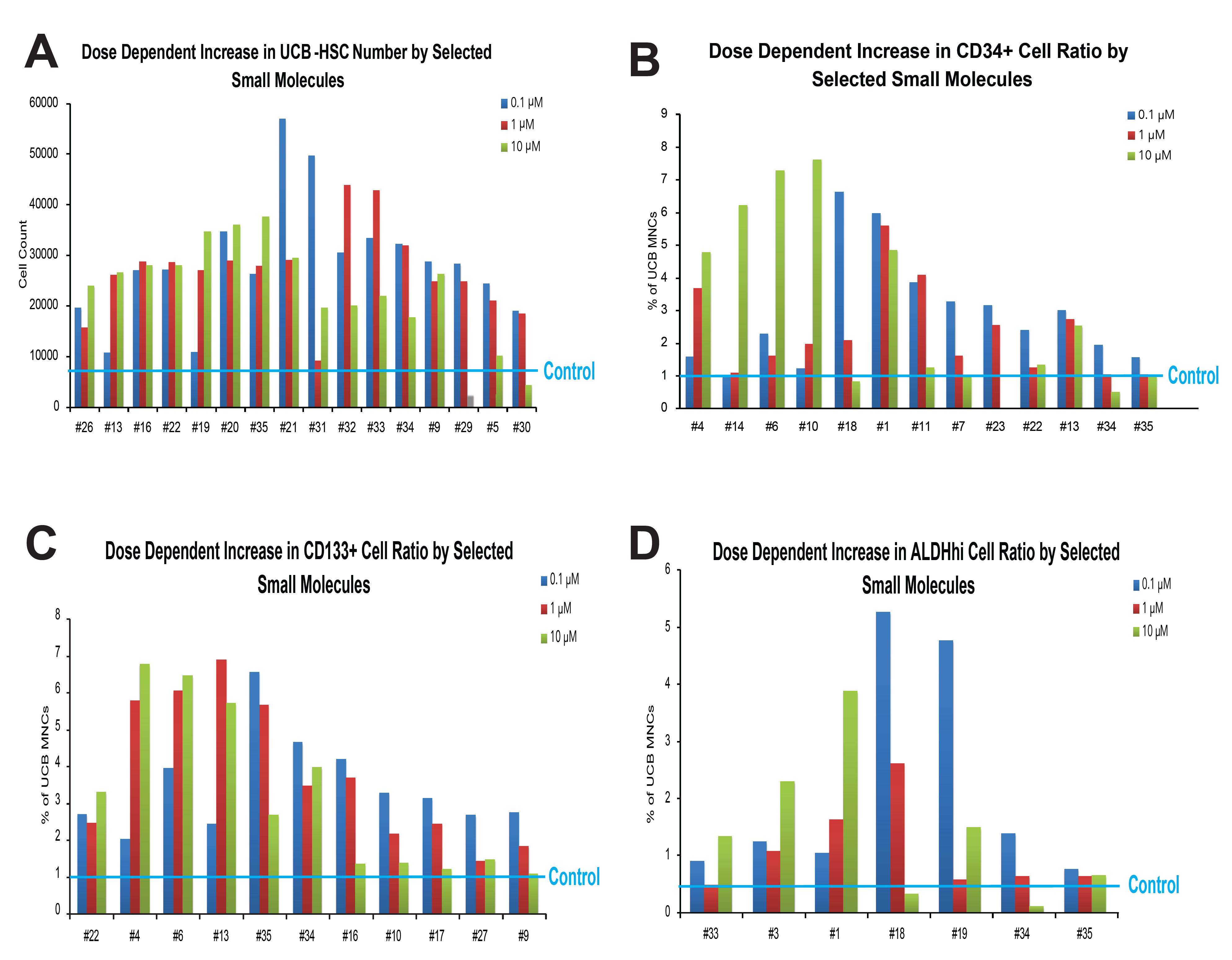
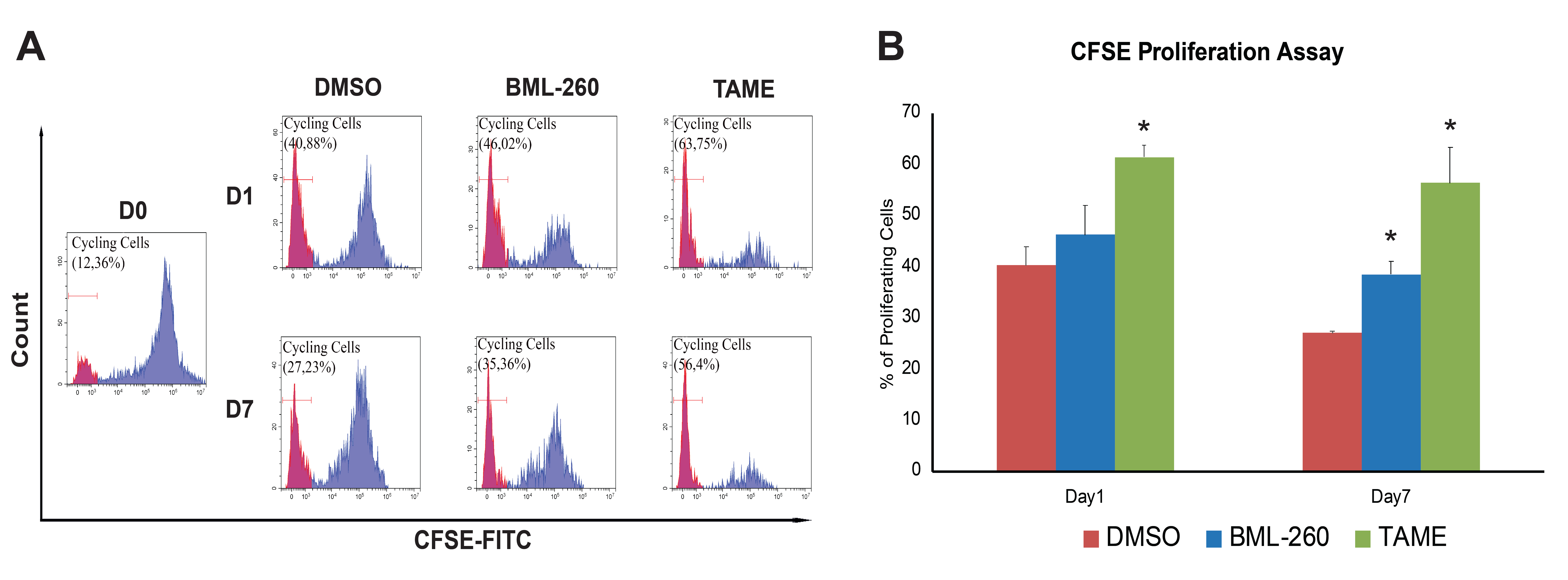
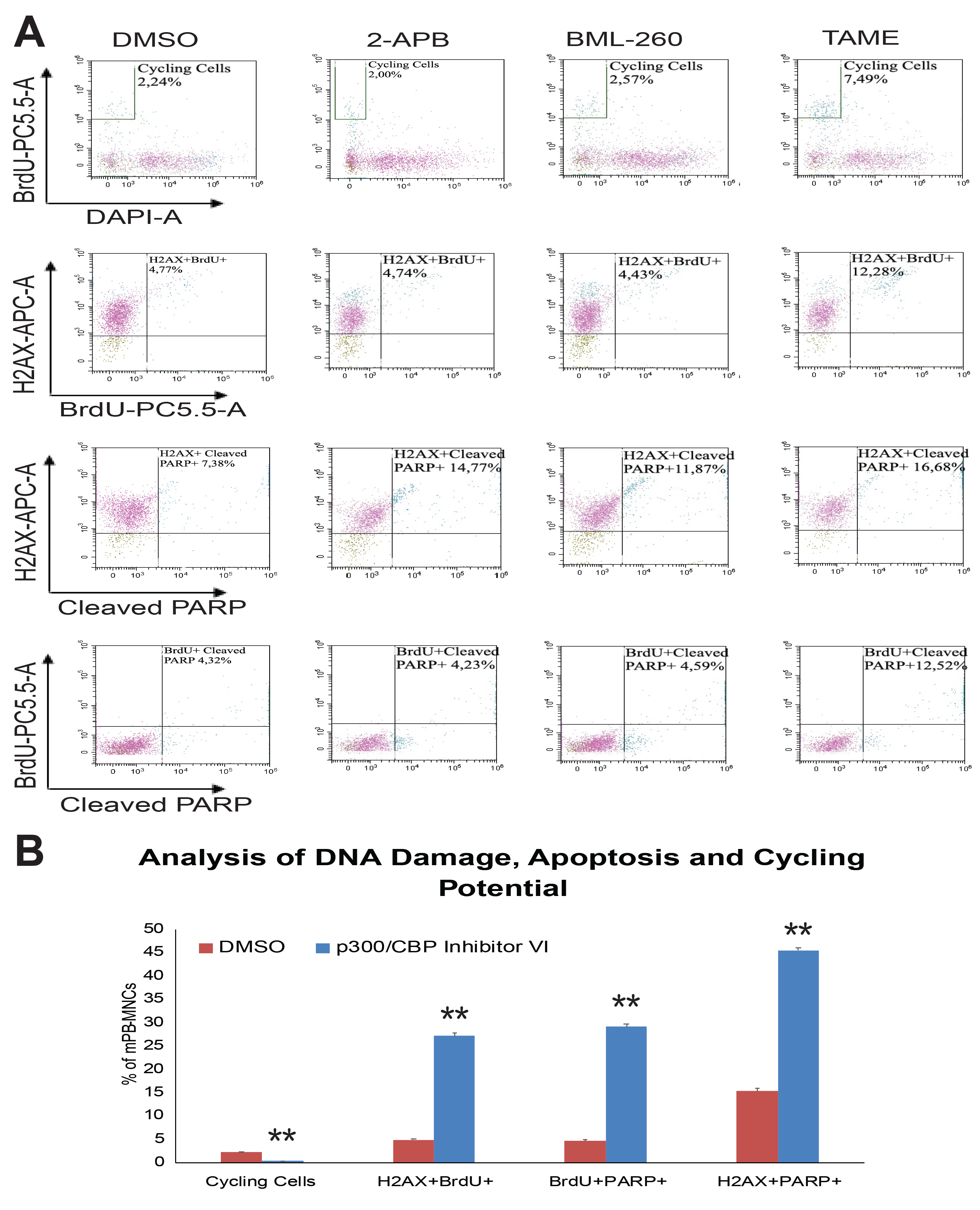
**Supplementary Figures and Figure Legends**

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**Supplementary Figure 1.** Dose dependent effects of the prominent HSMs on UCB-HSPCs were shown for (a) total cell count, (b) CD34+, (c) CD133+ and (d) ALDHBr cell ratio compared to DMSO control.



**Supplementary Figure 2. Analysis of cell proliferation ability of HSM expanded-mPB-CD34+ cells by CFSE staining.** (a) The representative histogram plots and (b) quantification of CFSE assays post 1 and 7 days of BML-260 and TAME treatments (n=3).

**Supplementary Figure 3.** **The genotoxicity assessment of HSM treated mPB-HSPCs.** (a) The representative flow plots of genotoxicity assays for 2-APB, BML-260 and TAME treatments. (b) The quantification of cycling cell ratio, apoptosis (BrdU+PARP+) and DNA damage (H2AX+BrdU+) in cycling cells and the relation of DNA damage and apoptosis on the expanded cells (H2AX+PARP+) post p300/CBP inhibitor-VI compared to DMSO control (n=3, \*\*p<0,01).