

Stankiewicz and Crispino

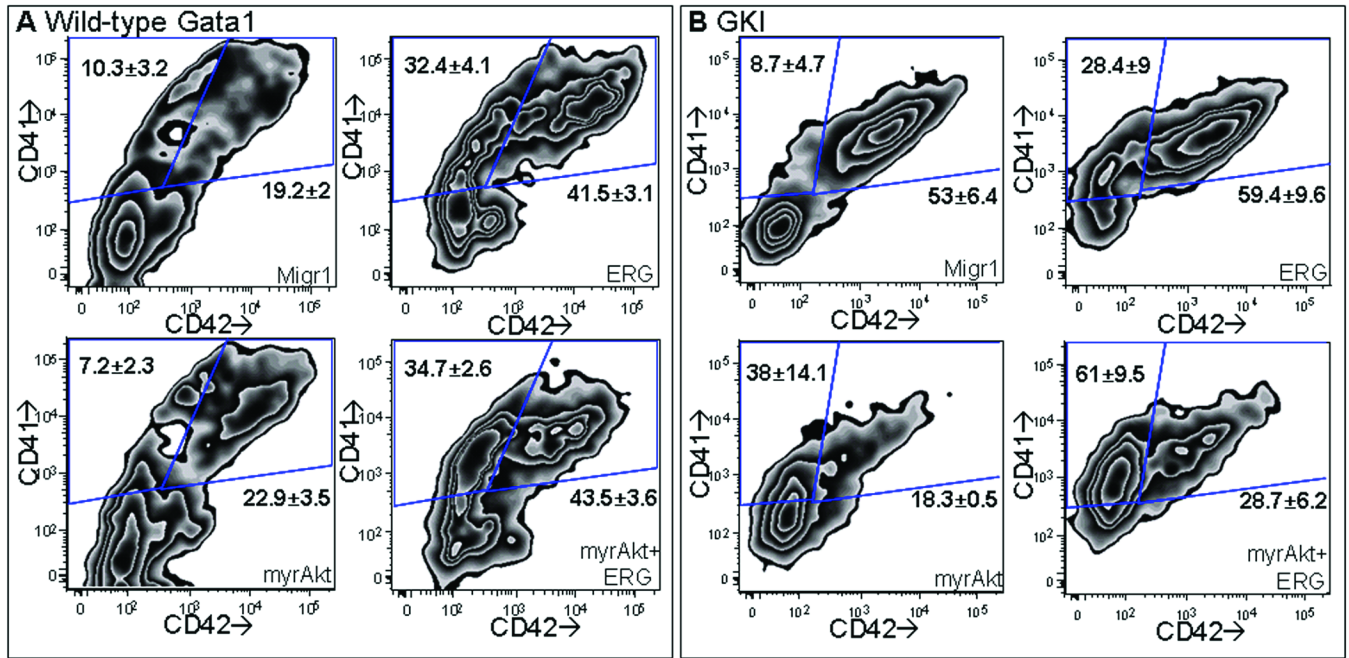
Supplementary Figure Legends

Supplementary Figure 1: (A) Representative flow cytometry plot for CD41 expression versus CD42 expression for GFP, mcherry, double positive wild-type fetal liver derived hematopoietic progenitors of the indicated sample type N=5; average \pm SEM shown. (B) Representative flow cytometry plot for CD41 expression versus CD42 expression for *Gata1s* knock-in fetal liver derived hematopoietic progenitors of the indicated sample type N=3, average \pm SEM shown.

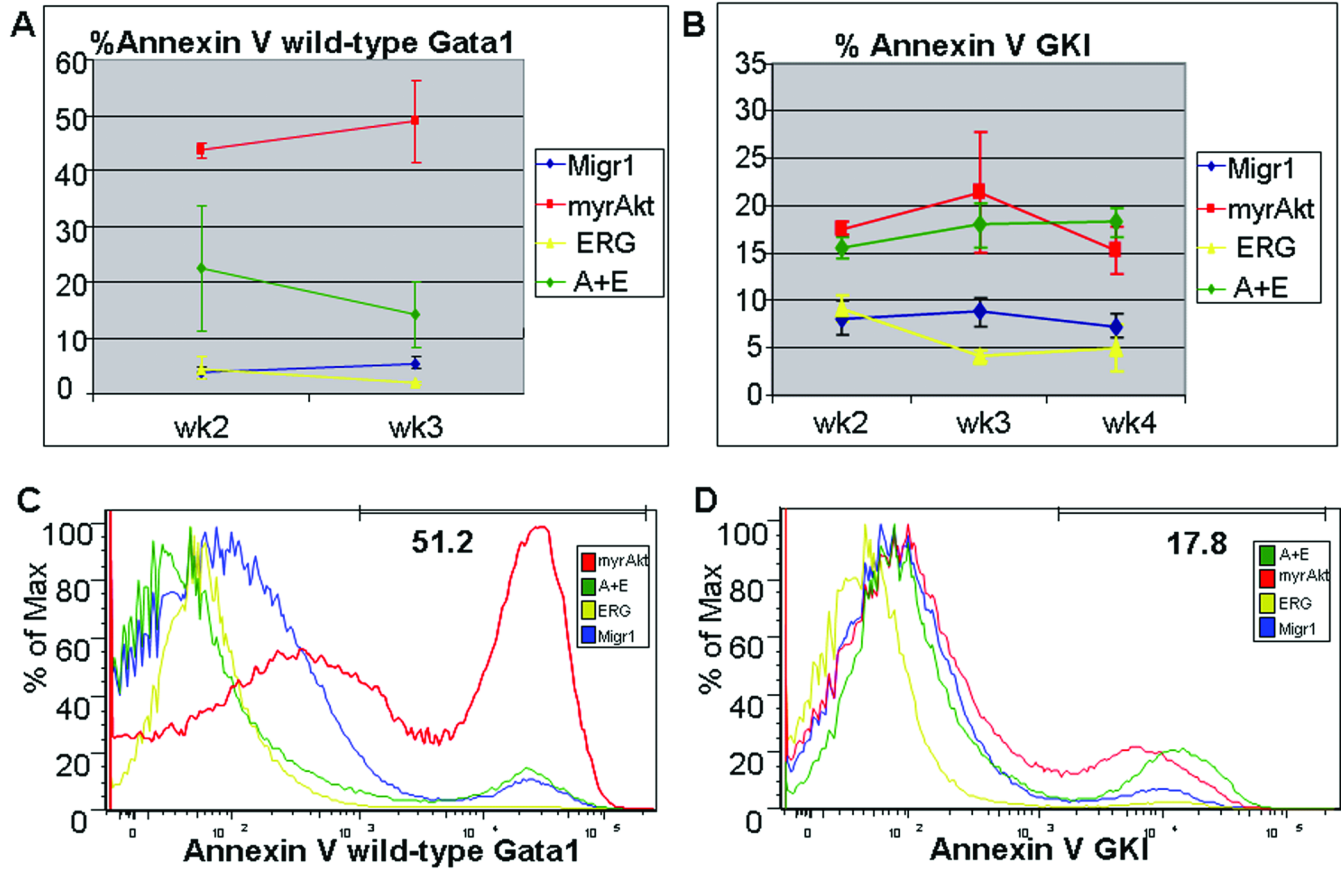
Supplementary Figure 2: (A) Percentage of Annexin V positive cells for the indicated sample population assessed weekly by flow cytometry for sorted GFP positive, mcherry positive wild-type fetal liver hematopoietic progenitors N=4 average \pm SEM shown. P-values \leq 0.04 for myrAKT in comparison to all other samples (Migr1, ERG and myrAKT+ERG) at 2 and 3 weeks. ERG has best overall survival with p-value \leq 0.03 compared to Migr1 over time course. (C) Representative histogram profile of Annexin V positivity for samples as in (A) with bar indicating value (percentage of population) positive for Annexin V for myrAKT and companion histograms for the other samples at 3 weeks. (B) Percentage of Annexin V positive cells for the indicated sample population assessed weekly by flow cytometry for sorted GFP positive, mcherry positive *Gata1s* knock-in fetal liver hematopoietic progenitors N=3; p-values \leq 0.03 for myrAKT and

myrAKT+ERG in comparison to both Migr1 and ERG at weeks 2 and 4. ERG has best overall survival by week 4 with p-value ≤ 0.001 compared to Migr1; no significant difference between myrAKT and myrAKT+ERG at week 2 or 4. (D) Representative histogram profile of Annexin V staining for *Gata1s* knock-in samples as in B with bar indicating value (percentage of population) for myrAKT+ERG and companion histograms for the other three samples at week 4.

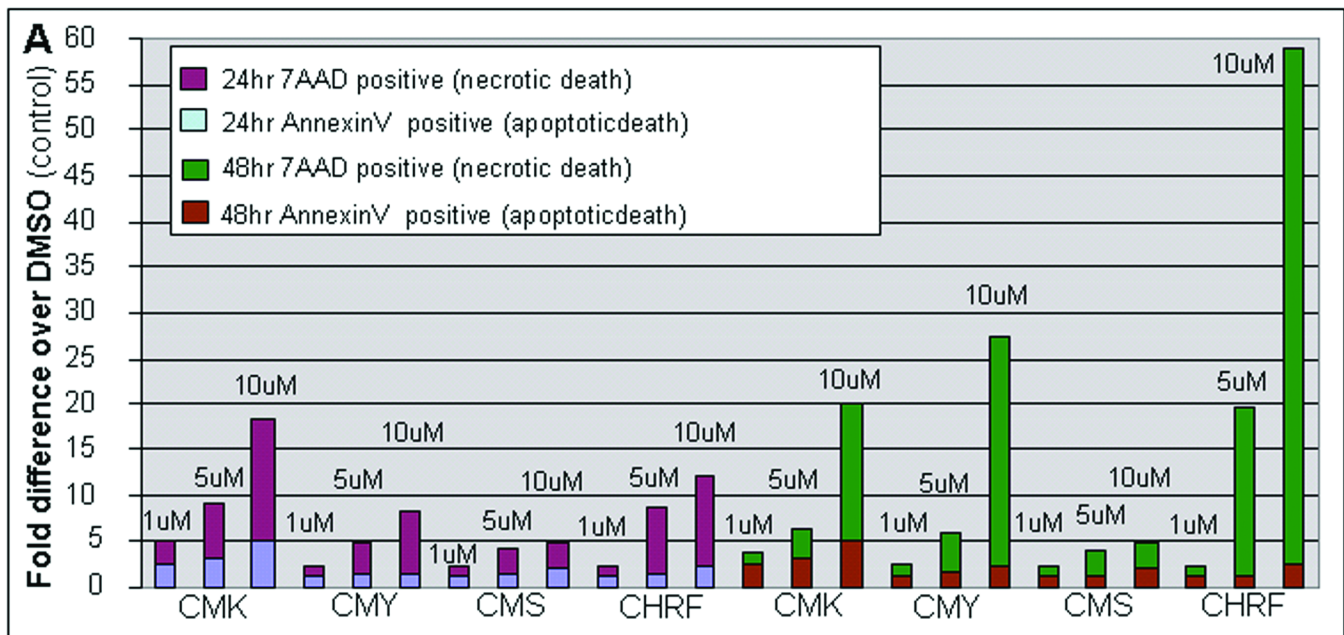
Supplementary Figure 3: (A); Average fold change for each increasing dose of MK-2206 (1 μ M, 5 μ M, and 10 μ M) compared to DMSO control for both Annexin V positive cells (apoptotic) and necrotic cells (7AAD singly positive staining cells) N=3; p-value ≤ 0.04 for all CMK, CMS and CHRF values shown compared to DMSO; p-value ≤ 0.04 for all 5 mM and 10 mM CMY values shown compared to DMSO; (B) Table of cytarabine (Ara-C) and MK-2206 combinations used for assessment of synergy in the CMK and CHRF cell lines with accompanying combination index (CI) values. (C) CI sample graphs as determined by CompuSyn software. N=3 for all samples of drug combinations and negative controls during assessment of proliferation via cell count enumeration with trypan blue exclusion. CI values < 1 generally defined as synergistic, equal to 1 considered additive and > 1 are considered antagonistic.



Supplementary Figure 1

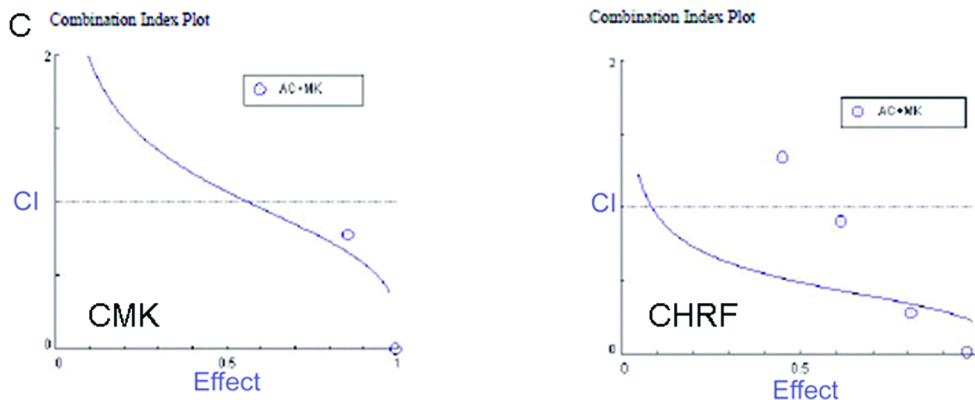


Supplementary Figure 2



B

CMK			CHRf		
Ara-C nM	MK-2206 nM	CI	Ara-C nM	MK-2206 nM	CI
0	0	127.652	0	0	229.723
25	1000	13.35	10	1000	2.051
50	5000	6.345	25	2500	1.346
100	10000	0.777	50	5000	0.911
200	20000	0.004	75	7500	0.286
			100	10000	0.02



AC+MK = cytarabine (Ara-C) + MK-2206
 CI-Combination Index
 Effect- fraction affected shown (1=100% of population)

Supplementary Figure 3