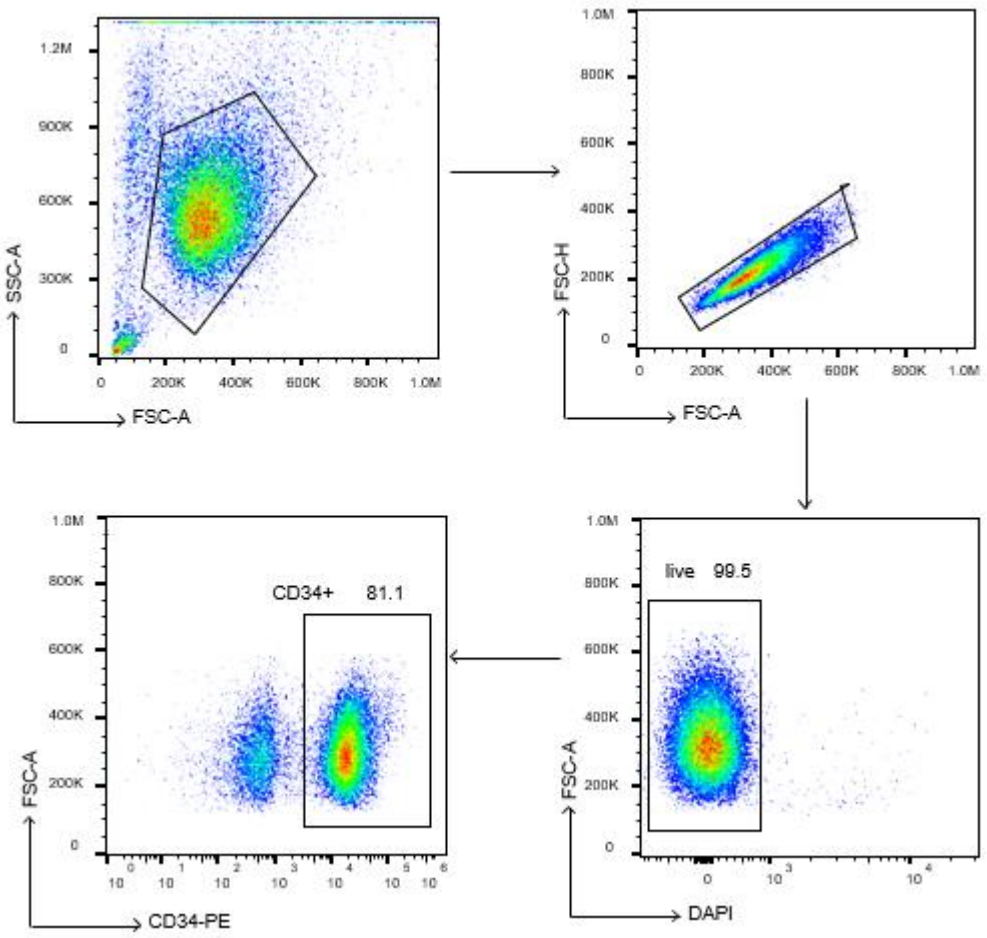
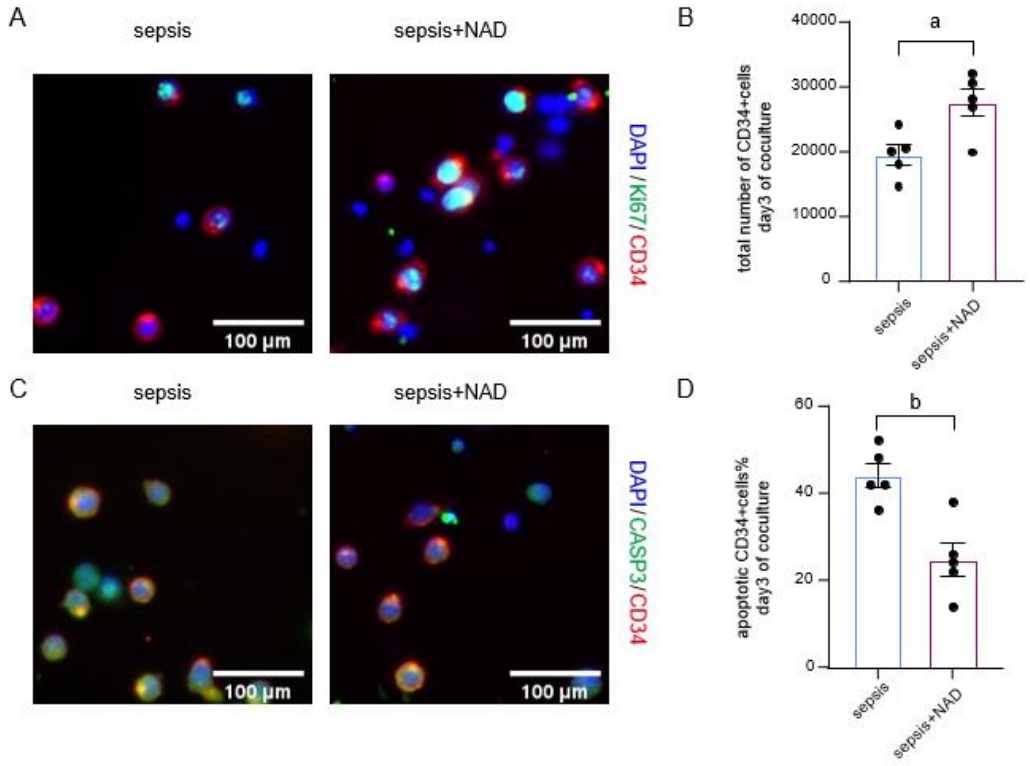
Supplementary materials



Supplementary Figure 1 Isolation of CD34+ hematopoietic stem/progenitor cells from healthy samples. Gate strategy to isolate CD34+ cells from primary enriched cells using EasySep Human CD34 Positive Selection Kit II.



Supplementary Figure 2 Nicotinamide adenine dinucleotide treatment rescues the support capacity of septic bone marrow mesenchymal stem cells. A: Representative fluorescence image showing proliferating hematopoietic stem/progenitor cells (HSPCs) co-cultured with septic bone marrow mesenchymal stem cells (BMSCs) and nicotinamide adenine dinucleotide (NAD) treated septic BMSCs. Ki67 (green), CD34 (red), DAPI (blue). B: Total number of CD34-positive HSPCs after co-culture (n=5). C: Representative fluorescence image of apoptotic HSPCs, Caspase (green), CD34 (red), DAPI (blue). D: Percentages of apoptotic HSPCs (CD34- and Caspase-positive) relative to the total number of cells in different treatments(n=5). Each error bar represents the mean ± SEM. P-values were determined using a t-test ($^{a}p<0.05$, $^{b}p<0.01$).

Supplementary Table 1 Sample information of bone marrow samples

Characteristics	Male (*n* = 29)	Female (*n* = 16)
Sepsis patients		
Median age(range)	43(35-54) (*n* = 13)	44(33-67) (*n* = 11)
Abdominal infection	8	8
Urinary tract infection	0	1
Pulmonary infection	3	2
Cutaneous infection	2	0
Healthy donors		
Median age(range)	38.5(26-58) (*n* = 16)	38(31-35) (*n* = 5)

Supplementary Table 2 Primers used for Quantitative Real-time PCR

Gene	Forward primer sequence (5′-3′)	Reverse primer sequence (5′-3′)
GAPDH	GAAGGTGAAGGTCGGAGTC	GAAGATGGTGATGGGATTTC
PCNA	ACACTAAGGGCCGAAGATAACG	ACAGCATCTCCAATATGGCTGA
RUNX2	TCACAAATCCTCCCCAAGTA	GGCGGTCAGAGAACAACTA
ALP	GATGTGGAGTATGAGAGTGACG	GGTAAGGGTCAGGAGTTC
SP7	TGCTTGAGGAGGAAGTTCAC	AGGTCACTGCCCACAGAGTA
PPARG	GCGATTCCTTCACTGATACACTG	GAGTGGGAGTGGTCTTCCATTAC
FABP4	TCAGTGTGAATGGGGATGTGAT	TCTGCACATGTACCAGGACACC
PLN1	AGAAACAGCATCAGCGTTCC	TGGTCCTCATGATCCTCCTC
CXCL12	TGGCTACAGATGCCCATGC	TTCTCCAGGTACTCCTGAATCC
SCF	AATCCTCTCGTCAAAACTGAAGG	CCATCTCGCTTATCCAACAATGA
IL7	TTGGACTTCCTCCCCTGATCC	TCGATGCTGACCATTAGAACAC
TGFB1	CTAATGGTGGAAACCCACAACG	TATCGCCAGGAATTGTTGCTG
IL6	ACTCACCTCTTCAGAACGAATTG	CCATCTTTGGAAGGTTCAGGTTG
IL1B	ATGATGGCTTATTACAGTGGCAA	GTCGGAGATTCGTAGCTGGA
P16	GATCCAGGTGGGTAGAAGGTC	CCCCTGCAAACTTCGTCCT
P21	CGATGGAACTTCGACTTTGTCA	GCACAAGGGTACAAGACAGTG
SIRT3	ACCCAGTGGCATTCCAGAC	GGCTTGGGGTTGTGAAAGAAG

Supplementary Table 3 Antibodies used for flow cytometry and immunofluorescence

Antibody	Vendor	Catalog
BV421 anti-human CD45(Mouse IgG1, κ)	BD Biosciences	563879
PE anti-human CD34(Mouse IgG1, κ)	BioLegend	343506
PerCP-Cy5.5 anti-human CD73(Mouse IgG1, κ)	BD Biosciences	561260
PE-Cy7 anti-human CD90(Mouse IgG1, κ)	BD Biosciences	561558
APC anti-human CD105	BD Biosciences	562408
KI67 Polyclonal antibody	Proteintech	27309-1-AP
Anti-Caspase-3	Abcam	ab13847
BV421 Mouse IgG1, k Isotype Control	BD Biosciences	562438
PE Mouse IgG1, κ Isotype Control	BioLegend	400111
PerCP-Cy5.5 Mouse IgG1, κ Isotype Control	BioLegend	400149
PE-Cy7 Mouse IgG1, κ Isotype Control	BD Biosciences	565573
APC Mouse IgG1, κ Isotype Control	BioLegend	400119