MARKER Therapeutics

Non-Clinical Data of MultiTAA-Specific T Cells in AML Cells

MT-401 showed enhanced anti-tumor activity in an aggressive AML cell line following HMA exposure *in vitro*

June 26, 2023

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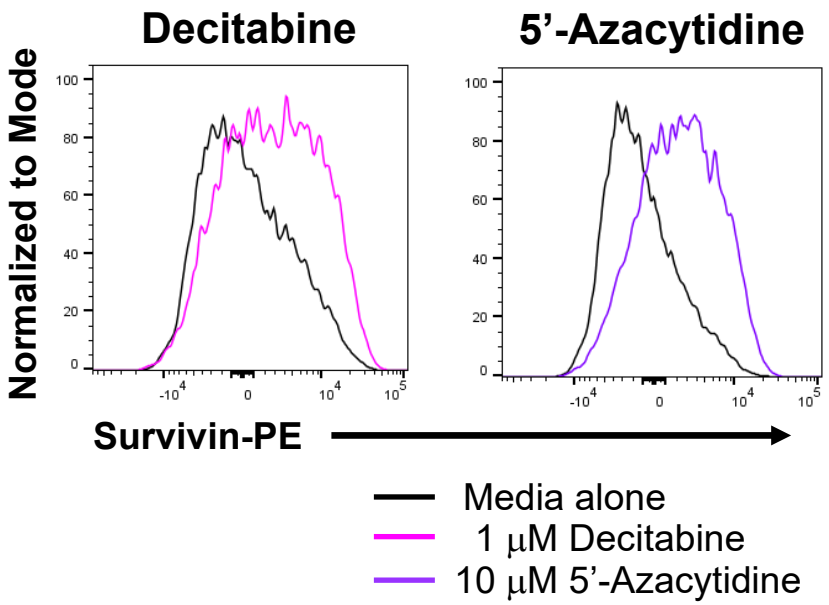
5’-Azacytidine upregulated tumor antigen expression and enhanced MT-401 anti-tumor effects against AML cells *in vitro*. THP-1, an AML cell line was used to investigate the capacity of MT-401 to kill and inhibit tumor cell growth after incubation with hypomethylating agents (“HMA”). Two different HMAs upregulated tumor-associated antigen targets of MT-401, including Survivin (**Panel A**). THP-1 cells were bioluminescent modified to enable real-time assessment of cancer cell growth. THP-1 cell growth was followed for 5 days in the presence of DMSO (control; vehicle used to dissolve HMAs), 5’-Azacytidine (5’Aza), MT-401 (manufactured from donors partially HLA-matched to THP-1 cells), or MT-401 after 72 hours exposure to 5’Aza (n=3). While tumor cells continued to grow in the presence of the DMSO control, 5’Aza or MT-401 administration alone showed reduced tumor cell growth. Notably, following exposure to HMA for 72 hours, the addition of MT-401 resulted in significantly enhanced AML cell killing compared to MT-401 or 5’Aza administration alone (**Panel B**). These data demonstrate that administration of MT-401 following HMA exposure enhances AML cell killing and could offer a new therapeutic option for AML patients post-HSCT.

A Tumor antigen (Survivin) expression was upregulated by 2 different HMAs



B MT-401 killing was enhanced by HMA treatment