

Supplemental Figures and Tables

Supplemental Table 1. List of donor samples.

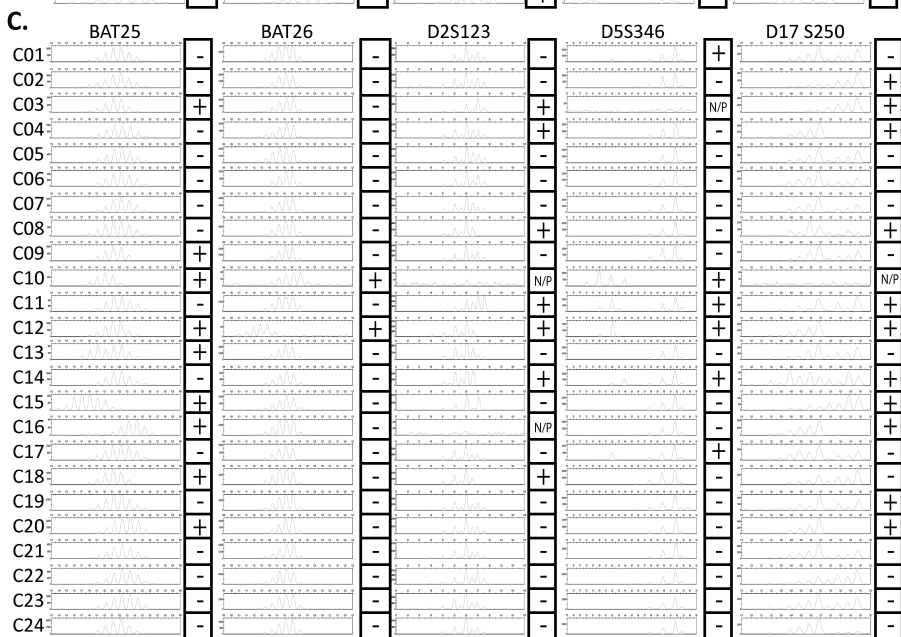
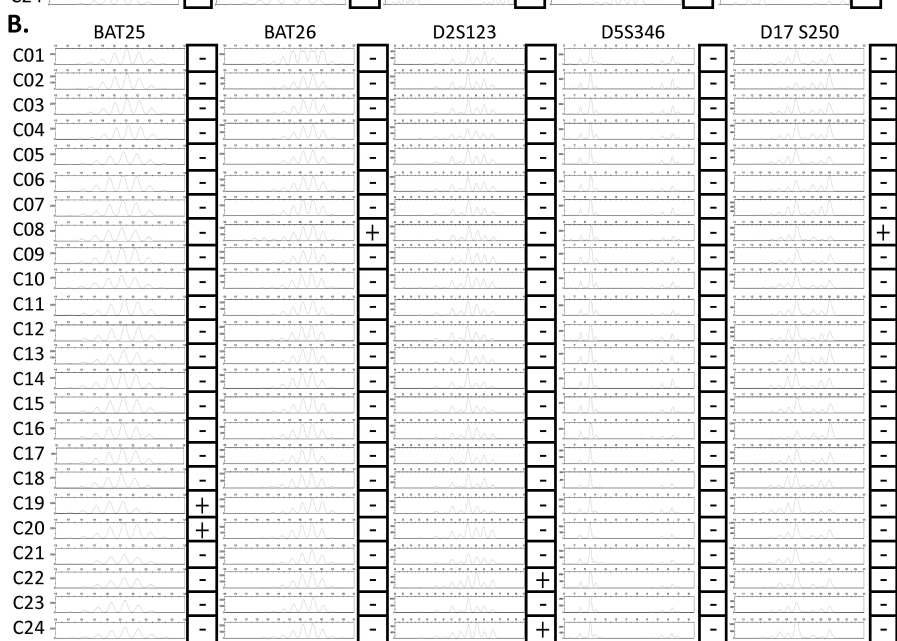
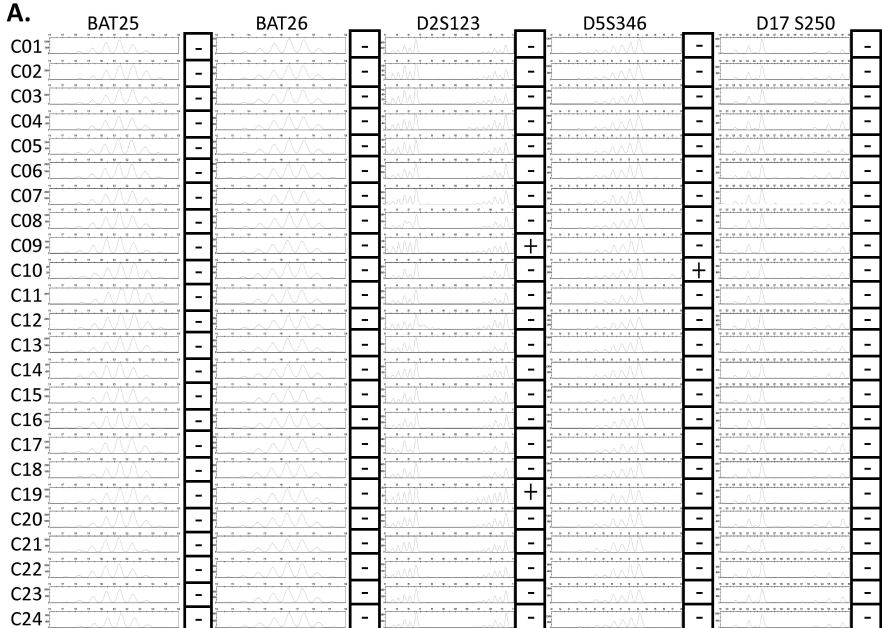
Sample	Age	Gender	Ethnicity	Relative frequency MSI-L (%)	Relative frequency MSI-H (%)	Relative frequency MSI-Any (%)
Umbilical Cord Blood						
UBC01	0	N/R	N/R	12.5	0	12.5
UBC02	0	N/R	N/R	50	8.3	58.3
UBC03	0	N/R	N/R	20.8	0	20.8
UBC04	0	N/R	N/R	33.3	4.2	37.5
UBC05	0	N/R	N/R	4.2	0	4.2
UBC06	0	N/R	N/R	8.3	0	8.3
UBC07	0	N/R	N/R	8.3	0	8.3
UBC08	0	N/R	N/R	0	0	0
UBC09	0	N/R	N/R	12.5	0	12.5
UBC10	0	N/R	N/R	8.3	4.2	12.5
UBC11	0	F	N/R	20.8	0	20.8
UBC12	0	N/R	N/R	29.2	8.3	37.5
UBC13	0	N/R	N/R	20.8	12.5	33.3
UBC14	0	N/R	N/R	29.2	8.3	37.5
UBC15	0	N/R	N/R	45.8	16.7	62.5
Bone Marrow Aspirates						
Sample	Age	Gender	Ethnicity	Relative frequency MSI-L (%)	Relative frequency MSI-H (%)	Relative frequency MSI-Any (%)
BMA01	23	N/R	N/R	12.5	0	12.5
BMA02	23	F	C	37.5	0	37.5
BMA03	25	F	C	0	0	0
BMA04	25	F	AA	8.3	0	8.3
BMA05	26	F	C	16.7	0	16.7
BMA06	27	F	C	33.3	4.2	37.5
BMA07	27	M	N/R	20.8	12.5	33.3
BMA08	28	M	C	45.8	0	45.8
BMA09	29	F	C	37.5	8.3	45.8
BMA10	30	M	C	37.5	0	37.5
BMA11	31	F	C	4.2	0	4.2
BMA12	33	F	C	0	16.7	16.7
BMA13	35	F	N/R	12.5	12.5	25
BMA14	43	M	C	16.7	4.2	20.8
BMA15	45	M	N/R	25	4.2	29.2
BMA16	46	F	AA	41.7	12.5	54.2
BMA17	47	F	C	54.2	0	54.2
BMA18	47	N/R	N/R	41.7	8.3	50
BMA19	48	M	N/R	16.7	4.2	20.8
BMA20	50	F	C	16.7	16.7	33.4
BMA21	51	M	C	0	0	0
BMA22	52	F	N/R	16.7	0	16.7
BMA23	54	F	N/R	12.5	4.2	16.7
BMA24	55	M	C	25	4.2	29.2
BMA25	63	F	N/R	4.2	0	4.2
BMA26	74	M	N/R	12.5	4.2	16.7
BMA27	81	F	N/R	20	6.7	26.7
BMA28	83	F	N/R	8.3	0	8.3
BMA29	84	M	C	20.8	50	70.8
Bone Core Samples						
Sample	Age	Gender	Ethnicity	Relative frequency MSI-L (%)	Relative frequency MSI-H (%)	Relative frequency MSI-Any (%)
BC01	48	M	C	37.5	4.2	41.7
BC02	52	M	N/R	37.5	45.8	83.3
BC03	64	M	C	33.3	29.2	62.5
BC04	64	M	C	25	16.7	41.7
BC05	64	M	N/R	29.2	16.7	45.9
BC06	68	M	C	29.2	4.2	33.4
BC07	70	M	AA	8.3	0	8.3
BC08	73	N/R	N/R	0	0	0
BC09	74	M	N/R	12.5	4.2	16.7
BC10	75	N/R	N/R	29.2	54.2	83.4
BC11	76	F	N/R	37.5	33.3	70.8
BC12	78	M	C	16.7	4.2	20.9
BC13	79	F	C	41.7	12.5	54.2
BC14	80	M	C	47.8	0	47.8
BC15	82	M	C	29.2	0	29.2
BC16	83	M	C	29.2	41.7	70.9
BC17	84	N/R	N/R	45.8	16.7	62.5
BC18	85	F	C	29.2	16.7	45.9

The relative frequency = f / n , where f = total number of all MSI-L, -H, or -Any CFC clones from each donor and n = the total number of all CFC clone analyzed from each donor. M = Male, F = Female, C = Caucasian, AA = African American, N/R = not reporting

Supplemental Table 2. Primers used to amplify the *MLH1* promoter region after bisulfite modification and sequence subclones.

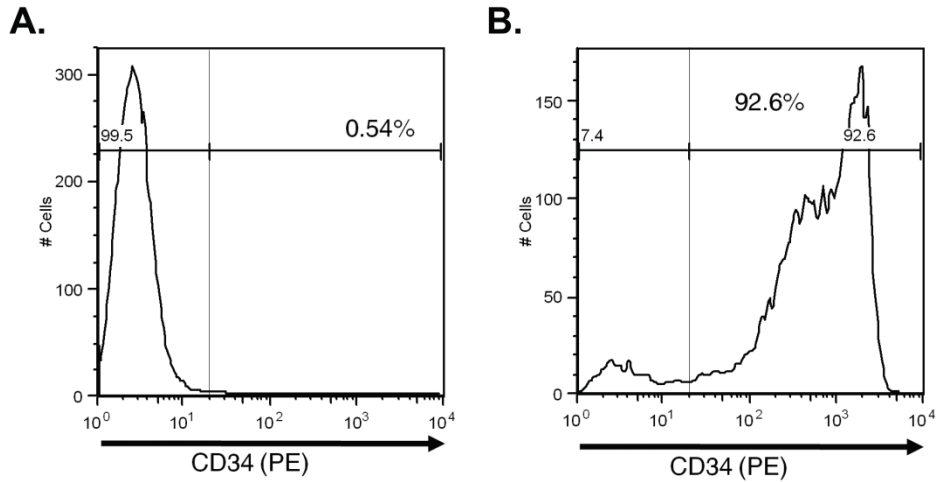
Name	Sequence	Length (bp)	Tm (C°)
MLH1-mF	5' ACTCAAATCCTCTACCTTATAATATCTAAA 3'	31	53.3°C
MLH1-mR	5' GTTAAATTTTTAATTTTGTGGGTTGTTGGG 3'	31	57.1°C
M13-F	5' CCCAGTCACGACGTTGTAAAACG 3'	23	65.0°C
M13-R	5' AGCGGATAACAATTTACACAAAAGG 3'	25	61.0°C

Supplemental Figures



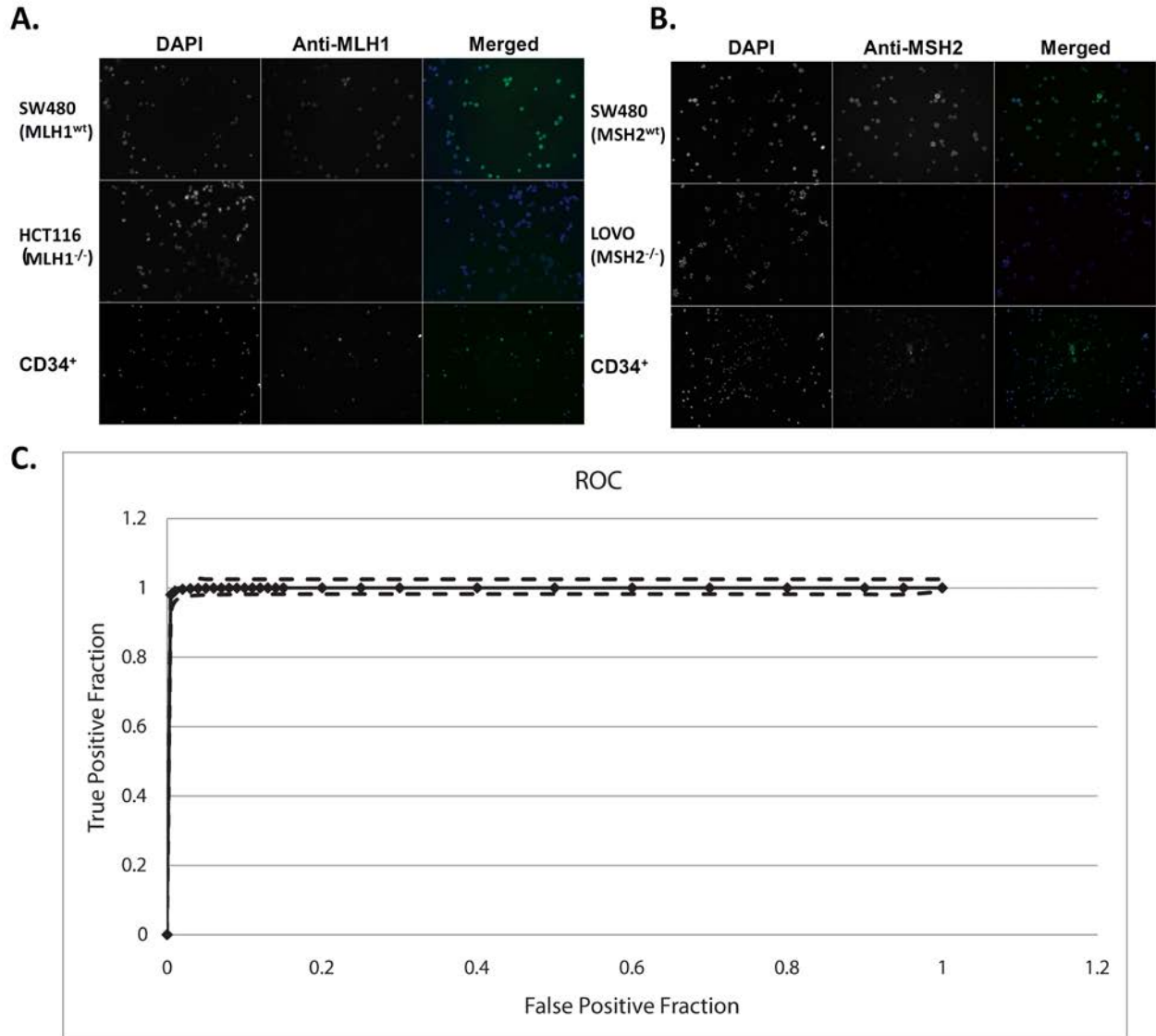
Supplemental Figure 1. Electropherogram images depicting the PCR fragment patterns of each microsatellite locus tested in each CFC clone from three donors; A) UCB01 (0 yrs), B) BMA14 (43 yrs), and C) BMA29 (84 yrs).

Supplemental Figure 2



Supplemental Figure 2. Analysis of CD34+ purity. Representative FACs analysis of CD34⁺ cell purity after isolation by magnetic separation of A) unbound fraction and B) column bound cell fraction.

Supplemental Figure 3



Supplemental Figure 3 Immunofluorescent staining of CD34⁺ and control cell lines. Panels in A) illustrate representative black/white images of DAPI (left), *MLH1* (center) antibody staining, and merged false color (right) images of CD34⁺ (bottom), HCT116 (*MLH1*^{-/-}) (middle), and SW480 (*MLH1*^{wt}) (top) cells. Panels in B) illustrate representative black/white images of DAPI (left), *MSH2* (center) antibody staining, and merged false color (right) images in CD34⁺ (bottom), LoVo (*MSH2*^{-/-}) (center), and SW480 (*MSH2*^{wt}) (top) cells. Blue represents DAPI and green *MLH1* or *MSH2* antibody. The graph in C) shows an example of one ROC curve derived from fluorescent ratios obtained from the immunofluorescent staining of control cell lines. Plotted along the X-axis is 1-false positive fraction while the True positive fraction is plotted on the Y-axis for every theoretical threshold. The optimal threshold value obtained from this staining was, 0.365.