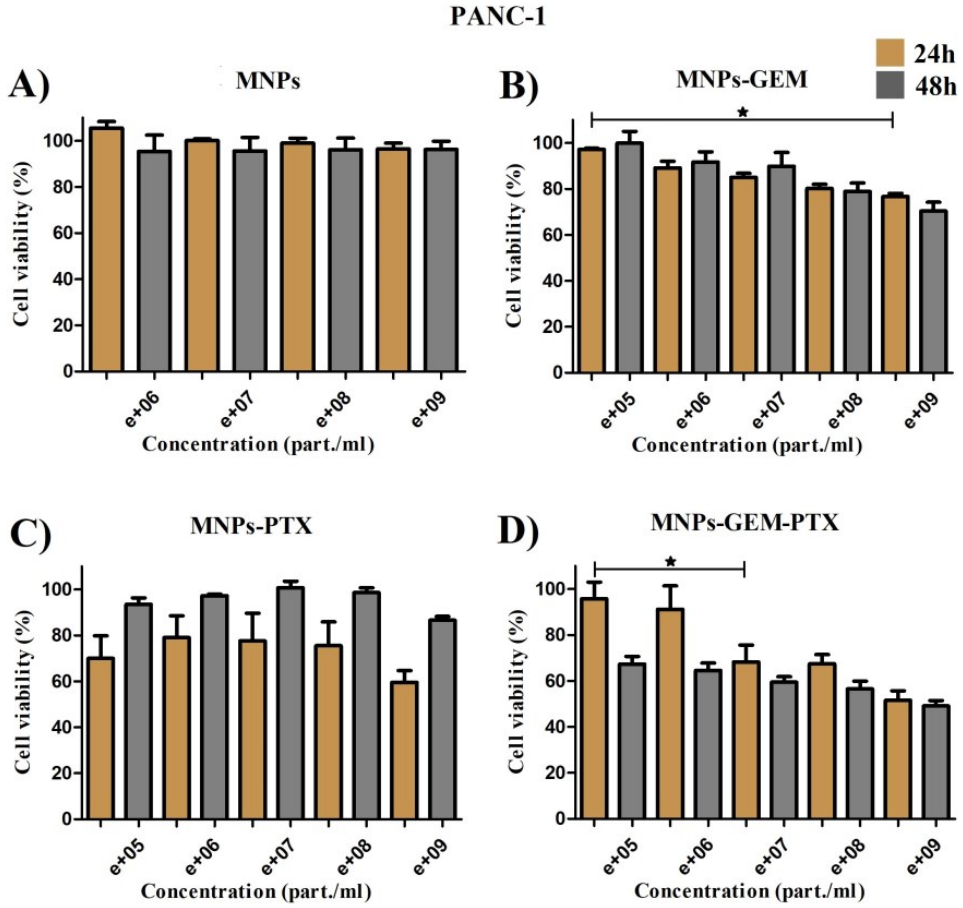

Fig. S3. Cytotoxicity analysis of MNPs in pancreatic cancer cells (PANC-1) by methyl tetrazolium reduction (MTT). PANC-1 ($1x10^4$ cells per well) was exposed to pure MNPs (a), gemcitabine encapsulated in MNPs (MNPs-GEM) (b), paclitaxel in MNPs (MNPs-PTX) (c), and MNPs loaded with both drugs (MNPs-GEM- PTX) (d) to verify their response and to estimate the working concentration in pancreatic cancer cells ($*p \leq 0.05$).

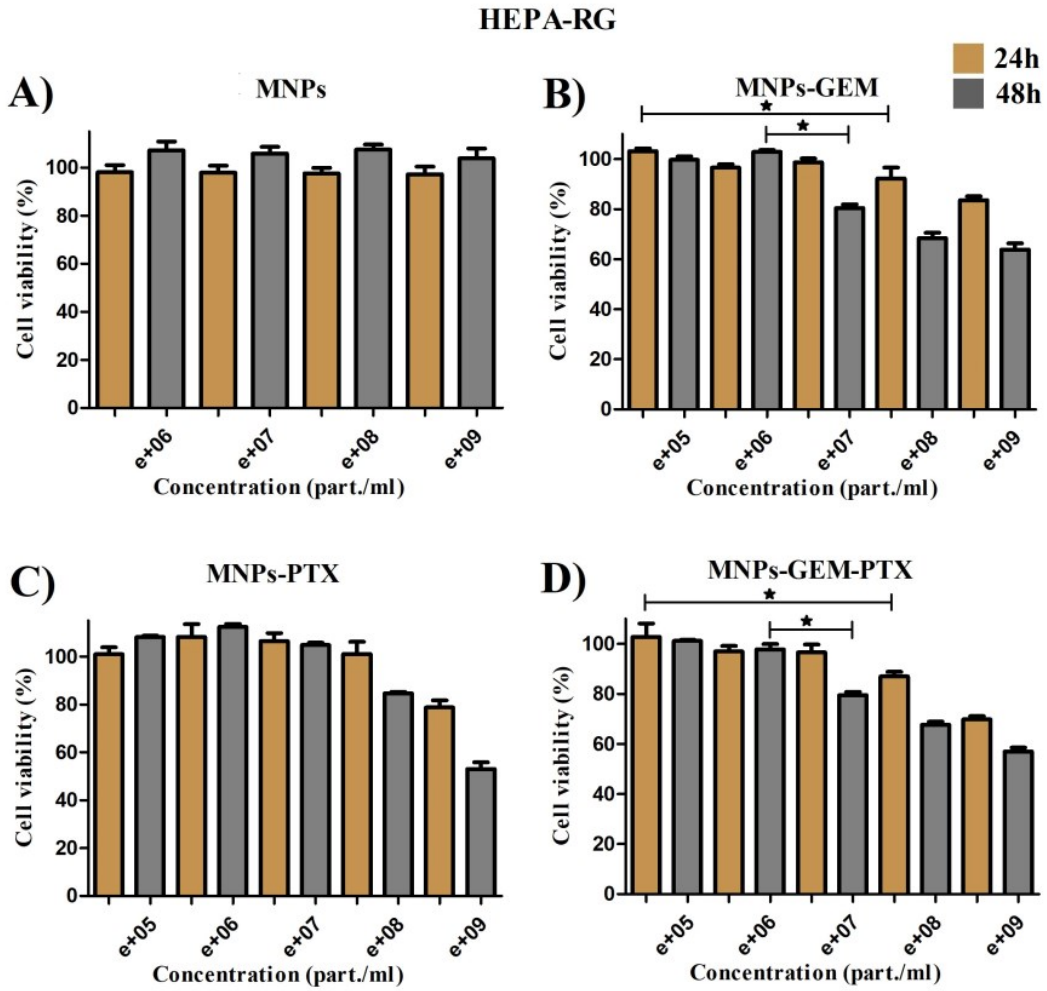

Fig. S4. Cytotoxicity analysis of MNPs in healthy liver cells (HEPA-RG) by methyl tetrazolium reduction (MTT). HEPA-RG ($1x10^4$ cells per well) was exposed to pure MNPs (a), gemcitabine-encapsulated MNPs (MNPs-GEM) (b), paclitaxel in MNPs (MNPs-PTX) (c) and MNPs encapsulated with both drugs (MNPs-GEM- PTX) (d) to verify their specificity and toxicity in different concentrations of nanoparticles, synthesized from the pancreatic membrane, when exposed to healthy cell line ($*p \leq 0.05$).

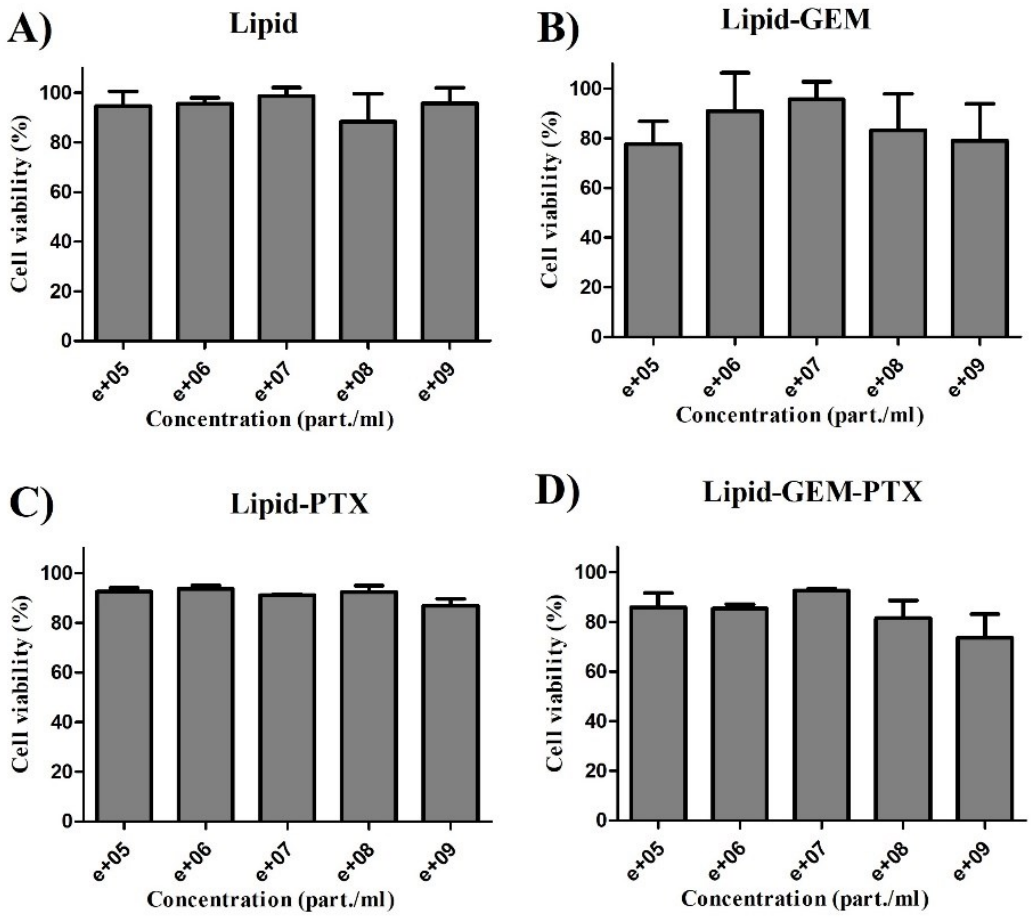

Fig. S5. Cytotoxicity of synthetic liposomes encapsulated with gemcitabine and paclitaxel in pancreatic cancer cells (PANC-1) evaluated by methyl tetrazolium reduction assay (MTT). PANC-1 ($1x10^4$ cells per well) were exposed to different concentrations of bare liposomes (a), GEM-encapsulated in liposomes (b), PTX-encapsulated in liposomes (c) and liposomes encapsulating both chemotherapeutics (d) to compare synthetic lipid nanoparticle activity with MNPs groups.

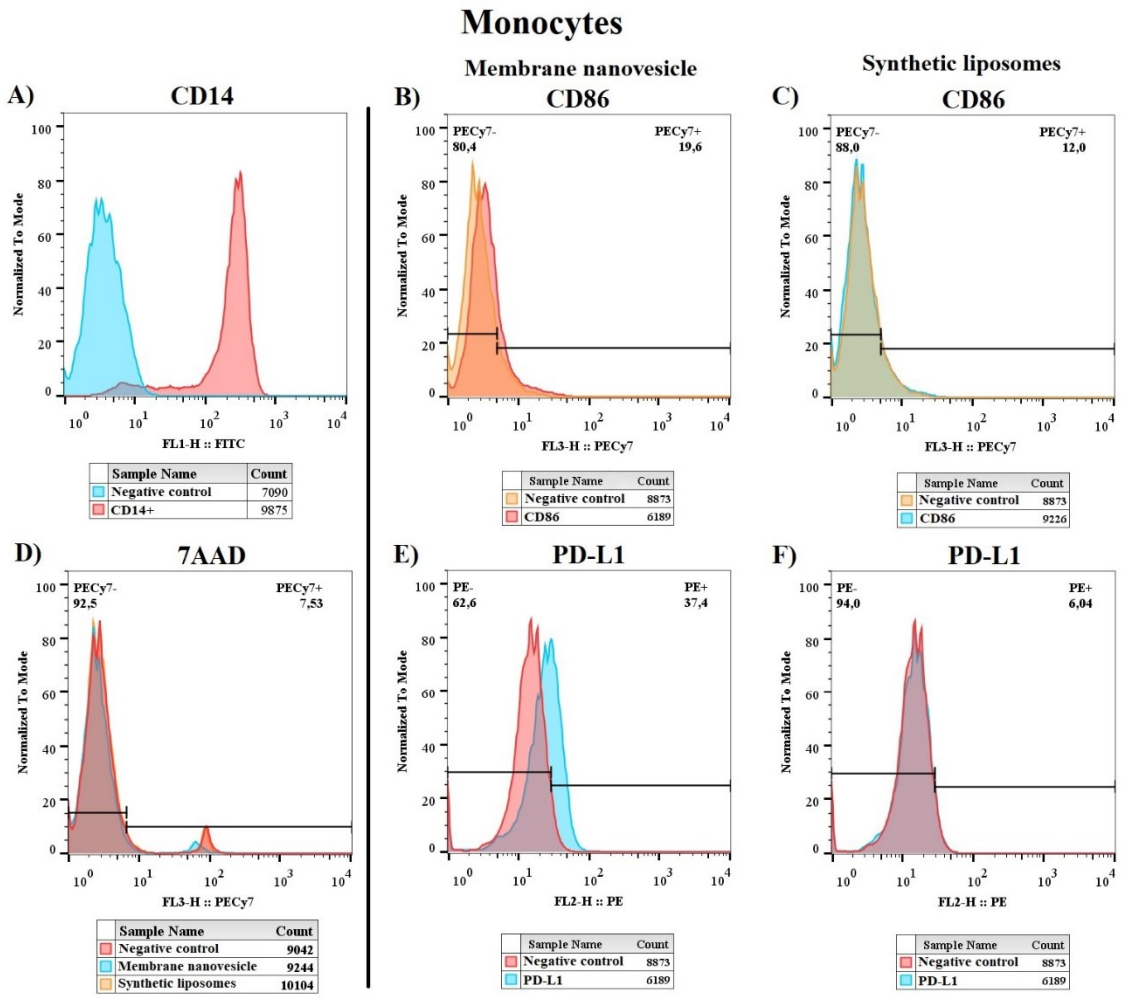

Fig. S6. Regulatory effects of MNPs and liposomes on monocyte phenotype. Percentage of $CD14^{+}$ cells (a) expressing CD86 (b and c), and PD-L1 (e and f), and their respective viability (d).

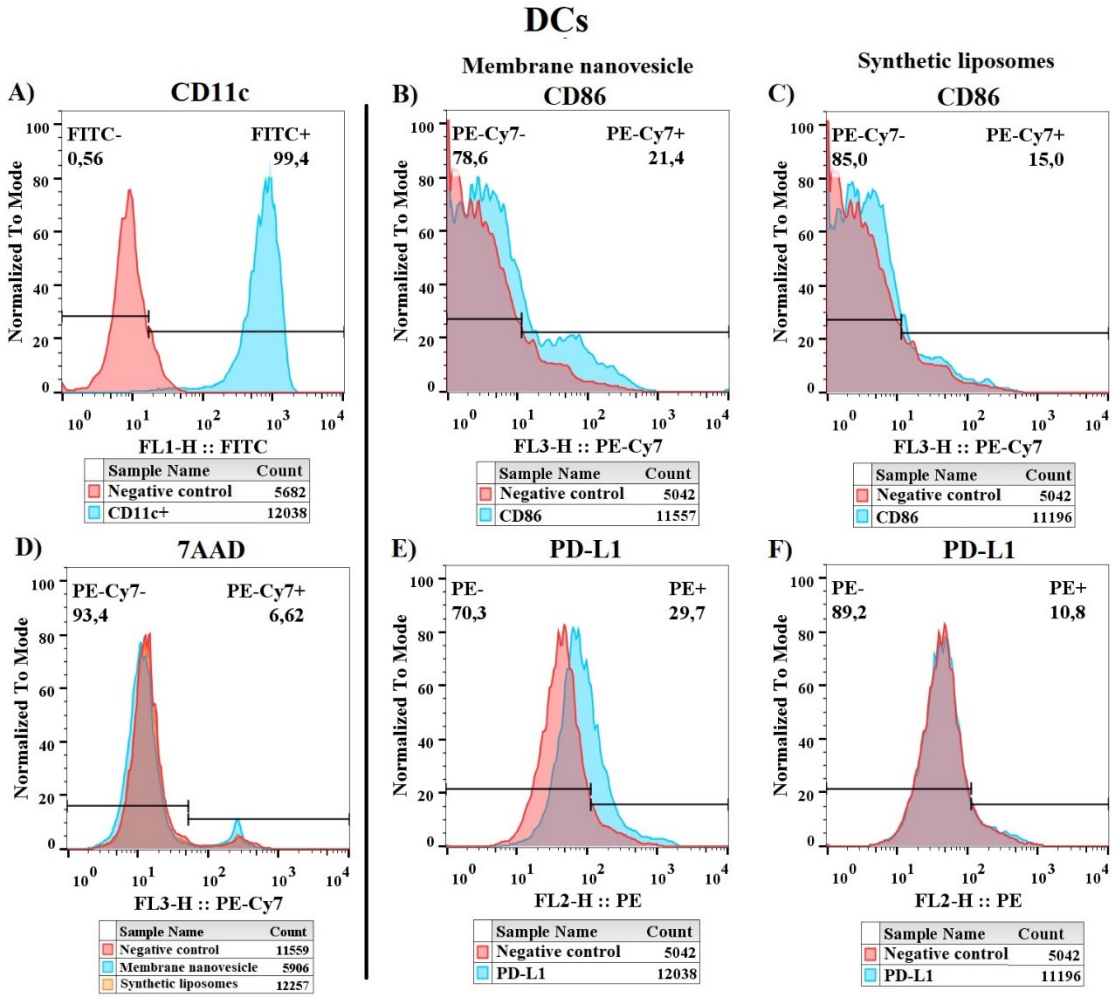

Fig. S7. Regulatory effects of MNPs and liposomes on DCs phenotype. Percentage of $CD11c^{+}$ cells (a) expressing CD86 (b and c), and PD-L1 (e and f), and their respective viability (d).