



**Supplementary Figure 1. Characterization of MSC-derived extracellular vesicles (MSC-EVs).** **A**, Nanoparticle tracking analysis of MSC-EVs. **B**, Representative Transmission Electron Microscopy images taken using TEM microscope (JEOL, JEM 1400Plus, Japan) showing extracellular vesicles morphology (upper images, scale bar 200nm; bottom images, scale bar 100nm). **C**, Representative flow cytometry plots of MSC-EVs conjugated with 4µm beads demonstrating presence of EV populations unstained (upper panels) and double positive (bottom panels) for CD44 and CD63 (56.7%). **D**, Immunoblot for protein expression levels of CD63 in MSC-EVs lysates. **E**, Nanoparticle tracking analysis of MSC CM supernatants after EV isolation.