

Supplemental file:

Transplantation of human ESC-derived mesenchymal stem cell spheroids ameliorates spontaneous osteoarthritis in rhesus macaques

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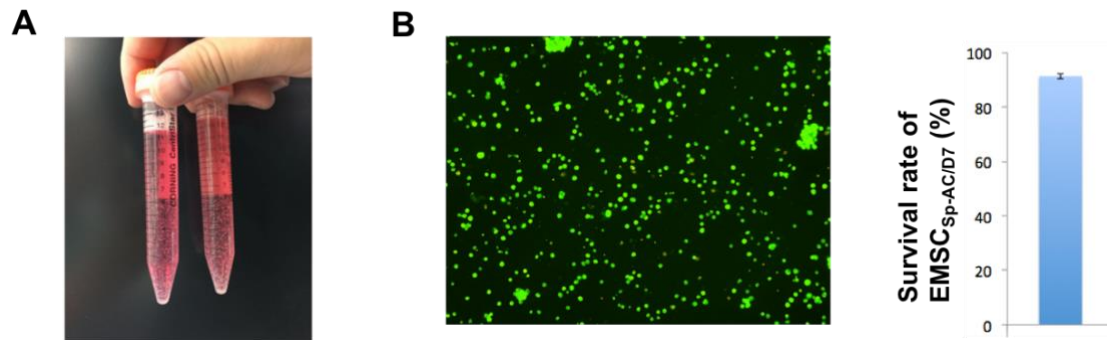


Figure S1. EMSC_{Sp-AC/D7} spheroids holds high survival rate at arrival in host facility.

(A) EMSCs spheroids were sealed in the tube filled with medium for delivery (B) EMSCs underwent delivery at ambient condition for 7 days and dissociated for survival test with Live/Dead assay. Live cells: green and dead cells: red. EMSC_{Sp-AC/D7} maintain over 90% survival rate at arrival in host facility for application.

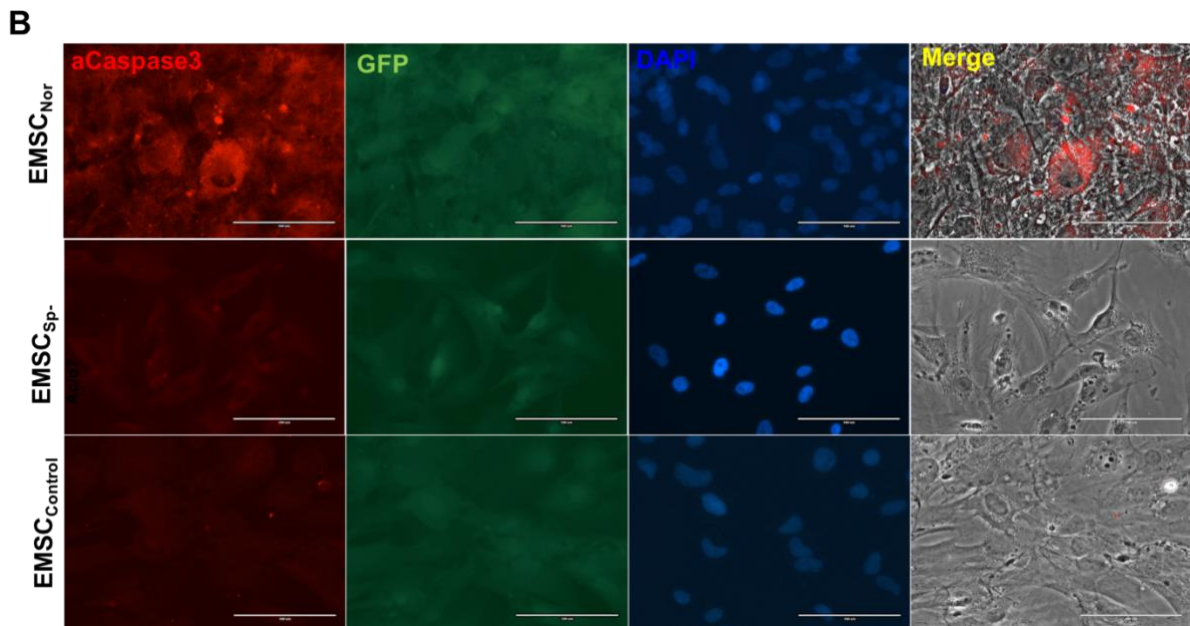
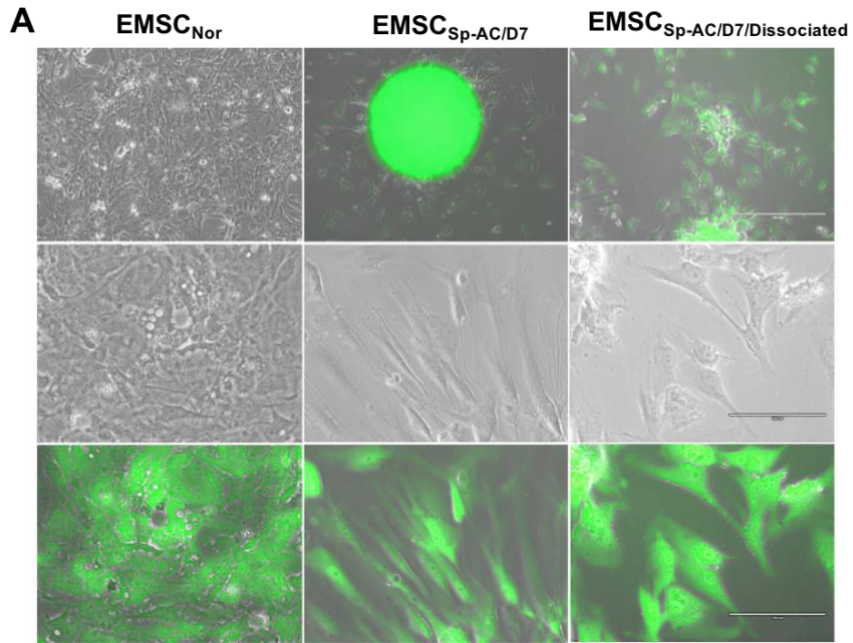


Figure S2. EMSC and BM-MSC spheroids benefits the survival more than single cell inoculation. (A) Morphology of EMSC_{Nor}, EMSC_{Sp-AC/d7}, and EMSC_{Sp-AC/d7/Dissociated} cultivated in hypoxia and less nutrient condition at density of 1×10^6 cells/ml. Obvious babbles presented in the EMSC_{Nor} but normal fibroblasts like cells in EMSC_{Sp-AC/d7}, and EMSC_{Sp-AC/d7/Dissociated} samples. Scale bars: 100 μ m. (B) EMSC spheroids benefit the survival more than single cell inoculation. EMSCs released from spheroids underwent delivery at ambient condition for 7 days with less apoptosis cells which positive for activated caspase 3 than dissociated single cells from the monolayer control with the same density in inoculation under hypoxia and less nutrient condition. Scale bars: 100 μ m.

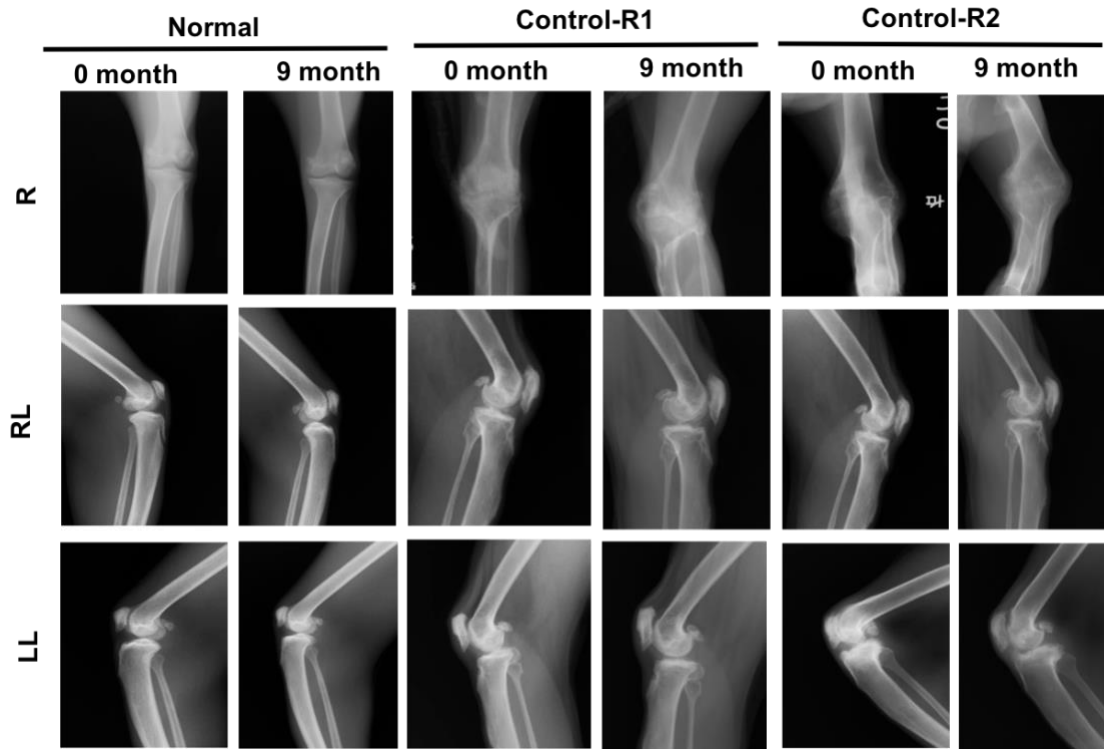


Figure S3. X-ray imaging of the knee joints for the normal monkey and two untreated osteoarthritis monkeys (R1 and R2) which had aggravated swelling and bone hyperplasia. R: Right; RL: Right lateral; LL: Left lateral.

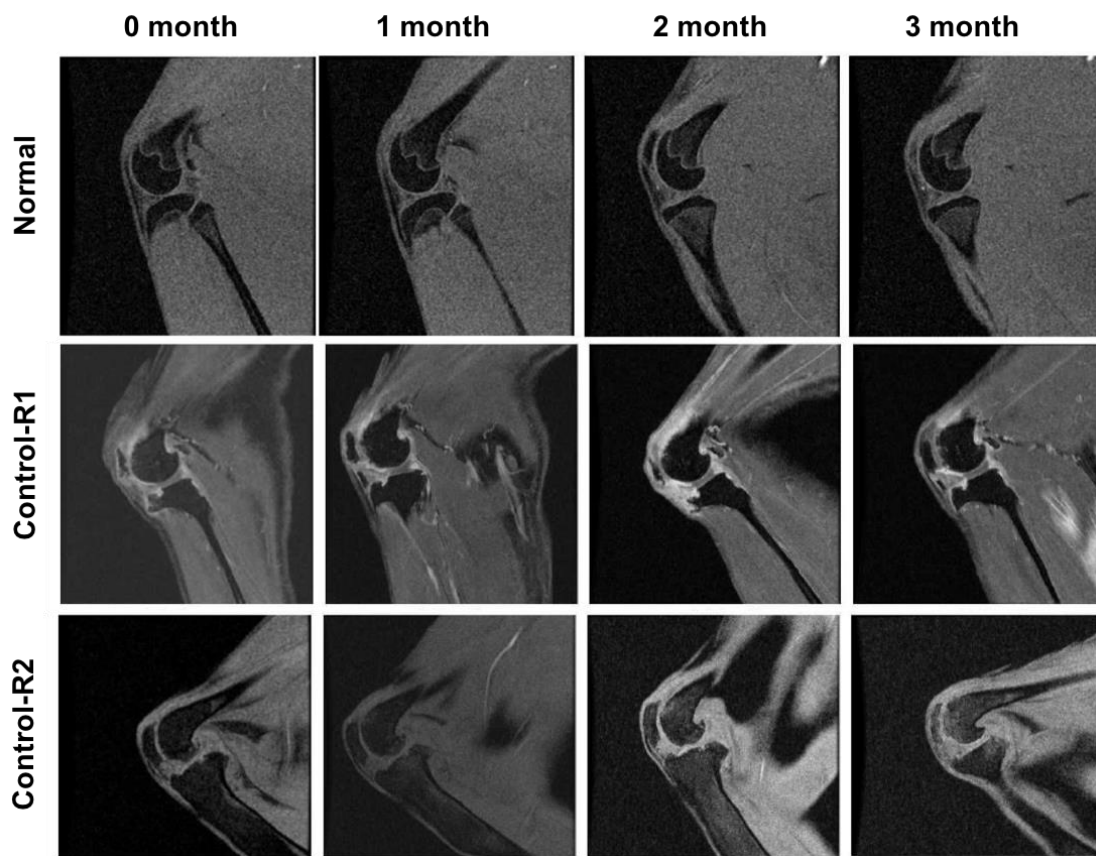


Figure S4. MRI imaging of the knee joints for the normal monkey and two untreated osteoarthritis monkeys (R1 and R2).