

Patient ID	% Ki67+ HSC	% Ki67+ CMP	% Ki67+ GMP	Group	Age	Sex	Serum total cholesterol [mg/dl]
#1	6.19	16.6	26.9	control	59	M	N/A
#2	22.9	28.6	38.8	control	62	F	N/A
#3	12.5	41.2	53.3	control	59	M	N/A
#4	11.6	19.8	26	control	60	M	N/A
#5	13.9	22.3	32.9	control	63	M	N/A
#6	3.59	20.3	26.8	control	63	M	N/A
#7	8.18	20	22.4	control	63	M	N/A
#8	25.3	30.9	40.3	control	68	F	N/A
#9	10.1	31.4	37.3	control	72	F	123
#10	24.5	45.9	58.3	athero	56	M	100
#11	29	44.1	63.5	athero	57	M	100
#12	21.5	46.1	52.3	athero	60	M	117
#13	48.2	60.2	74.4	athero	65	M	90
#14	18.5	36.3	49.4	athero	66	M	65
#15	42.9	37.5	83.3	athero	68	F	82
#16	22.7	50	57.1	athero	68	M	101
#17	47.4	66.7	58.3	athero	69	M	82
#18	24.3	47.9	56.6	athero	72	M	45
#19	36.3	39.1	48.6	athero	75	F	N/A

Table S1. Measurements and characteristics of patients in the human control and atherosclerosis cohorts. Related to figure 2. Patient IDs are listed along with the percentage of Ki67⁺ HSCs, CMPs, GMPs, age, sex and total serum cholesterol.

Symbol	Parameter description	Baseline value
\bar{b}	Average baseline HSC proliferation rate	1/(28 days)
T	Age of onset for elevated HSC proliferation rate	40 years (McGill et al., 2000)
F	Detection frequency (minimum VAF)	2% (Jaiswal et al., 2014)
f^*	Frequency of the largest driver clone at age $t^* = 50$ years	0.51% (Razavi et al., 2019; Young et al., 2016)
s	Selective effect of the largest driver clone	0.3% (Watson et al., 2020; Buscarlet et al., 2017)
N	Number of HSCs	10^4 – 10^5 cells (Zink et al., 2017; Lee-Six et al., 2018)
u	Mean number of neutral mutations acquired by each daughter cell per division	1.5 mutations (Lee-Six et al, 2018; Osorio et al, 2018)

Table S2. Human model parameters and typical values. Related to figure 3. Symbols are listed as used throughout the main text, figures, and supporting materials. Baseline values are used for all analyses unless otherwise noted and are taken from the referenced sources.

Parameter description	HSCs	Neutrophils	Monocytes
Proliferation rate	1/(17.5 days) (Abkowitz et al., 2002)	0	0
Mean lifespan	N/A	0.45 days (Basu et al., 2002)	0.84 days (Yona et al., 2013)
Population size	10^4 cells	10^6 cells	$10^{5.5}$ cells
Initial <i>Tet2</i> ^{-/-} fraction	18%	19%	17%

Table S3. Mouse model parameters. Related to figure 5. Typical values for each of three cell types (HSCs, neutrophils, and monocytes) are shown.