Supplementary Figure Legends

Supplementary Figure S1. Elimination of Molm-14 from murine c-kit$^+$ progenitor cells.
The elimination of Molm-14 cells in murine c-kit$^+$ progenitor cells isolated from the BM of xenografted animals was analyzed by flow cytometry before (**A**) and after (**B**) AC220 treatment. Data is representative of three independent experiments.

Supplementary Figure S2. AML exosomes isolated from primary AML patient samples suppressed clonogenicity of c-kit$^+$ progenitor cells in IF-injection experiments

(**A**) AML exosomes were harvested from three different primary AML samples and IF-injected into the femoral cavity alongside contralateral diluent controls of 5 NSG mice. CFU-C assays were performed on murine c-kit$^+$ progenitor cells isolated from the BM cells of experimental animals after 48 hrs post IF-injection (one was 96 hrs post IF-injection). * Represents the significance ($P<0.05$) between the exosome and vehicle treatments determined by pair-t test.

Supplementary Figure S3. Viability of AML cells under hypoxic conditions.

(**A**) The viability of HL-60 and Molm-14 cells cultured in gas-permeable flasks under normoxia or hypoxia did not differ after more than 22 passages of cell culture.

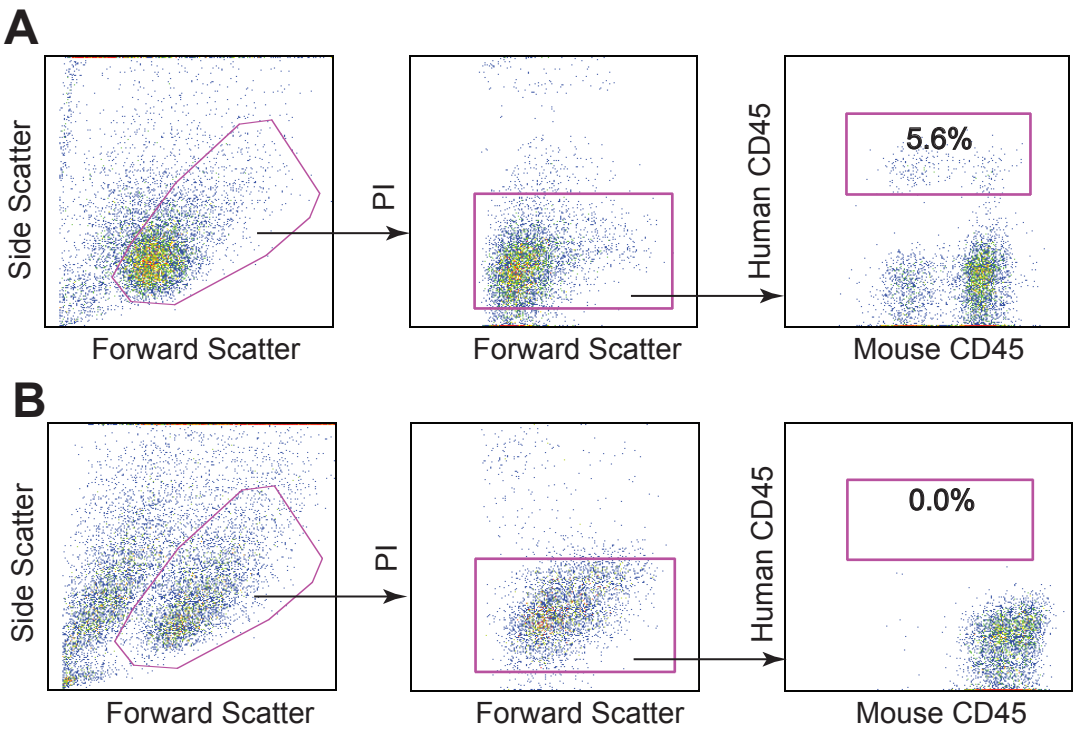
Supplementary Figure S4. **NTA profile of leukemia exosomes.**

Leukemia exosomes were isolated from the culture media of Molm-14 or HL-60 cells after 48 hrs culture under hypoxia or normoxia condition with 10% VF-FBS/RMPI media. (**A**) NTA measurement of the size and concentration of HL-60 exosomes. (**B**) NTA measurement of the size and concentration of Molm-14 exosomes.

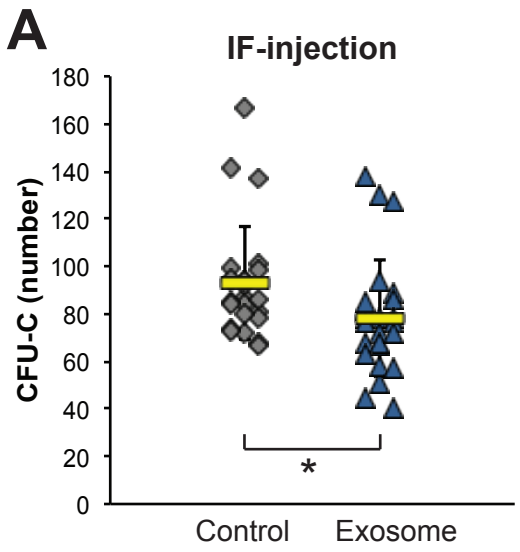
Supplementary Figure S5. AML exosomes down-regulated HSC maintenance factors in primary murine BM stroma.

(**A**) HSC maintenance factors (*Scf, Cxcl12* and *Angpt1*) in primary mouse BM stroma were down-regulated after culture with Molm-14 exosomes for 48 hrs. Data represents two different primary cell isolates with three replicates. S1-S6 represent six individual samples.

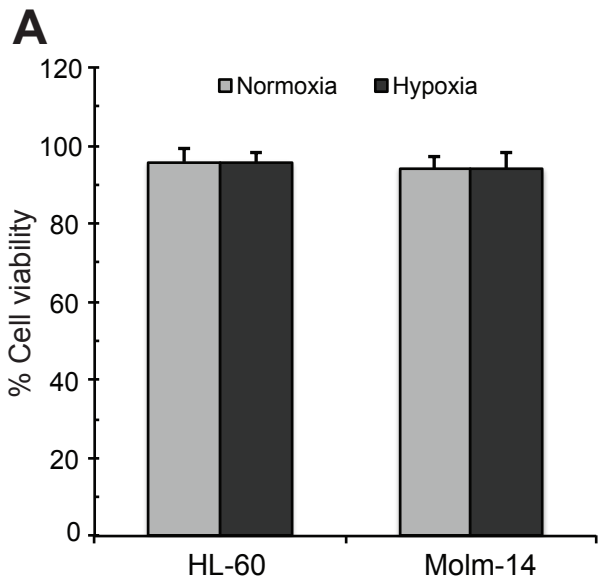
Supplementary Figure S1



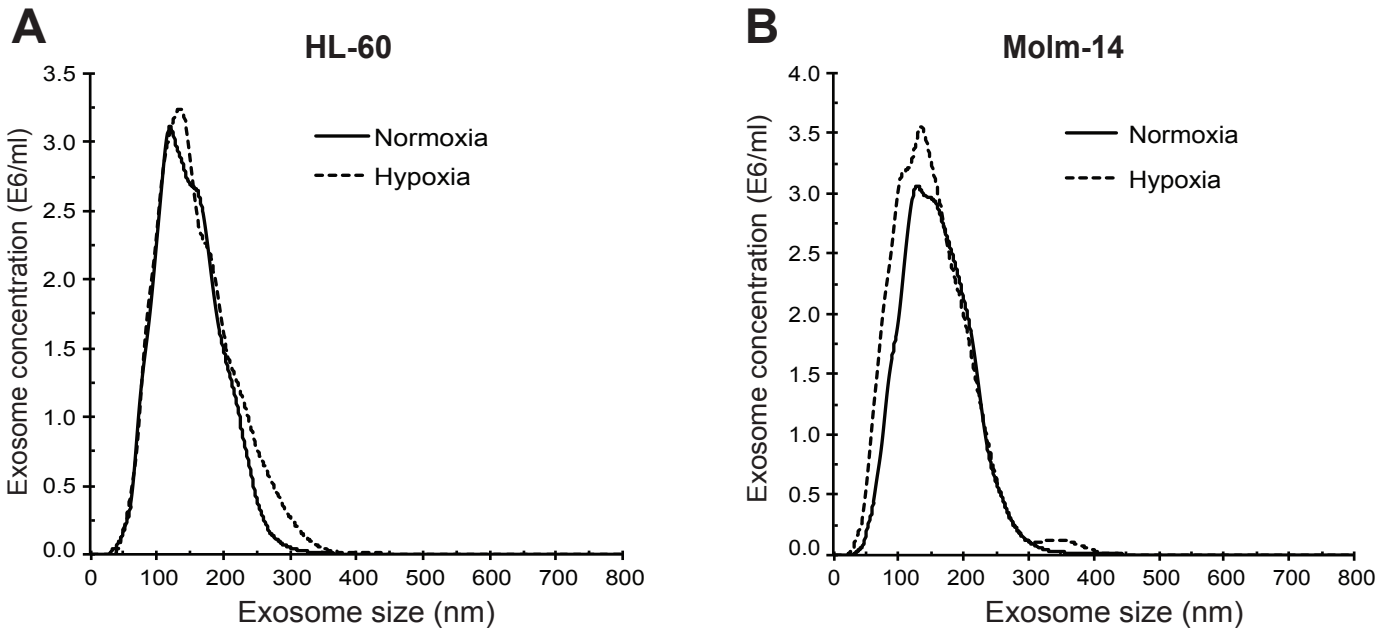
Supplementary Figure S2



Supplementary Figure S3



Supplementary Figure S4



Supplementary Figure S5