Supplemental Tables: Analysis of LTBMC Data Comparing Fancg-/- with Fancg+/- and Fancg+/+ and Also Comparing Fanca-/- with Fanca+/- and Fanca+/+.

LTBMC Data for the weekly cobblestone islands, non-adherent cells per flask, percent confluence, day 7 colonies and day 14 colony forming cells were collected at week 1 through week 27 for Fancg-/-, Fancg+/-, and Fancg+/+ in one experiment, and Fanca-/-, Fanca+/- and Fanca+/+ mice in another experiment.

At each week, for each of the endpoints (i.e., weekly cobblestone islands, non-adherent cells per flask, percent confluence, day 7 colonies and day 14 colonies), data were collected for all 8 LTBMC culture flasks per group. There were 3 or 4 measurement made at every time point shown as n=4 or n=3 summarized with mean ± standard deviation for each of the 8 flasks. At each week, Fancg+/+ were compared with Fancg+/- and Fancg-/- groups of flasks, and in another experiment Fanca+/- and Fanca-/- were compared with Fanca+/+groups of flasks, using the one-way ANOVA F-test, followed by Dunnett's multiple comparisons.

The results are in the following Supplemental Tables 1-5 for Fancg-/- LTBMCs and controls and on Supplemental Tables 6-10 for Fanca-/- LTBMCs and controls on the next pages, Dunnett's multiple comparison test p-values are shown for those weeks where the ANOVA F-test is significant. These p-values are for the comparison of the corresponding group versus the Fanca+/+ group. For those weeks where the ANOVA F-test is not significant, the three groups did not have a significant difference, and, therefore, the Dunnett's test was not necessary.

Supplemental Table 1: Analysis of cobblestone islands in Fancg-/- LTBMCs. Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fancg+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fancg+/+	527.3±131.4 (n=4)	1764.3±132.7 (n=4)	1984.0±458.8 (n=4)	1893.5±447.8 (n=4)	1815.5±461.6 (n=4)	2053.3±702.3 (n=4)
Fancg+/-	334.0±53.4 (n=4) p=0.0525	1645.0±130.6 (n=4)	1818.5±288.0 (n=4)	1803.3±132.2 (n=4)	1788.0±151.2 (n=4)	2217.0±288.6 (n=4)
Fancg-/-	310.0±116.0 (n=4) p=0.0314	1610.5±325.7 (n=4)	1319.0±229.7 (n=4)	1409.0±180.9 (n=4)	1499.0±170.5 (n=4)	1492.5±69.0 (n=4)
group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fancg+/+	1860.5±670.9 (n=4)	1683.5±732.7 (n=4)	1363.0±948.6 (n=4)	1300.0±1104.2 (n=4)	1270.3±933.7 (n=4)	1344.0±1026.3 (n=4)
Fancg+/-	2082.5±291.8 (n=4)	1899.8±216.8 (n=4) p=0.7309	1146.5±320.9 (n=4)	931.5±364.5 (n=4)	959.0±310.1 (n=4)	996.8±650.3 (n=4)
Fancg-/-	1355.5±166.0 (n=4)	838.0±170.4 (n=4) p=0.0475	420.5±121.1 (n=4)	251.5±106.7 (n=4)	208.3±41.8 (n=4)	191.0±100.8 (n=4)
group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fancg+/+	1105.5±520.1 (n=4)	891.0±417.7 (n=4)	921.5±311.1 (n=4)	975.5±537.5 (n=4)	823.0±502.4 (n=4)	407.5±368.1 (n=4)
Fancg+/-	1343.3±857.6 (n=4)	1075.0±744.3 (n=4)	723.3±553.4 (n=4)	803.5±925.0 (n=4)	312.0±354.6 (n=4) p=0.1251	126.5±191.8 (n=4)
Fancg-/-	157.5±78.1 (n=4)	92.0±86.6 (n=4)	387.5±663.7 (n=4)	33.5±23.2 (n=4)	53.5±13.9 (n=4) p=0.0244	117.0±172.9 (n=4)
group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fancg+/+	293.8±242.8 (n=4)	335.0±419.8 (n=4)	263.5±306.0 (n=4)	117.5±157.9 (n=4)	68.5±71.3 (n=4)	74.0±94.8 (n=4)
Fancg+/-	115.0±162.2 (n=4)	138.3±204.2 (n=4)	214.3±384.3 (n=4)	123.0±149.1 (n=4)	43.0±39.7 (n=4)	12.5±15.5 (n=4)
Fancg-/-	45.5±63.2	23.8±15.3	0.0±0.0	0.0±0.0	0.0±0.0	0.0±0.0

group	(n=4)	(n=4)	(n=4)	(n=4)	(n=4)	(n=4)
	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30
Fancg+/+	36.0±46.3 (n=4)	40.5±47.6 (n=4)	8.5±10.1 (n=4)	147.5±259.0 (n=4)	118.5±161.5 (n=4)	18.0±36.0 (n=4)
Fancg+/-	6.0±12.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)
Fancg-/-	0.0±0.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)	0.0±0.0 (n=4)
group	Week 31	Week 32				
Fancg+/+	2.0±4.0 (n=4)	0.0±0.0 (n=4)				
Fancg+/-	0.0±0.0 (n=4)	0.0±0.0 (n=4)				
Fancg-/-	0.0±0.0 (n=4)	0.0±0.0 (n=4)				

Supplemental Table 2. Analysis of non-adherent cells per flask from $Fancg^{-/-}$ LTBMCs (x 1000000). Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fancg+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fancg+/+	3.0±0.2 (n=4)	1.5±0.5 (n=4)	1.0±0.1 (n=4)	1.5±0.3 (n=4)	2.2±1.0 (n=4)	1.6±0.5 (n=4)
Fancg+/-	2.4±0.1 (n=4) p=0.0114	1.7±0.2 (n=4)	1.1±0.2 (n=4)	1.4±0.4 (n=4)	1.6±0.4 (n=4)	1.4±0.2 (n=4) p=0.5743
Fancg-/-	2.4±0.3 (n=4) p=0.0189	1.3±0.3 (n=4)	0.8±0.1 (n=4)	0.8±0.3 (n=4)	0.8±0.1 (n=4)	0.8±0.1 (n=4) p=0.0136

group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fancg+/+	1.1±0.2 (n=4)	0.6±0.3 (n=4)	0.7±0.4 (n=4)	0.7±0.4 (n=4)	0.6±0.3 (n=4)	0.6±0.2 (n=4)
Fancg+/-	0.9±0.1 (n=4) p=0.1369	0.7±0.1 (n=4) p=0.9451	0.6±0.1 (n=4)	0.5±0.2 (n=4)	0.5±0.2 (n=4) p=0.8583	0.4±0.2 (n=4) p=0.3598
Fancg-/-	0.6±0.2 (n=4) p=0.0025	0.3±0.1 (n=4) p=0.0551	0.3±0.1 (n=4)	0.2±0.0 (n=4)	0.2±0.1 (n=4) p=0.0203	0.2±0.0 (n=4) p=0.0107

group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fancg+/+	0.4±0.1 (n=4)	0.3±0.1 (n=4)	0.3±0.1 (n=4)	0.3±0.1 (n=4)	0.3±0.1 (n=4)	0.2±0.1 (n=4)
Fancg+/-	0.4±0.2 (n=4) p=0.8883	0.4±0.1 (n=3) p=0.2719	0.4±0.1 (n=3) p=0.4168	0.3±0.2 (n=3)	0.3±0.2 (n=3)	0.1±0.1 (n=3)
Fancg-/-	0.1±0.1 (n=4) p=0.0131	0.1±0.0 (n=4) p=0.0020	0.1±0.0 (n=4) p=0.0253	0.1±0.0 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4)

group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fancg+/+	0.1±0.0 (n=4)	0.2±0.1 (n=4)	0.2±0.1 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=3)	0.2±0.0 (n=3)
Fancg+/-	0.1±0.0 (n=3)	0.2±0.1 (n=3)	0.1±0.0 (n=3)	0.1±0.0 (n=3)	0.1±0.0 (n=3)	0.1±0.0 (n=3)

group	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30
Fancg-/-	0.1±0.0 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4)
group	**Week 25**	**Week 26**	**Week 27**	**Week 28**	**Week 29**	**Week 30**
Fancg+/+	0.2±0.0 (n=3)	0.1±0.0 (n=3)	0.2±0.1 (n=3)	0.2±0.1 (n=3)	0.2±0.1 (n=3)	0.1±0.0 (n=3)
Fancg+/-	0.2±0.0 (n=3)	0.1±0.0 (n=3)	0.2±0.0 (n=3)	0.2±0.0 (n=3)	0.2±0.0 (n=3)	0.2±0.0 (n=3)
Fancg-/-	0.2±0.0 (n=4)	0.1±0.0 (n=4)	0.2±0.0 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4)
group	**Week 31**					
Fancg+/+	0.1±0.0 (n=2)					
Fancg+/-	0.2±0.1 (n=3)					
Fancg-/-	0.1±0.0 (n=4)					

Supplemental Table 3. Analysis of percent confluence in LTBMCs from Fancg-/- mice.

Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fancg+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fancg+/+	30.0±4.1 (n=4)	79.4±1.2 (n=4)	82.5±2.0 (n=4)	85.0±0.0 (n=4)	85.0±0.0 (n=4)	95.0±0.0 (n=4)
Fancg+/-	27.5±0.0 (n=4)	68.1±7.5 (n=4) p=0.0155	80.0±4.6 (n=4)	85.0±0.0 (n=4)	85.0±0.0 (n=4)	95.0±0.0 (n=4)
Fancg-/-	26.9±1.2 (n=4)	71.3±3.2 (n=4) p=0.0683	80.0±2.0 (n=4)	85.0±0.0 (n=4)	85.0±0.0 (n=4)	95.0±0.0 (n=4)
group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fancg+/+	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fancg+/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fancg-/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fancg+/+	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fancg+/-	95.0±0.0 (n=4)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)
Fancg-/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fancg+/+	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=3)	95.0±0.0 (n=3)
Fancg+/-	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)
Fancg-/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
group	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30
Fancg+/+	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)

Fancg+/-	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)
Fancg-/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
group	**Week 31**	**Week 32**				
Fancg+/+	95.0±0.0 (n=3)	95.0±0.0 (n=3)				
Fancg+/-	95.0±0.0 (n=3)	95.0±0.0 (n=3)				
Fancg-/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)				

Supplemental Table 4. Analysis of day 7 colony forming progenitor cells from Fancg-/- LTBMCs. Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fancg+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fancg+/+	104.7±7.0 (n=3)	35.3±3.1 (n=3)	166.0±5.0 (n=3)	198.3±7.5 (n=3)	114.0±6.0 (n=3)	93.0±6.0 (n=3)
Fancg+/-	145.7±4.5 (n=3) p=0.0002	67.7±6.5 (n=3) p=0.0004	184.3±8.7 (n=3) p=0.0259	160.3±5.5 (n=3) p=0.0004	115.3±5.5 (n=3)	65.7±4.5 (n=3) p=0.0010
Fancg-/-	61.3±4.7 (n=3) p=0.0001	28.7±5.0 (n=3) p=0.2587	47.7±5.5 (n=3) p<0.0001	90.3±4.0 (n=3) p<0.0001	118.7±6.5 (n=3)	66.7±4.5 (n=3) p=0.0013

group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fancg+/+	48.7±4.5 (n=3)	40.0±3.0 (n=3)	24.0±4.0 (n=3)	17.3±3.5 (n=3)	26.0±3.0 (n=3)	22.7±2.5 (n=3)
Fancg+/-	67.7±4.5 (n=3) p=0.0026	32.7±4.5 (n=3) p=0.0902	36.0±4.0 (n=3) p=0.0130	44.0±5.0 (n=3) p=0.0004	43.7±3.5 (n=3) p=0.0009	31.0±4.0 (n=3) p=0.0288
Fancg-/-	27.3±3.5 (n=3) p=0.0014	23.7±3.5 (n=3) p=0.0031	16.0±3.0 (n=3) p=0.0658	12.0±4.0 (n=3) p=0.2803	24.0±3.0 (n=3) p=0.6770	18.7±2.5 (n=3) p=0.2678

group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fancg+/+	9.3±2.5 (n=3)	20.0±2.0 (n=3)	17.3±3.5 (n=3)	15.0±3.0 (n=3)	3.0±1.0 (n=3)	7.0±2.0 (n=3)
Fancg+/-	14.3±2.5 (n=3) p=0.0587	23.0±4.0 (n=3) p=0.3334	8.7±1.2 (n=3) p=0.0054	5.3±1.5 (n=3) p=0.0100	6.3±1.5 (n=3) p=0.4209	6.0±2.0 (n=3) p=0.7453
Fancg-/-	6.3±1.5 (n=3) p=0.2484	3.7±0.6 (n=3) p=0.0005	5.0±1.0 (n=3) p=0.0009	25.7±3.5 (n=3) p=0.0063	61.7±5.5 (n=3) p<0.0001	2.3±1.5 (n=3) p=0.0380

group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fancg+/+	9.0±2.0 (n=3)	8.3±1.5 (n=3)	0.7±0.6 (n=3)	1.3±0.6 (n=3)	0.0±0.0 (n=3)	0.7±1.2 (n=3)
Fancg+/-	4.0±1.0 (n=3)	15.0±3.0 (n=3)	3.0±1.0 (n=3)	1.7±1.5 (n=3)	0.3±0.6 (n=3)	4.7±0.6 (n=3)

Fancg-/-	p=0.0057 0.0±0.0 (n=3) p=0.0003	p=0.0265* No data	p=0.0249* No data	p=0.7415* No data	p=0.4226* No data	p=0.0058* No data

group	Week 25	Week 26	Week 27	Week 28		
Fancg+/+	3.0±1.0 (n=3)	21.7±4.5 (n=3)	3.7±1.5 (n=3)	0.0±0.0 (n=3)		
Fancg+/-	3.7±0.6 (n=3) p=0.3739*	3.0±1.0 (n=3) p=0.0022*	No data	No data		
Fancg-/-	No data	No data	No data	No data		

*These p-values were calculated with t-tests as there were no data in the Fancg-/- group.

**Supplemental Table 5. Analysis of day 14 colony forming progenitor cells from Fancg-/-
LTBMCs.** Data are summarized with mean ± standard deviation, and p-values are for the
comparison of the corresponding group versus the Fancg+/+ group using ANOVA followed by
Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups
don't have significant difference, and Dunnett's tests are not necessary, so p-values are not
shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fancg+/+	359.0±9.5 (n=3)	148.7±5.0 (n=3)	422.7±7.0 (n=3)	608.0±7.5 (n=3)	531.7±8.0 (n=3)	310.7±6.5 (n=3)
Fancg+/-	388.0±18.1 (n=3) p=0.0510	410.7±17.2 (n=3) p<0.0001	472.7±6.0 (n=3) p=0.0001	522.3±8.3 (n=3) p<0.0001	399.0±8.0 (n=3) p<0.0001	242.3±7.0 (n=3) p<0.0001
Fancg-/-	142.0±7.0 (n=3) p<0.0001	87.7±5.5 (n=3) p=0.0008	127.0±5.0 (n=3) p<0.0001	212.0±7.5 (n=3) p<0.0001	152.7±6.5 (n=3) p<0.0001	103.0±6.0 (n=3) p<0.0001
group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fancg+/+	366.3±5.5 (n=3)	285.3±4.5 (n=3)	128.3±6.0 (n=3)	114.7±6.0 (n=3)	126.3±4.5 (n=3)	100.3±6.0 (n=3)
Fancg+/-	266.0±7.0 (n=3) p<0.0001	171.0±5.0 (n=3) p<0.0001	114.0±7.5 (n=3) p=0.0472	123.3±4.5 (n=3) p=0.1271	176.3±5.5 (n=3) p<0.0001	161.3±7.5 (n=3) p<0.0001
Fancg-/-	86.0±5.0 (n=3) p<0.0001	41.7±2.1 (n=3) p<0.0001	33.0±4.0 (n=3) p<0.0001	24.7±4.0 (n=3) p<0.0001	72.0±4.0 (n=3) p<0.0001	54.7±4.5 (n=3) p=0.0002
group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fancg+/+	91.7±5.5 (n=3)	123.3±5.1 (n=3)	142.0±6.6 (n=3)	132.0±5.6 (n=3)	38.0±3.0 (n=3)	157.3±6.5 (n=3)
Fancg+/-	75.0±5.6 (n=3) p=0.0205	97.3±6.1 (n=3) p=0.0012	51.7±6.0 (n=3) p<0.0001	49.3±3.5 (n=3) p<0.0001	26.0±3.0 (n=3) p=0.0369	64.7±4.5 (n=3) p<0.0001
Fancg-/-	58.0±6.0 (n=3) p=0.0006	21.0±3.0 (n=3) p<0.0001	21.3±3.1 (n=3) p<0.0001	73.3±5.5 (n=3) p<0.0001	97.3±7.0 (n=3) p<0.0001	5.3±1.2 (n=3) p<0.0001
group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fancg+/+	112.0±4.0 (n=3)	119.7±5.1 (n=3)	15.0±3.0 (n=3)	41.0±4.0 (n=3)	12.0±2.0 (n=3)	25.7±2.5 (n=3)
Fancg+/-	26.0±3.0	45.0±6.1	18.7±2.5	12.0±2.0	3.0±1.0	52.3±4.0

	(n=3) p<0.0001	(n=3) p<0.0001*	(n=3) p=0.1802*	(n=3) p=0.0004*	(n=3) p=0.0022*	(n=3) p=0.0006*
Fancg-/-	0.0±0.0 (n=3) p<0.0001	No data	No data	No data	No data	No data

group	Week 25	Week 26	Week 27	Week 28	Week 29	
Fancg+/+	22.3±4.0 (n=3)	68.3±6.0 (n=3)	72.3±5.5 (n=3)	6.0±2.0 (n=3)	3.0±1.0 (n=3)	
Fancg+/-	21.3±4.0 (n=3) p=0.7770*	34.3±4.0 (n=3) p=0.0013*	No data	No data	No data	
Fancg-/-	No data	No data	No data	No data	No data	

*These p-values were calculated with t-tests as there were no data in the Fancg-/- group.

Supplemental Table 6: Analysis of cobblestone islands in Fanca-/- LTBMCs. Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fanca+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fanca+/+	13.5±1.3 (n=4)	416.0±98.4 (n=4)	352.5±103.0 (n=4)	103.3±14.5 (n=4)	140.0±44.7 (n=4)	413.0±166.9 (n=4)
Fanca+/-	5.3±2.2 (n=4) p=0.0004	39.0±21.3 (n=4) p<0.0001	57.5±15.2 (n=4) p=0.0001	28.5±9.1 (n=4) p<0.0001	85.0±38.0 (n=4) p=0.0895	248.0±89.6 (n=4)
Fanca-/-	2.0±2.2 (n=4) p<0.0001	28.5±29.6 (n=4) p<0.0001	24.5±14.7 (n=4) p=0.0001	15.0±15.7 (n=4) p<0.0001	34.0±12.1 (n=4) p=0.0035	171.0±107.4 (n=4)
group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fanca+/+	340.5±99.4 (n=4)	249.0±102.5 (n=4)	166.0±90.1 (n=4)	202.5±141.2 (n=4)	236.0±118.6 (n=4)	314.5±138.8 (n=4)
Fanca+/-	476.0±87.7 (n=4) p=0.1271	532.5±208.2 (n=4) p=0.0275	162.5±94.8 (n=4) p=0.9968	134.0±112.5 (n=4)	150.5±83.7 (n=4) p=0.3004	158.5±119.9 (n=4) p=0.1160
Fanca-/-	144.3±96.5 (n=4) p=0.0300	17.5±14.6 (n=4) p=0.0661	0.0±0.0 (n=4) p=0.0227	0.0±0.0 (n=4)	0.0±0.0 (n=4) p=0.0059	0.0±0.0 (n=4) p=0.0043
group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fanca+/+	290.5±77.8 (n=4)	354.0±219.5 (n=4)	340.0±226.9 (n=4)	274.5±179.6 (n=4)	216.8±150.2 (n=4)	224.0±192.7 (n=4)
Fanca+/-	159.6±128.9 (n=4) p=0.1079	126.0±99.7 (n=4) p=0.0803	104.8±102.2 (n=4) p=0.0805	92.5±93.6 (n=4) p=0.0964	83.0±116.7 (n=4)	89.5±137.7 (n=4)
Fanca-/-	0.0±0.0 (n=4) p=0.0020	0.0±0.0 (n=4) p=0.0106	0.0±0.0 (n=4) p=0.0156	0.0±0.0 (n=4) p=0.0163	0.0±0.0 (n=4)	0.0±0.0 (n=4)
group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fanca+/+	236.5±153.9 (n=4)	263.3±207.7 (n=4)	244.5±204.3 (n=4)	232.0±175.9 (n=4)	284.5±186.9 (n=4)	303.5±225.2 (n=4)
Fanca+/-	69.0±111.6 (n=4) p=0.1032	56.0±81.5 (n=4) p=0.0858	22.0±28.6 (n=4) p=0.0478	9.8±5.3 (n=4) p=0.0232	9.0±7.4 (n=4) p=0.0104	6.0±6.9 (n=4) p=0.0186
Fanca-/-	0.0±0.0	0.0±0.0	0.0±0.0	0.0±0.0	0.0±0.0	0.0±0.0

	(n=4) p=0.0250	(n=4) p=0.0322	(n=4) p=0.0315	(n=4) p=0.0187	(n=4) p=0.0087	(n=4) p=0.0168
group	**Week 25**	**Week 26**	**Week 27**			
Fanca+/+	273.5±235.3 (n=4)	191.0±175.4 (n=4)	57.3±50.1 (n=4)			
Fanca+/-	5.0±6.6 (n=4) p=0.0375	6.0±7.1 (n=4) p=0.0527	3.0±3.8 (n=4) p=0.0474			
Fanca-/-	0.0±0.0 (n=4) p=0.0345	0.0±0.0 (n=4) p=0.0461	0.0±0.0 (n=4) p=0.0375			

Supplemental Table 7. Analysis of non-adherent cells per flask from LTBMCs from Fanca^{-/-} mice (x 1000000). Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fanca+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fanca+/+	2.3±0.5 (n=4)	1.4±0.3 (n=4)	0.9±0.1 (n=4)	1.1±0.1 (n=4)	1.6±0.5 (n=4)	1.3±0.4 (n=4)
Fanca+/-	1.9±0.4 (n=4) p=0.2503	0.4±0.1 (n=4) p<0.0001	0.4±0.0 (n=4) p<0.0001	0.6±0.1 (n=4) p<0.0001	1.3±0.2 (n=4)	0.9±0.3 (n=4) p=0.2055
Fanca-/-	1.1±0.2 (n=4) p=0.0027	0.3±0.0 (n=4) p<0.0001	0.3±0.0 (n=4) p<0.0001	0.6±0.1 (n=4) p<0.0001	1.1±0.2 (n=4)	0.6±0.2 (n=4) p=0.0249
group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fanca+/+	0.9±0.2 (n=4)	0.9±0.3 (n=4)	0.9±0.3 (n=4)	1.1±0.6 (n=4)	0.8±0.3 (n=4)	0.8±0.3 (n=4)
Fanca+/-	0.5±0.0 (n=4) p=0.0024	0.5±0.1 (n=4) p=0.0376	0.4±0.1 (n=4) p=0.0065	0.5±0.1 (n=4) p=0.0624	0.5±0.2 (n=4) p=0.1516	0.7±0.5 (n=4) p=0.9391
Fanca-/-	0.4±0.0 (n=4) p=0.0004	0.3±0.0 (n=4) p=0.0020	0.3±0.1 (n=4) p=0.0015	0.2±0.1 (n=4) p=0.0087	0.1±0.0 (n=4) p=0.0024	0.1±0.0 (n=4) p=0.0302
group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fanca+/+	0.5±0.2 (n=4)	0.5±0.2 (n=4)	0.5±0.2 (n=4)	0.4±0.2 (n=4)	0.2±0.1 (n=4)	0.3±0.1 (n=4)
Fanca+/-	0.5±0.2 (n=4) p=0.9983	0.5±0.2 (n=4) p=0.9954	0.4±0.2 (n=4) p=0.8457	0.2±0.1 (n=4) p=0.1187	0.2±0.1 (n=4) p=0.7228	0.2±0.1 (n=4) p=0.5016
Fanca-/-	0.1±0.0 (n=4) p=0.0031	0.1±0.0 (n=3) p=0.0218	0.0±0.0 (n=3) p=0.0238	0.0±0.0 (n=3) p=0.0108	0.0±0.0 (n=3) p=0.0295	0.0±0.0 (n=3) p=0.0198
group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fanca+/+	0.3±0.2 (n=4)	0.3±0.2 (n=4)	0.4±0.2 (n=4)	0.4±0.2 (n=4)	0.5±0.3 (n=4)	0.5±0.4 (n=4)
Fanca+/-	0.2±0.1 (n=4)	0.1±0.1 (n=4)	0.1±0.1 (n=4)	0.2±0.2 (n=4)	0.1±0.0 (n=4)	0.1±0.1 (n=4)

Fanca-/-	p=0.2622 0.0±0.0 (n=3) p=0.0133	0.0±0.0 (n=3)	p=0.0234 0.0±0.0 (n=3) p=0.0064	p=0.1323 0.0±0.0 (n=3) p=0.0181	p=0.0125 0.0±0.0 (n=3) p=0.0080	p=0.0647 0.0±0.0 (n=3) p=0.0386
group	**Week 25**	**Week 26**	**Week 27**			
Fanca+/+	0.5±0.4 (n=4)	0.3±0.2 (n=4)	0.2±0.1 (n=4)			
Fanca+/-	0.1±0.1 (n=4)	0.1±0.0 (n=4)	0.1±0.0 (n=4) p=0.0357			
Fanca-/-	0.0±0.0 (n=3)	0.0±0.0 (n=3)	0.0±0.0 (n=3) p=0.0008			

Supplemental Table 8. Analysis of percent confluence in LTBMCs from Fanca-/- mice.

Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fanca+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fanca+/+	27.5±2.0 (n=4)	49.4±1.3 (n=4)	48.1±2.4 (n=4)	45.0±0.0 (n=4)	73.8±1.4 (n=4)	81.9±2.4 (n=4)
Fanca+/-	21.9±2.4 (n=4) p=0.0059	41.3±2.5 (n=4) p=0.0022	44.4±2.4 (n=4) p=0.0558	41.3±3.2 (n=4)	73.8±1.4 (n=4) p=1.0000	78.1±2.4 (n=4)
Fanca-/-	21.3±1.4 (n=4) p=0.0031	41.3±3.2 (n=4) p=0.0022	43.1±1.3 (n=4) p=0.0145	43.1±3.8 (n=4)	70.6±1.2 (n=4) p=0.0197	78.1±3.1 (n=4)
group	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fanca+/+	92.5±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fanca+/-	92.5±2.9 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fanca-/-	92.5±2.9 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
group	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
Fanca+/+	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fanca+/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fanca-/-	95.0±0.0 (n=4)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	95.0±0.0 (n=3)	No data p=NA	No data p=NA
group	Week 19	Week 20	Week 21	Week 22	Week 23	Week 24
Fanca+/+	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fanca+/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)
Fanca-/-	No data p=NA	No data p=NA	No data p=NA	No data p=NA	No data p=NA	No data p=NA
group	Week 25	Week 26	Week 27			

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Fanca+/+	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)			
Fanca+/-	95.0±0.0 (n=4)	95.0±0.0 (n=4)	95.0±0.0 (n=4)			
Fanca-/-	No data p=NA	No data p=NA	No data p=NA			

Supplemental Table 9. Analysis of day 7 colony forming progenitor cells from Fanca-/-LTBMCs. Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fanca+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fanca+/+	74.7±4.2 (n=3)	24.0±7.0 (n=3)	52.7±3.5 (n=3)	81.3±7.5 (n=3)	23.3±2.1 (n=3)	12.0±3.5 (n=3)
Fanca+/-	53.0±8.9 (n=3) p=0.0088	21.0±3.6 (n=3) p=0.6588	39.3±1.5 (n=3) p=0.0041	106.0±8.9 (n=3) p=0.0087	72.3±6.8 (n=3) p<0.0001	24.3±4.2 (n=3) p=0.0063
Fanca-/-	17.3±4.0 (n=3) p<0.0001	2.7±1.2 (n=3) p=0.0023	32.3±4.0 (n=3) p=0.0004	48.3±3.2 (n=3) p=0.0021	12.7±1.5 (n=3) p=0.0366	5.3±1.5 (n=3) p=0.0788
group	**Week 7**	**Week 8**	**Week 9**	**Week 11**	**Week 12**	**Week 13**
Fanca+/+	24.0±2.0 (n=3)	26.3±3.8 (n=3)	19.0±5.6 (n=3)	13.0±5.0 (n=3)	7.7±1.5 (n=3)	12.7±5.0 (n=3)
Fanca+/-	12.3±3.1 (n=3) p=0.0010	14.7±1.2 (n=3) p=0.0014	46.7±6.4 (n=3) p=0.0008	52.3±3.5 (n=3) p<0.0001	34.3±4.0 (n=3) p<0.0001	38.3±1.2 (n=3) p=0.0001
Fanca+/+	1.3±0.6 (n=3) p<0.0001	0.0±0.0 (n=3) p<0.0001	0.0±0.0 (n=3) p=0.0055	0.0±0.0 (n=3) p=0.0072	0.0±0.0 (n=3) p=0.0166	0.0±0.0 (n=3) p=0.0036
Fanca+/-	**Week 14**	**Week 15**	**Week 16**	**Week 17**	**Week 18**	**Week 19**
Fanca+/+	9.5±0.7 (n=2)	12.0±1.7 (n=3)	8.0±3.0 (n=3)	13.0±3.5 (n=3)	21.7±1.2 (n=3)	17.7±3.8 (n=3)
Fanca+/-	38.0±8.0 (n=3) p=0.0028	30.3±2.1 (n=3) p<0.0001	32.3±9.7 (n=3) p=0.0041	25.7±4.2 (n=3) p=0.0046	18.3±3.2 (n=3) p=0.1416	9.0±2.6 (n=3) p=0.0129
Fanca-/-	0.0±0.0 (n=3) p=0.1532	0.0±0.0 (n=3) p=0.0001	0.0±0.0 (n=3) p=0.2401	0.0±0.0 (n=3) p=0.0040	0.0±0.0 (n=3) p<0.0001	0.0±0.0 (n=3) p=0.0003
group	**Week 20**	**Week 21**	**Week 22**	**Week 23**	**Week 24**	**Week 25**
Fanca+/+	16.7±2.1 (n=3)	15.3±3.8 (n=3)	24.7±7.6 (n=3)	19.7±5.8 (n=3)	17.3±3.2 (n=3)	15.7±1.5 (n=3)
Fanca+/-	13.7±4.0 (n=3)	5.7±2.5 (n=3)	6.3±0.6 (n=3)	4.7±0.6 (n=3)	2.7±0.6 (n=3)	0.3±0.6 (n=3)

	p=0.3381	p=0.0073	p=0.0041	p=0.0028	p=0.0001	p<0.0001
Fanca-/-	0.0±0.0 (n=3) p=0.0004	0.0±0.0 (n=3) p=0.0007	0.0±0.0 (n=3) p=0.0009	0.0±0.0 (n=3) p=0.0007	0.0±0.0 (n=3) p=0.0001	0.0±0.0 (n=3) p<0.0001
group	**Week 26**					
Fanca+/+	12.7±2.5 (n=3)					
Fanca+/-	0.0±0.0 (n=3) p=0.0001					
Fanca-/-	0.0±0.0 (n=3) p=0.0001					

Supplemental Table 10. Analysis of day 14 colony forming progenitor cells from Fanca-/-LTBMCs. Data are summarized with mean ± standard deviation, and p-values are for the comparison of the corresponding group versus the Fanca+/+ group using ANOVA followed by Dunnett's tests. For those weeks where the ANOVA F-test is not significant, the three groups don't have significant difference, and Dunnett's tests are not necessary, so p-values are not shown for these weeks.

group	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Fanca+/+	80.7±2.1 (n=3)	25.3±5.7 (n=3)	49.0±1.7 (n=3)	91.7±3.5 (n=3)	29.0±3.6 (n=3)	14.0±3.0 (n=3)
Fanca+/-	58.0±9.2 (n=3) p=0.0040	22.7±4.2 (n=3) p=0.6682	53.7±2.5 (n=3) p=0.3361	112.0±8.2 (n=3) p=0.0091	80.0±6.0 (n=3) p<0.0001	35.0±6.2 (n=3) p=0.0013
Fanca-/-	18.3±0.6 (n=3) p<0.0001	3.3±1.5 (n=3) p=0.0012	33.7±6.4 (n=3) p=0.0065	51.7±4.6 (n=3) p=0.0003	16.7±3.8 (n=3) p=0.0293	5.0±1.0 (n=3) p=0.0595
group	**Week 7**	**Week 8**	**Week 9**	**Week 11**	**Week 12**	**Week 13**
Fanca+/+	26.3±2.1 (n=3)	30.7±5.7 (n=3)	22.3±4.5 (n=3)	20.0±8.2 (n=3)	10.0±1.0 (n=3)	16.7±4.6 (n=3)
Fanca+/-	14.3±2.9 (n=3) p=0.0007	17.0±3.6 (n=3) p=0.0097	49.3±6.7 (n=3) p=0.0007	54.0±7.5 (n=3) p=0.0012	39.3±2.3 (n=3) p<0.0001	49.7±2.1 (n=3) p<0.0001
Fanca-/-	1.7±0.6 (n=3) p<0.0001	0.7±1.2 (n=3) p=0.0002	0.0±0.0 (n=3) p=0.0019	0.0±0.0 (n=3) p=0.0157	0.0±0.0 (n=3) p=0.0003	0.0±0.0 (n=3) p=0.0008
group	**Week 14**	**Week 15**	**Week 16**	**Week 17**	**Week 18**	**Week 19**
Fanca+/+	13.0±1.4 (n=2)	15.3±1.5 (n=3)	8.7±4.0 (n=3)	14.0±3.6 (n=3)	23.3±0.6 (n=3)	20.3±5.5 (n=3)
Fanca+/-	45.7±5.9 (n=3) p=0.0004	36.3±5.1 (n=3) p=0.0003	40.0±8.0 (n=3) p=0.0006	32.0±4.0 (n=3) p=0.0007	26.3±2.9 (n=3) p=0.1254	9.0±2.6 (n=3) p=0.0136
Fanca-/-	0.0±0.0 (n=3) p=0.0215	0.0±0.0 (n=3) p=0.0016	0.0±0.0 (n=3) p=0.1453	0.0±0.0 (n=3) p=0.0027	0.0±0.0 (n=3) p<0.0001	0.0±0.0 (n=3) p=0.0007
group	**Week 20**	**Week 21**	**Week 22**	**Week 23**	**Week 24**	**Week 25**
Fanca+/+	17.7±0.6 (n=3)	18.3±6.1 (n=3)	27.0±7.2 (n=3)	23.3±5.0 (n=3)	22.3±5.5 (n=3)	19.3±1.5 (n=3)
Fanca+/-	13.7±4.0 (n=3)	7.3±2.1 (n=3)	6.3±1.2 (n=3)	5.3±1.5 (n=3)	4.0±1.7 (n=3)	1.0±1.0 (n=3)

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	p=0.1401	p=0.0198	p=0.0017	p=0.0006	p=0.0009	p<0.0001
Fanca-/-	0.0±0.0 (n=3)	0.0±0.0 (n=3)	0.0±0.0 (n=3)	0.0±0.0 (n=3)	0.0±0.0 (n=3)	0.0±0.0 (n=3)
	p=0.0002	p=0.0017	p=0.0004	p=0.0001	p=0.0003	p<0.0001

Supplemental Figure 1: Hematopoiesis in Fancg-/- LTBMCs. A) Percent of surface area of long-term marrow culture flasks confluent with adherent cells; **B)** Number of cobblestone islands (adherent hematopoietic cell islands of greater or equal to 50 cells per island) on surface adherent layer of long-term marrow cultures scored weekly; **C)** Cumulative production of cobblestone islands; **D)** Weekly production of non-adherent cells per flask; **E)** Cumulative production of non-adherent cells per flask; **F)** Weekly production of day 7 colony forming CFU-GEMM non-adherent cells; **G)** Cumulative production of day 7 colony forming CFU-GEMM non-adherent cells; **H)** Weekly production of non-adherent cells forming day 14 CFU-GEMM colonies in semisolid medium.

Supplemental Fig. 1A.   Fancg LTBMCS
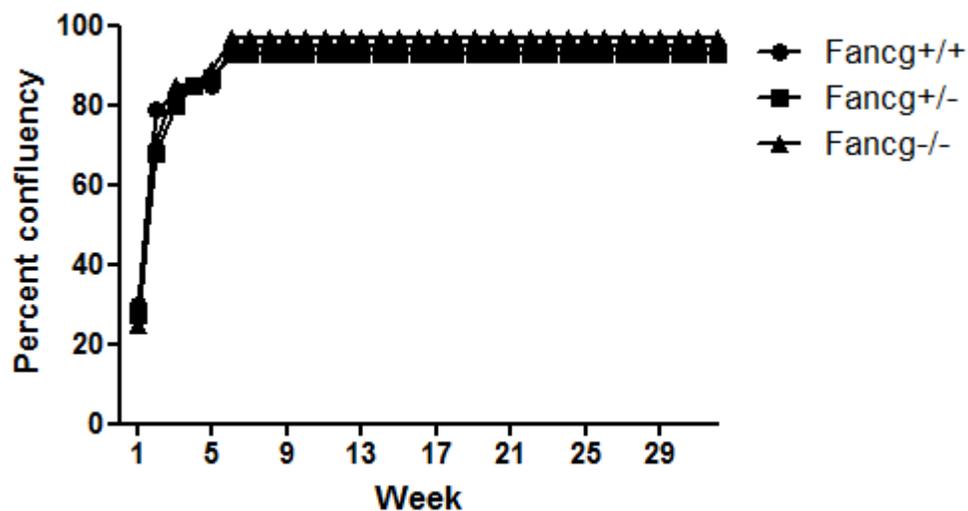
Supplemental Fig. 1B.
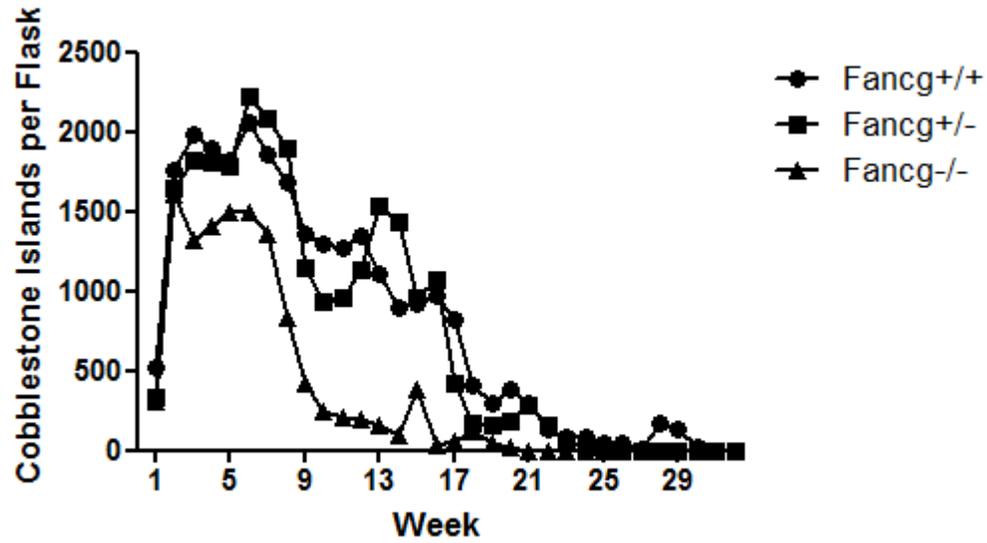
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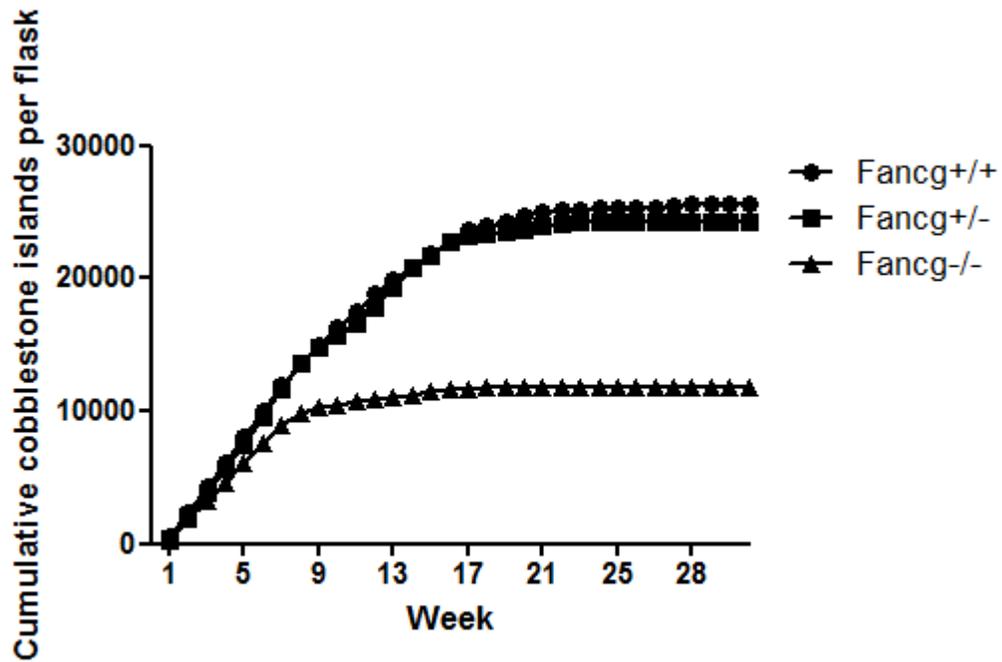
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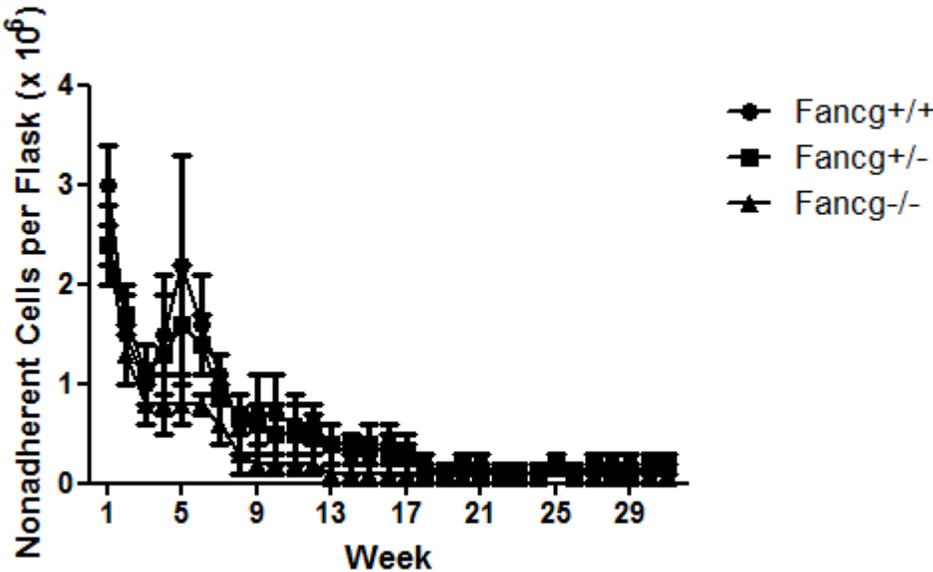
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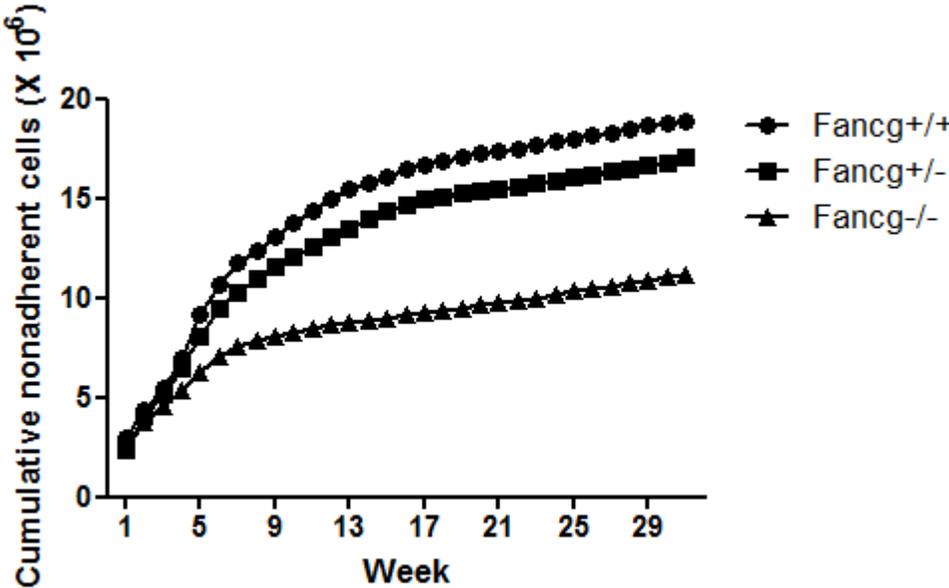
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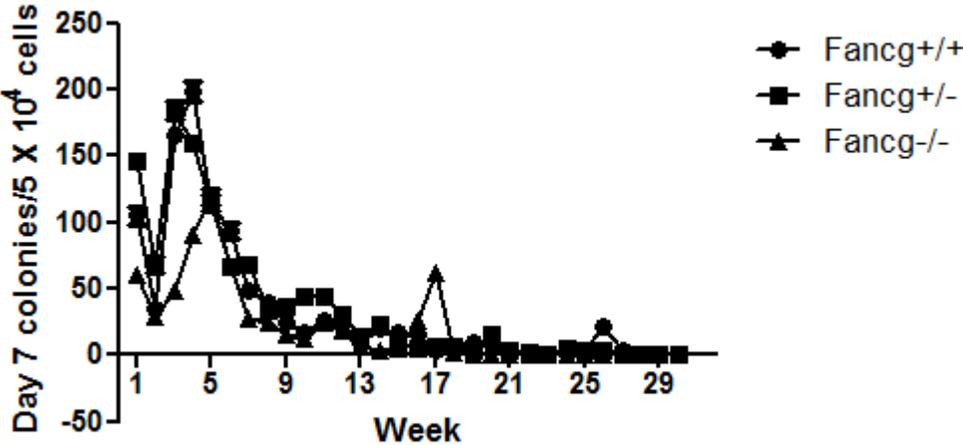
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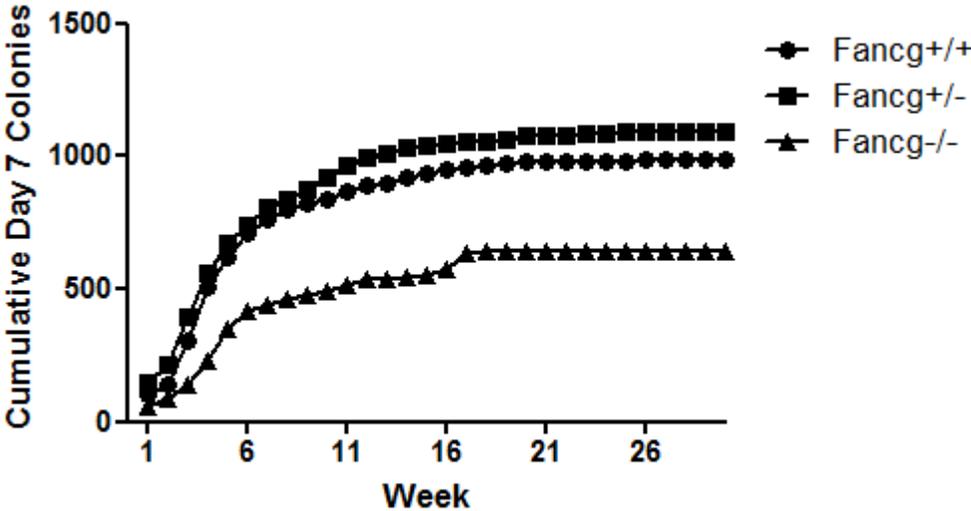
Supplemental Fig. 1H.
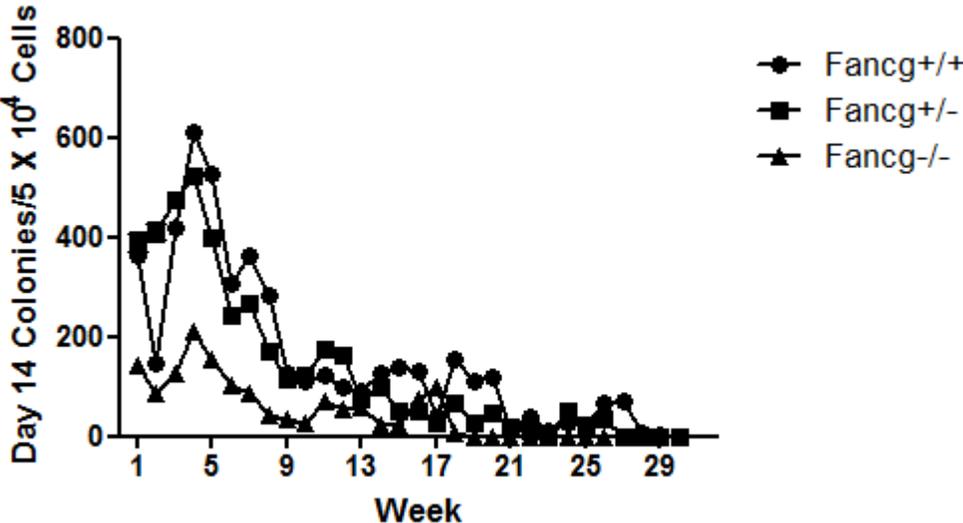
Supplemental Fig. 2: Hematopoiesis in Fanca-/- LTBMCs. **A**) Percent of surface area of long-term marrow culture flasks confluent with adherent cells; **B**) Number of cobblestone islands (adherent hematopoietic cell islands of greater or equal to 50 cells per island) on surface adherent layer of long-term marrow cultures scored weekly; **C**) Cumulative production of cobblestone islands; **D**) Weekly production of non-adherent cells per flask; **E**) Cumulative production of non-adherent cells per flask; **F**) Weekly production of day 7 colony forming CFU-GEMM non-adherent cells; **G**) Cumulative production of day 7 colony forming CFU-GEMM non-adherent cells; **H**) Weekly production of non-adherent cells forming day 14 CFU-GEMM colonies in semisolid medium.

Supplemental Fig. 2A.

Supplemental Fig. 2B.
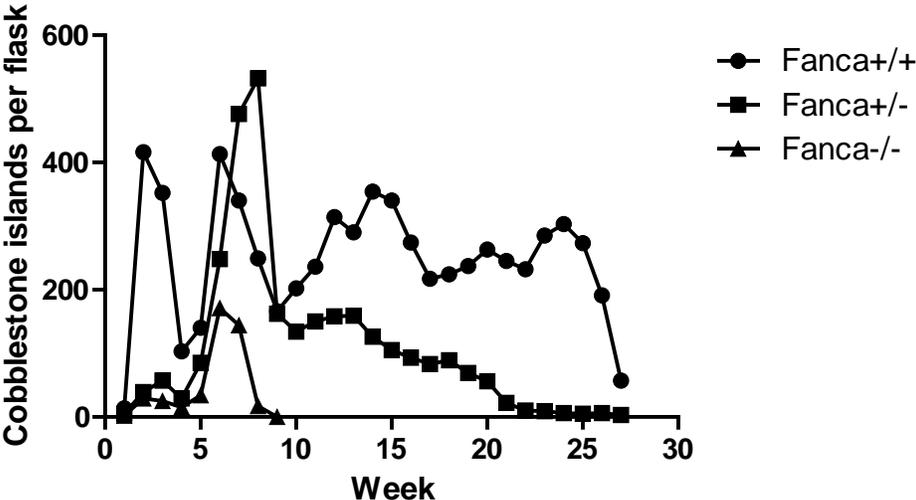
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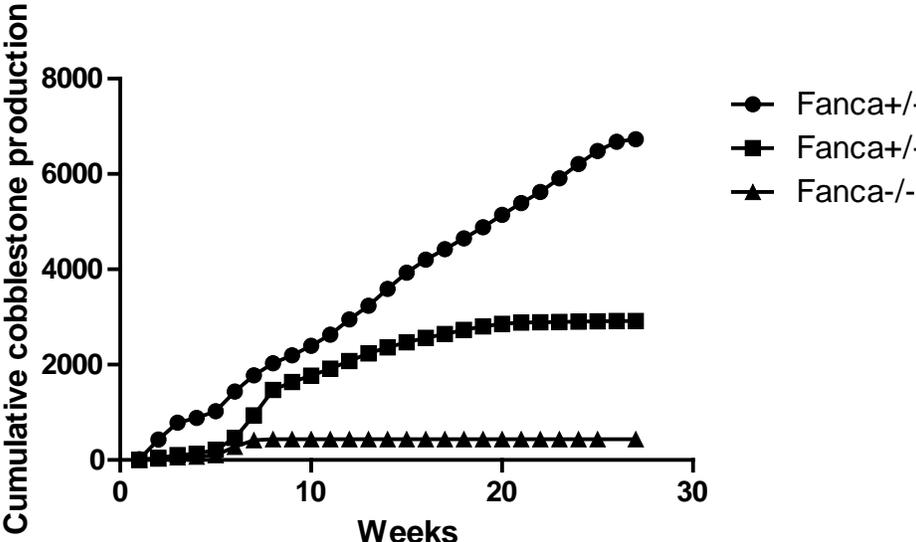
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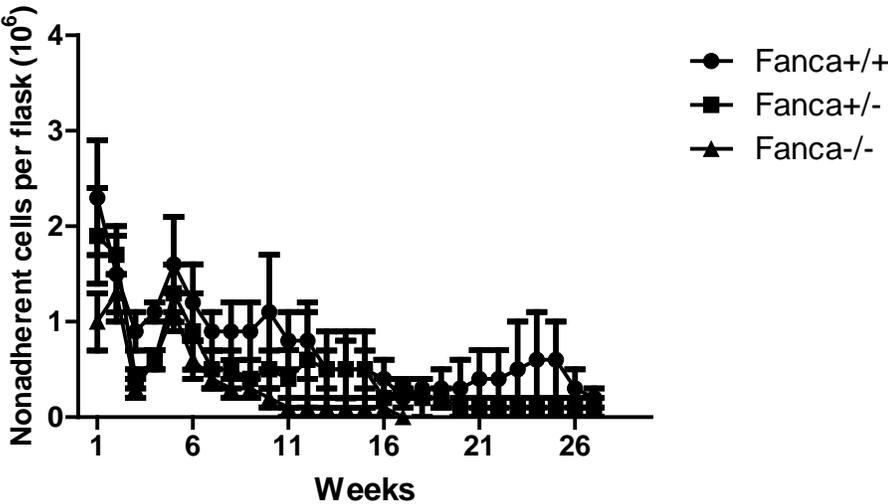
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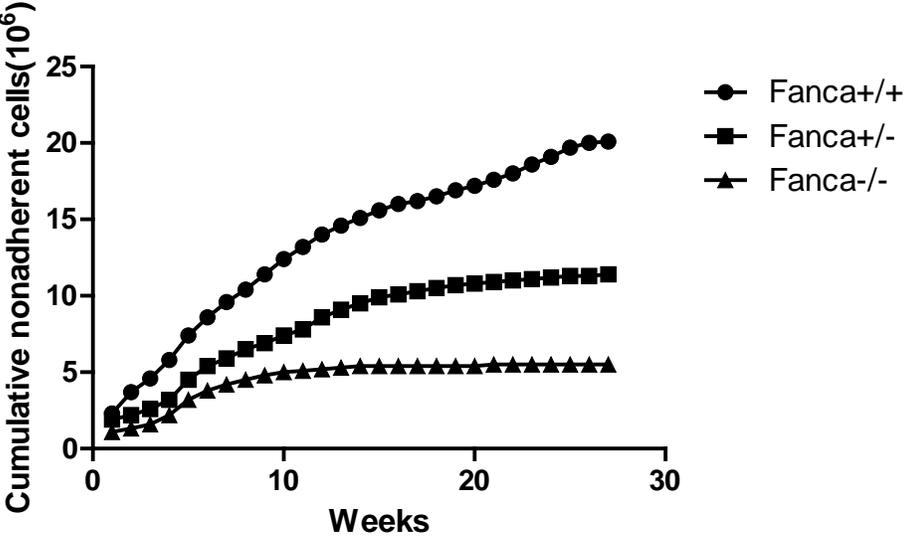
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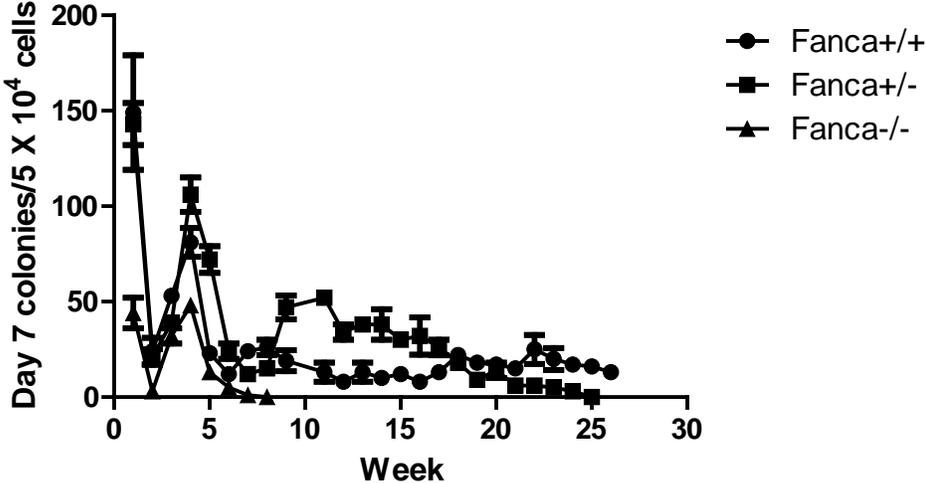
**Supplemental Fig. 2G.**
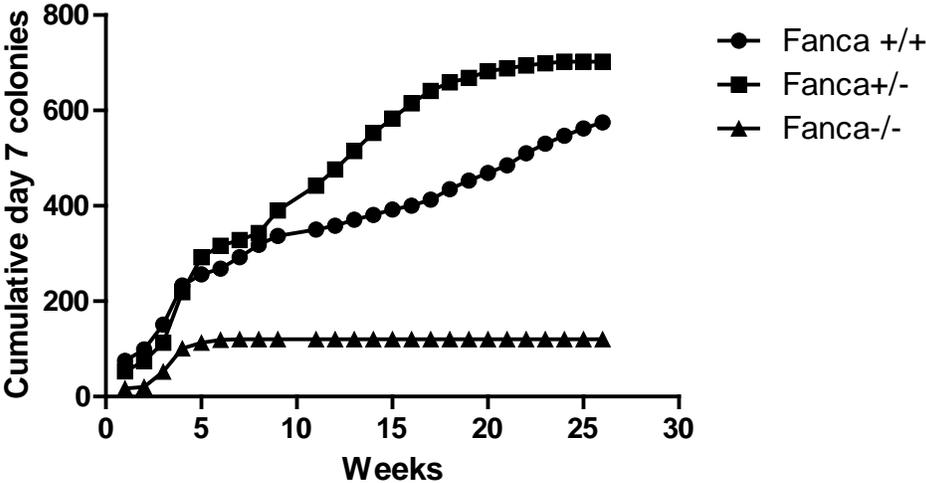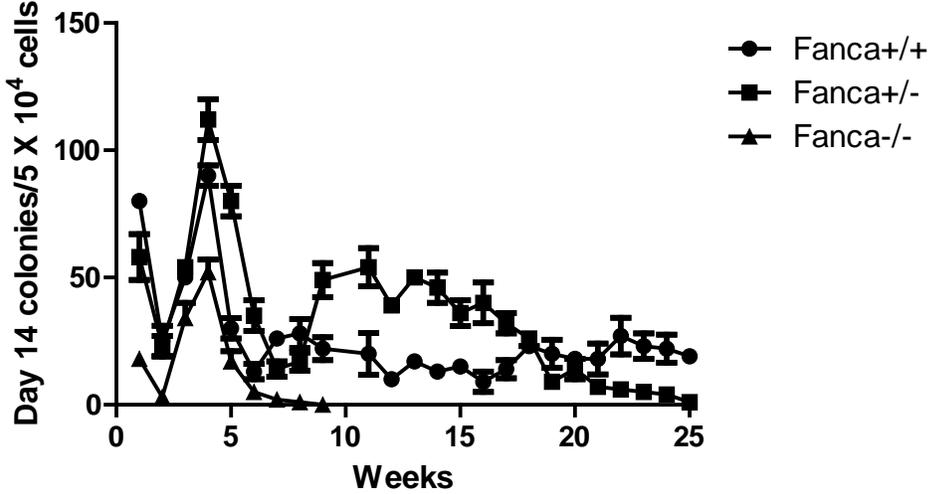
**Supplemental Figure 3:** Radiation survival curves were performed with Fancg-/- and Fanca-/-

mouse derived clonal interleukin-3 dependent hematopoietic progenitor cell lines derived from

the non-adherent cells harvested at week 2 from long-term bone marrow cultures of each

genotype and clonal sublines prepared according to published methods (13) and fresh bone

marrow removed from adult female mice of each genotype using single cell suspensions plated

in semisolid medium culture for the CFU-GEMM assay (Colony Forming Unit-

Granulocyte/Megakaryocyte/Macrophage/Erythroid). All colonies of $\geq$ 50 cells were scored at

day 7 after plating. **A-B)** IL-3 dependent hematopoietic progenitor cell lines; and **C-D)** Fresh

bone marrow.

The analysis of data shown in Table 1. There was radioresistance of both Fancg-/- and Fanca-/-

IL-3 dependent cell lines (Supplemental Figs. 3A and 3B) and fresh marrow (Supplemental Figs.

3C and 3D) compared to Fancg+/+ and Fanca+/+ genotype specimens tested (Table 1).

Supplemental Fig. 3A: Radiation survival curves of IL-3 dependent hematopoietic progenitor cell lines from Fancg-/- mice.
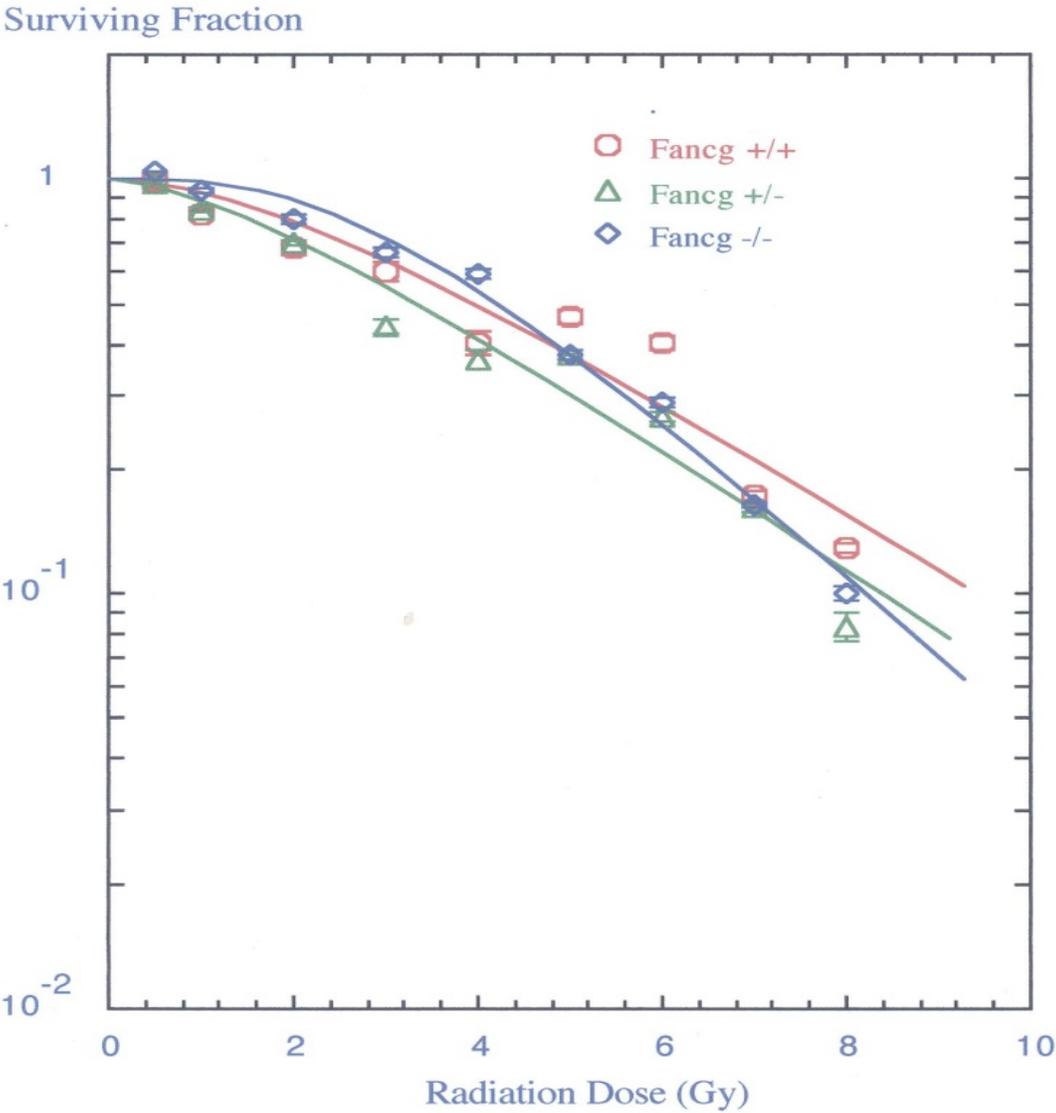
Supplemental Figure 3B: Radiation survival curve of IL-3 dependent hematopoietic progenitor cell lines from Fanca-/- mice.
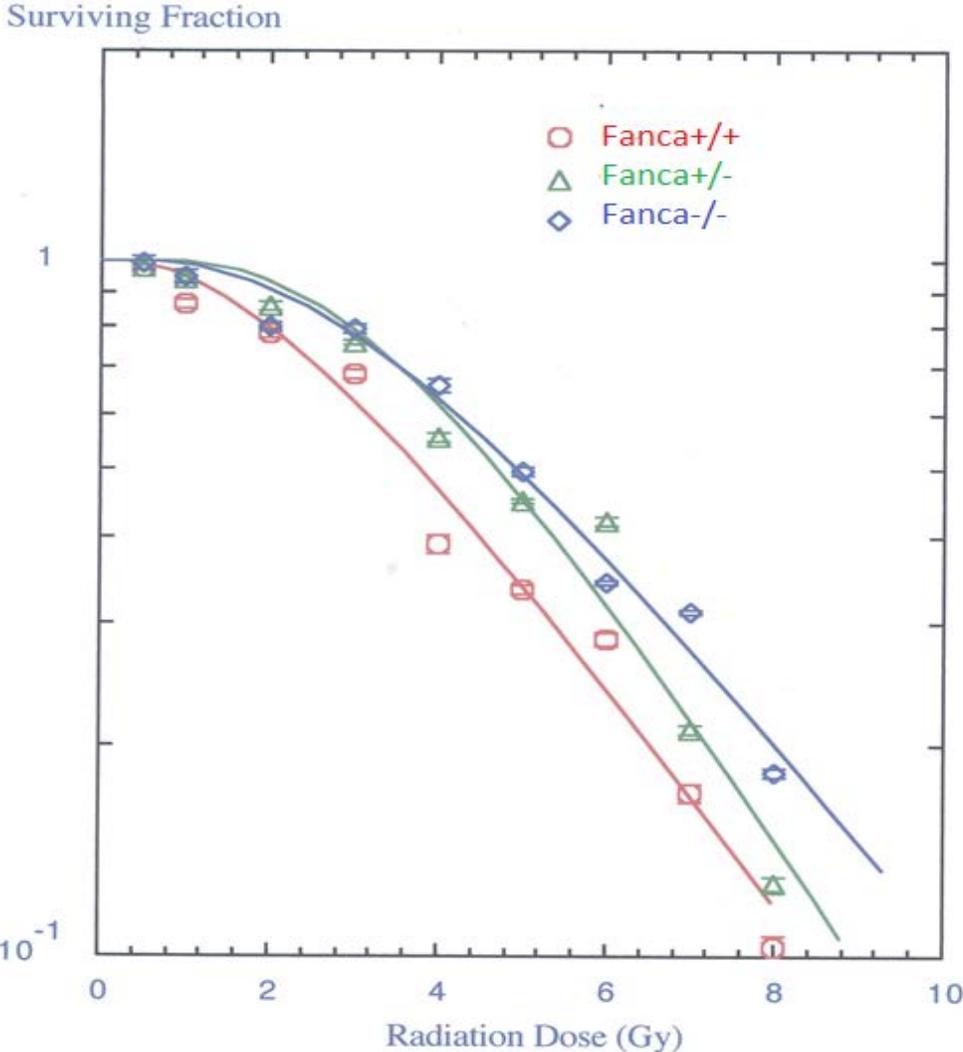
Supplemental Fig. 3C: Radiation survival curves of fresh marrow hematopoietic colony forming cells from Fancg-/- mice.
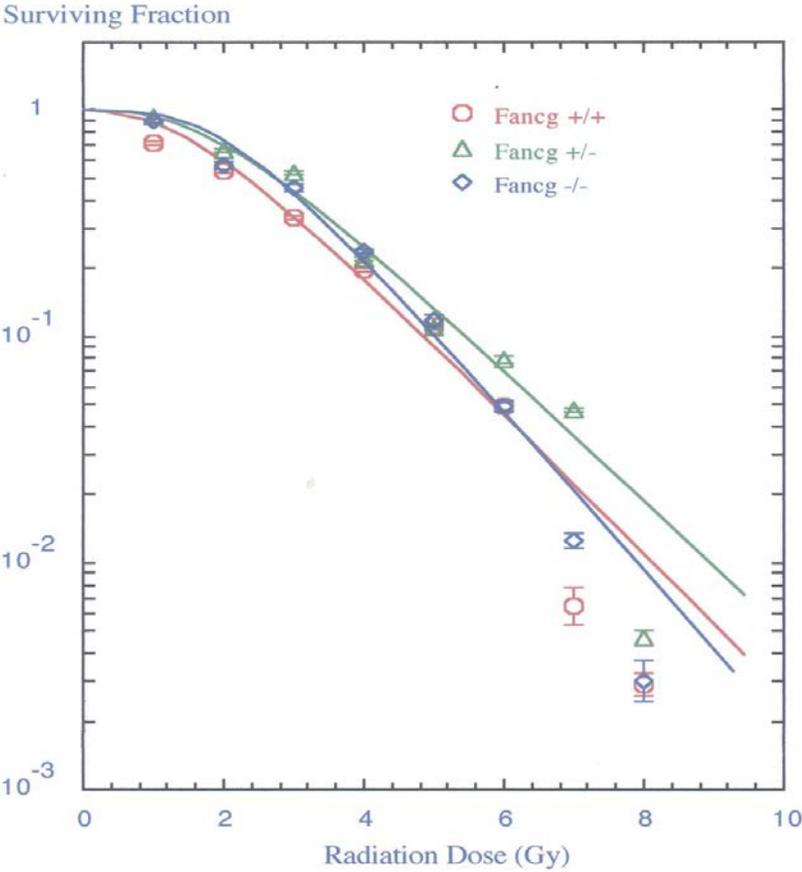
Supplemental Fig. 3D: Radiation survival curves of fresh bone marrow hematopoietic colony forming cells from Fanca-/- mice.
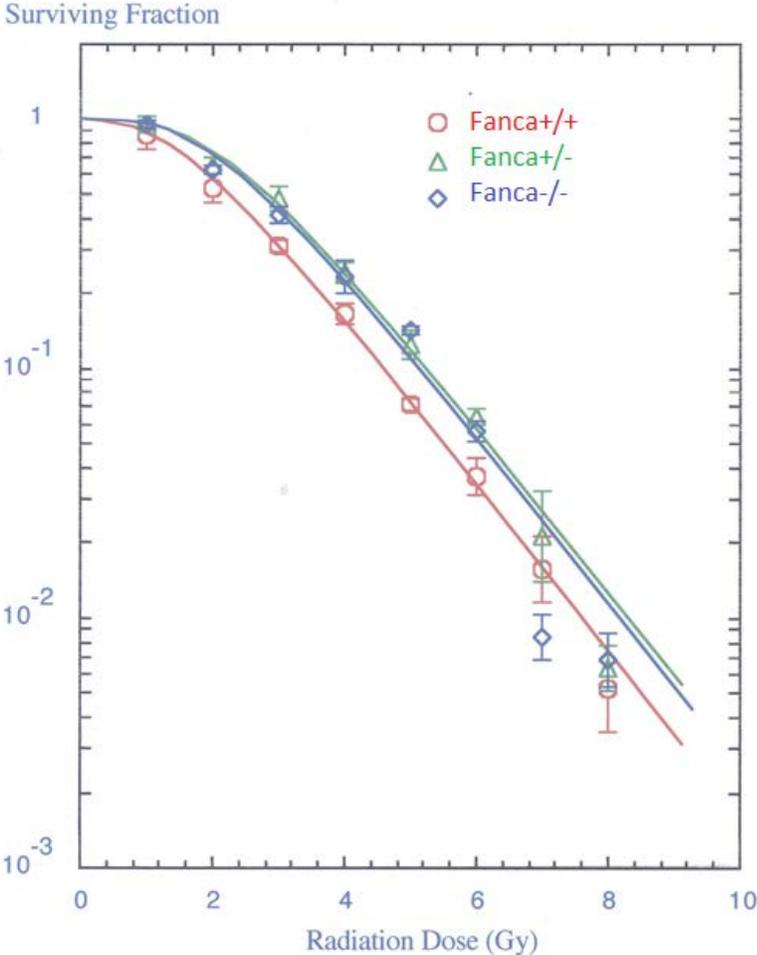
Supplemental Figure 4A: Densitometry for Fancg Bone Marrow Stromal Cell Western

Blot Shown in Figure 10A.
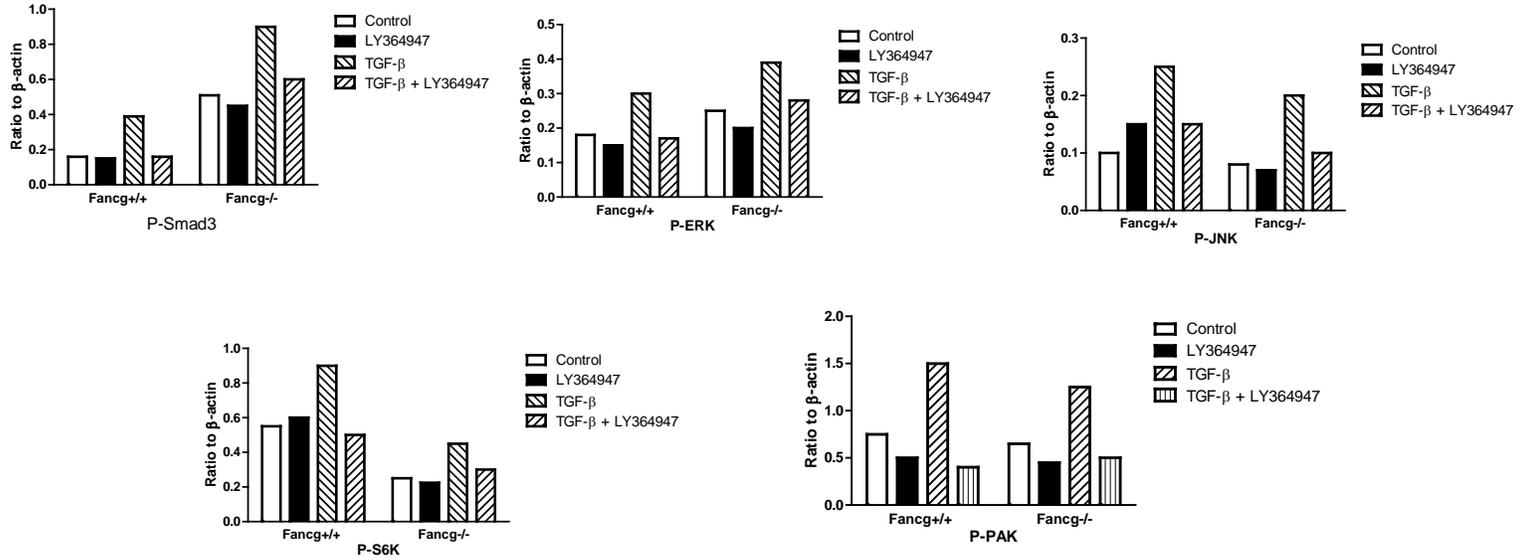
Supplemental Figure 4B: Densitometry for Fanca Bone Marrow Stromal Cell Western Blot Shown in Figure 10B.
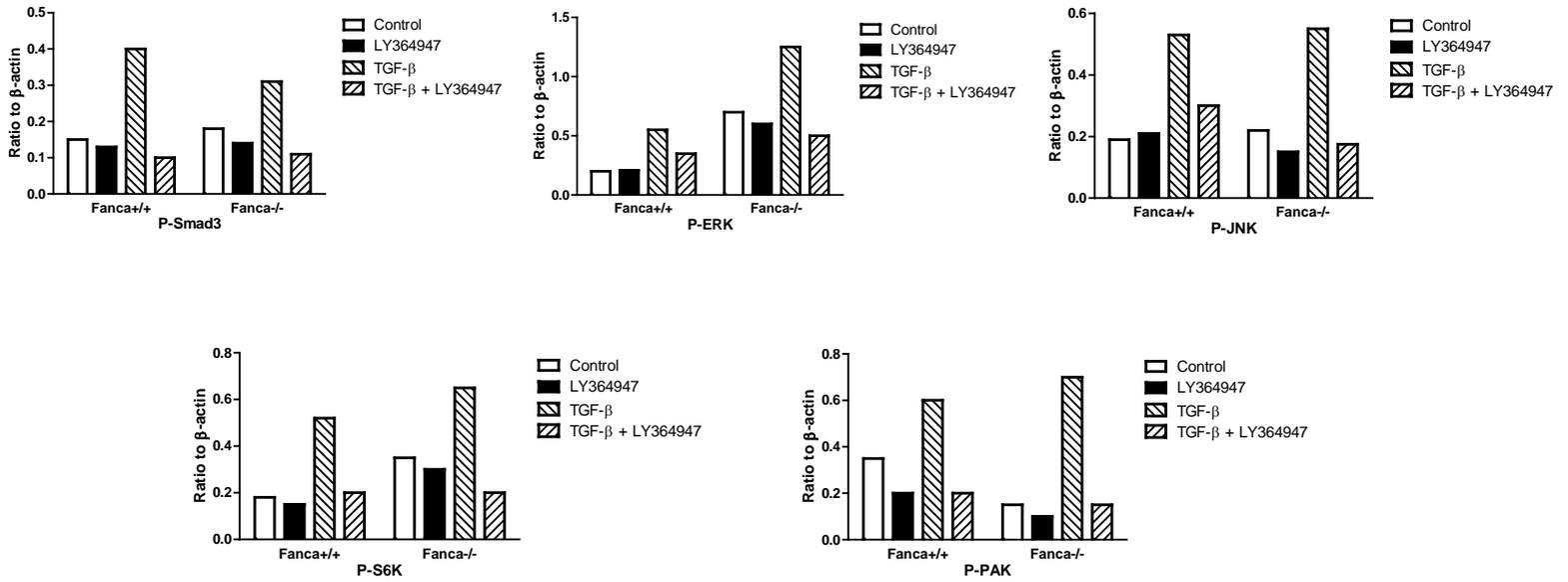
Supplemental Figure 4C: Densitometry of Fanca Bone Marrow Shown in Figure 10C.