

**Supplemental Figure 1. The (2*R*,4*R*)-stereochemistry is critical to avocadyne's ability to induce FAO inhibition and AML cytotoxicity. (A)** Structures of the 4 stereoisomers of avocadene. **(B)** Viability of TEX and AML2 treated with 10  $\mu$ M of an avocadene stereoisomer for 72 hours, analyzed with flow cytometry. **(C)** Intact cell respiration of TEX and AML2 treated with 10  $\mu$ M of an avocadene stereoisomers. For **(B, C)**, data is presented as mean  $\pm$  S.D., \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$  using an unpaired, one-tailed, student's *t*-tests or ANOVA were calculated in GraphPad Prism 7.0.

**Supplemental Figure 2. Cytogenetics of AML patient IDs used in this manuscript.**