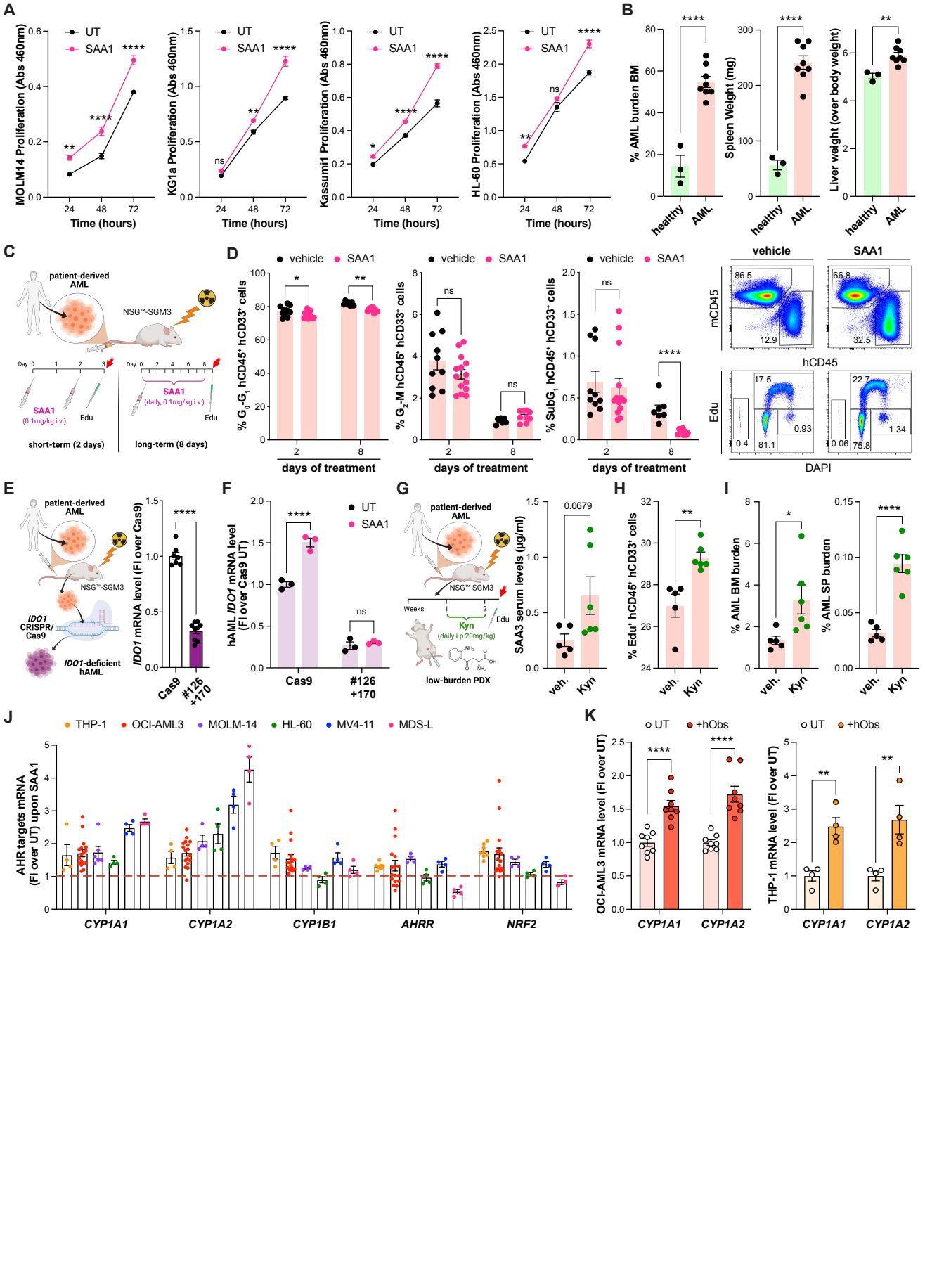
Figure S5


A
MOLM14 Proliferation (Abs 460nm)
KG1a Proliferation (Abs 460nm)
Kassumi1 Proliferation (Abs 460nm)
HL-60 Proliferation (Abs 460nm)
UT
SAA1
Time (hours)
B
% AML burden BM
Spleen Weight (mg)
Liver weight (over body weight)
healthy
AML
C
patient-derived AML
NSG™-SGM3
SAA1 (0.1mg/kg i.v.)
Edu
short-term (2 days)
SAA1 (daily, 0.1mg/kg i.v.)
long-term (8 days)
D
vehicle
SAA1
% G0-G1 hCD45+ hCD33+ cells
% G2-M hCD45+ hCD33+ cells
% SubG1 hCD45+ hCD33+ cells
days of treatment
mCD45
hCD45
Edu
DAPI
E
IDO1 CRISPR/Cas9
IDO1-deficient hAML
IDO1 mRNA level (FI over Cas9)
Cas9
#126 +170
F
hAML IDO1 mRNA level (FI over Cas9 UT)
G
low-burden PDX
Kyn (daily i-p 20mg/kg)
SAA3 serum levels (µg/ml)
veh.
Kyn
H
% Edu+ hCD45+ hCD33+ cells
I
% AML BM burden
% AML SP burden
J
THP-1
OCI-AML3
MOLM-14
HL-60
MV4-11
MDS-L
AHR targets mRNA (FI over UT) upon SAA1
CYP1A1
CYP1A2
CYP1B1
AHRR
NRF2
K
+hObs
OCI-AML3 mRNA level (FI over UT)
THP-1 mRNA level (FI over UT)

Supplementary Figure S5. SAA1 selectively promotes AML cell proliferation. Related to Figure 5. (**A**) Proliferation of human AML cell lines (MOLM-14, KG-1a, Kasumi-1 and HL-60) exposed to SAA1 (1µg/ml) for 24, 48 or 72h, (n=8 for all cell lines); two-way ANOVA. (**B**) AML burden, spleen weight and liver weight (over body weight) in the PDX mice 4 weeks after transplant with either $CD34^+$ healthy (n=3 mice) or patient-derived AML (n=8 mice) cells. (**C**) Diagram showing the short term (2-days) vs long-term (8-days) SAA1 *in vivo* treatments. (**D**) *In vivo* cell cycle analysis showing % of cells in G_0-G_1, G_2-M and Sub-G_1 within the leukemic blasts ($hCD45^+CD33^+$) comparing 2-day *vs* 8-day treatments, in vehicle- (n=10 and n=7 respectively) or SAA1-treated (0.1mg/kg; n=14 and n=9 respectively); 2-way ANOVA. On the right, representative flow-plots for BM AML burden (top) and proliferation analysis (bottom) in the 8-day treatment group. (**E**) Schematic of CRIPSR/Cas9 targeting of PDX-isolated AML human cells (left) and *IDO1* mRNA level in human AML cells nucleofected with Cas9 (n=7) or Cas9 and the combination of sgRNA#126 and sgRNA#170 (n=9). (**F**) *IDO1* mRNA level of cells in (E) cultured for 24h with either vehicle or SAA1 (1µg/ml), (n=3); two-way ANOVA. (**G**) Schematic of Kyn treatment in low-burden PDX (left) and SAA3 serum levels in NSGS mice injected with vehicle (n=5) or Kyn (20mg/kg; n=6) for 1 week. (**H**) Percentage of blasts ($hCD45^+$ $hCD33^+$) Edu^+ cells of mice in (G). (**I**) AML burden in BM and SP of mice in (G). (**J**) mRNA level (expressed as FI over basal level in untreated cells: red line) of main AHR target genes in the indicated human AML and MDS cell lines exposed to SAA1 (1µg/ml) o/n (n=4-8 for all cell lines except OCI-AML3 n=17). (**K**) mRNA level (FI over UT) of AHR targets in OCI-AML3 and THP-1 cells exposed to primary human osteoblasts for 24h; 2-way ANOVA. All data expressed as mean ± SEM. Statistical analysis was done with unpaired t-test unless otherwise stated.