

Supplemental Figure 1. **SIRT3 is essential for AML cells survival.** MV4-11 cells transduced with empty vector, SIRT3 shRNA#1, shRNA#2 and shRNA#3 were treated with 1  $\mu$ M Ara-C for 24h. Cell viability was analysed by annexin V/7-AAD.

Supplemental Figure 2. **Increased SIRT3 deacetylase activity contributes to chemoresistance in AML cells.** Kasumi-1 cells transduced with empty vector, wild type SIRT3, and shSIRT3#3 were treated with 1  $\mu$ M of Ara-C for 24 h. Apoptosis related proteins including BAD, BAX, MCL-1, BCL-2 and cleaved caspase 9 were measured by Western blotting.  $\beta$ -actin was used as a loading control.