Supplemental Figure Legend

Supplemental Figure 1

Characterization of cultured human MSC. (A) MSCs were labeled with FITC-conjugated antibodies and analyzed by flow cytometry (*filled histogram*). Rat isotype antibodies IgG1 and IgG2a served as respective controls (*open histograms*). MSC express CD73, CD90 and CD105 whereas CD11b, CD34, CD45 and HLA-DR were not expressed. (B) Photographs show *in vitro* differentiation of MSC from one representative culture into the adipogenic, osteogenic and chondrogenic lineages. *Upper*, differentiated MSCs. *Lower*, undifferentiated MSCs.

Supplemental Figure 2

Analysis of transduction efficiency and transgene expression levels. (A) MSCs were transduced with Ad vectors, each containing one of the following: wild-type fiber or polylysine peptide in the C-terminal of the fiber knob (Ad-GFP or AdK7-GFP, respectively), at 300, 1000, or 3000 vp/cell for 1.5 h. Then, medium containing the Ad vectors was removed and replaced with fresh medium. Flow cytometric analysis was performed 48 h later. Data shown are from one representative experiment of three performed. (B) Flow cytometric analysis of FBs transduced with Ad vectors, described as above. (C) Luciferase expression of MSCs and FBs transduced with Ad-Luc or AdK7-Luc at 100, 300, 1000, or 3000 vp/cell for 1.5 h. Then, medium containing the Ad vectors was removed and replaced with fresh medium. Bioluminescence was
measured by luciferase assays 48 h later. The data are expressed as means ± SD (n=4 each).

**Supplemental Figure 3**

Tumor homing ability of MSCs *in vivo*. (A) Subcutaneous tumors were induced by injection of Colo205/RFP cells (3 x 10^6) in nude mice (day 0). Cultured MSCs were transduced with luciferase-expressing adenovirus vectors 2 days before injection (day 5), and were injected into the left ventricular cavity (1 x 10^6, day 7). Optical bioluminescence imaging was performed to periodically trace the MSCs using IVIS. *Upper*, biodistribution of MSCs as detected by luminescence. *Lower*, tumor site detected by red fluorescence. Data shown are from one representative experiment of six performed. (B) Bioluminescent intensity at tumor sites was quantified using analysis software. The data are expressed as means ± SD (n=6). (C) Subcutaneous tumors were induced by injection of SW480/RFP cells (3 x 10^6) in nude mice (day 0). Cultured MSCs or FBs were transduced with GFP-expressing adenovirus vectors 2 days before injection (day 5), and were injected into the left ventricular cavity (1 x 10^6, day 7). Mice were sacrificed on day 11, and immunohistochemistry was performed with anti-GFP antibody on tumor cryosections to detect MSCs. Fluorescent microscopy view of MSC detection (*left*), nucleic staining with DAPI and merge (*right*). Data shown are from one representative experiment of three performed. Scale bar; 100 μm. S, stroma; T, tumor. (D) Sections represent HE staining (*upper left*), the CD34+ blood vessels/endothelial cells in tumor tissues (*upper right*), the high power field of view (*lower*). DAB (brown
areas) served as chromogen. Data shown are from one representative experiment of three performed. Scale bar; 100 µm. S, stroma; T, tumor. (E) Specimens of tumor, liver, spleen, and blood were collected from Colo205 tumor-bearing mice. TNF-α levels in tissue homogenates and serum were assayed by ELISA.

**Supplemental Figure 4**

*In vivo* imaging of NF-κB-suppressed MSC accumulation at tumor sites. (A) Subcutaneous tumors were induced by injection of Colo205/RFP cells (3 x 10^6) in nude mice. Luciferase-expressing MSCs without PTL treatment were injected into tumor-bearing mice through the left ventricular cavity and IVIS imaging was periodically performed. Each data shown are from one representative experiment of six performed. (B) Luciferase-expressing MSCs with PTL treatment were injected into tumor-bearing mice and IVIS imaging was periodically performed as described above. Each data shown are from one representative experiment of six performed. (C) Bioluminescent intensity at tumor sites was quantified using analysis software. The data are expressed as means ± SD (n=8 each). *P<0.05 compared with a group of PTL (-) at the same time.