

Supplementary Figure 1

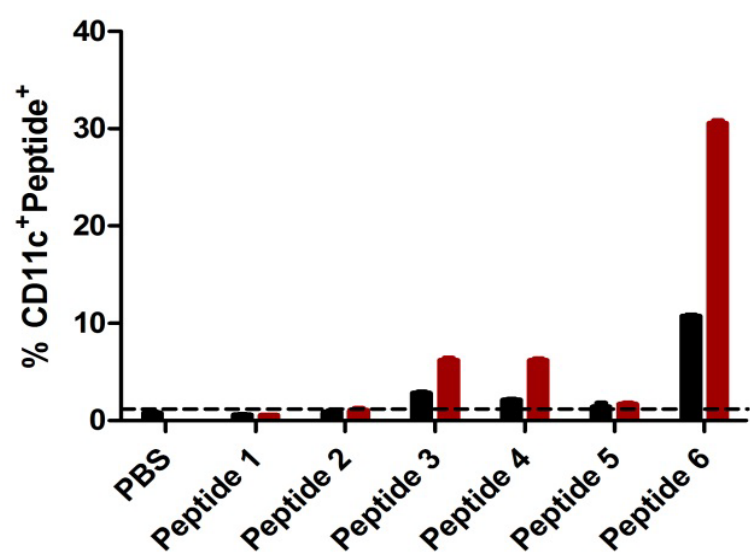
Round 1

R1.1	GELGWR	CFQMS----	SCC	R	VADY	PSSDPGY-	26			
R1.2	GELGWR	VDLYP----	CYT	F	H	SRVVSSDPGY-	26			
R1.3	GELGWR	RNFRFV---	LSL	G	CRGRLL	RSRV---	26			
R1.4	GELGWR	LSSM---	gg	GFW	CAMN-	RSSDPGY-	26			
R1.5	GELGWR	SPYI---	gn	TWV	SPI*-	CSSDPGY-	26			
R1.6	GELGWR	VRVGAL---	CQN	F	ALRG-	SSDPGY-	26			
R1.7	GELGWS	CELVH----	RS	A	RALVC	SSDPGY-	26			
R1.8	GELGWS	MLRAIF-----	GARS	VVN	SSDPGY-	25				
R1.9	GELGWS	YES-RL---	YYN	G	L	SQFYSSDPGY-	26			
R1.10	GELGWS	QGRSL	Lgg---	S	P	SLLPSSDPGY-	26			
R1.11	GELGWR	LWHAT	LggtAAVC---	C	SSDPGY-	26				
R1.12	GELGWS	MFEE-W---	GT	V	G	VPGRPPPIPGT-	26			
R1.13	GELGWS	TGLLR---	AKH	RCT*	A	ISSDPGY-	26			
R1.14	GELGWR	ARQY-----	nGI	F	HPVR-	SSDPGY-	25			
R1.15	GELGWR	SPYI---	gn	TWV	SPI*-	CSSDPGY-	26			
R1.16	GELGWS	QGRSL	Lgg---	S	P	SLLPSSDPGY-	26			
R1.17	GELGWS	SSEW---a*	W	F	R	LPGS-RSSDPGY-	26			
R1.18	GELGWR	TGEDK----	DM	D	LRPNLG	SSDPGY-	26			
R1.19	GELPAA	APGEVQ-----	L	V	QSGAE	VKKPERf	26			
R1.20	GELGWS	VFEVSW---	GD	L	R-AGL	APPIPGT-	26			
R1.21	GELPAA	APGEVQ-----	L	V	QSGAE	VKKPERf	26			
R1.22	GELGWS	-FLA*L---	R	S	L	G-PFGAPPIPGTp	26			
R1.23	GELGWS	IITNR-----	IAR	R	CSDLG	SSDPGY-	26			
R1.24	GELGWR	YPL*W----	G	L	M	SFAWVISSDPGY-	26			
R1.25	GELGWR	YPL*W----	G	L	M	SFAWVISSDPGY-	26			
R1.26	GELGWS	ARPGV----	S	M	R	IEAHGSSDPGY-	26			
R1.27	GELGWR	F-----	Lggt	ALV	G	PARRS	SSDPGY-	26		
R1.28	GELGWR	RFFCLGpl---	G	F	T	KVD	SSDPGY-	26		
R1.29	GELGWS	FYR-QL---	AL	W	G	TGAD	SSDPGY-	26		
R1.30	GELGWS	GYA-QT---	W	S	V	YAAFGY	SSDPGY-	26		
R1.31	GELGWS	IVLWG----	L	F	T	NRSDEI	SSDPGY-	26		
R1.32	GELGWR	EMRR---pi	V	F	T	YTSR-I	SSDPGY-	26		
R1.33	GELGWR	IGDGL-----	F	V	S	MHTTIG	SSDPGY-	26		
R1.34	GELGWS	ARPGV----	S	M	R	IEAHG	SSDPGY-	26		
R1.35	GELGWS	VADGSA----	R	C	A	FPIIFL	RSRVP-	26		
R1.36	GELGWS	-FLA*L---	R	S	L	G-PFGA	PIPGTp	26		
R1.37	GELGWS	HFAWRT---	I	L	W	G	TTH-H	SSDPGY-	26	
R1.38	GELGWR	FGQPSF-----	E	G	N	AHVF	SSDPGY-	26		
R1.39	GELGWR	IGDGL----	F	V	S	MHTTIG	SSDPGY-	26		
R1.40	GELGWR	RFFCLGpl---	G	F	T	KVD	SSDPGY-	26		
R1.41	GELGWR	SPAC---	ld	L	G	L	V	PWR-I	SSDPGY-	26
R1.42	GELGWS	FYI-CL---	V	M	G	CAVSY	SSDPGY-	26		
R1.43	GELGWR	*FRGT-----	F	S	R	WT	TGG	SSDPGY-	26	
R1.44	GELGWS	HGG-*E----	I	S	R	F	H	AVR	SSDPGY-	26
R1.45	GELGWS	VAAALTA---	V	D	S	T	PISEL	KLLK--	26	

Round 2

R2.1	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.2	GELGWR	VDLY	PCYT	F	H	S	RVSSDPGY	26											
R2.3	GELGWR	VDLY	PCYT	F	H	S	RVSSDPGY	26											
R2.4	GELGWS	CELVH	RS	ARAL	V	C	SSDPGY	26											
R2.5	GELGWS	SPAC	LDL	G	L	V	PWRISSDPGY	26											
R2.6	GELGWR	SPAC	LDL	G	L	V	PWRISSDPGY	26											
R2.7	GELGWS	HFAW	R	T	I	L	WGTHHSSDPGY	26											
R2.8	GELGWR	IGDGL	F	V	S	M	HTTIGSSDPGY	26											
R2.9	GELGWR	ARQY	N	G	I	-	FHPVRS	SSDPGY	26										
R2.10	GELGWR	EMRR	P	I	V	F	TYTSRI	SSDPGY	26										
R2.11	GELGWS	IITNR	IAR	R	C	S	DLG	SSDPGY	26										
R2.12	GELGWR	ARQY	N	G	I	-	FHPVRS	SSDPGY	26										
R2.13	GELGWS	SSEW	A	*	W	F	R	LPGSR	SSDPGY	26									
R2.14	GELGWS	TGLLR	A	R	A	H	RCT	*	AI	SSDPGY	26								
R2.15	GELGWS	HFAW	R	T	I	L	WGTHH	SSDPGY	26										
R2.16	GELGWS	HFAW	R	T	I	L	WGTHH	SSDPGY	26										
R2.17	GELGWR	SPAC	LDL	G	L	V	PWRI	SSDPGY	26										
R2.18	GELGWR	RFFCL	G	P	L	G	F	T	KVD	SSDPGY	26								
R2.19	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.20	GELGWS	SSEW	A	*	W	F	R	LPGSR	SSDPGY	26									
R2.21	GELGWR	SPAC	LDL	G	L	V	PWRI	SSDPGY	26										
R2.22	GELGWS	GYAQ	T	W	S	V	YAA	F	G	Y	SSDPGY	26							
R2.23	GELGWR	RFFCL	G	P	L	G	F	T	KVD	SSDPGY	26								
R2.24	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.25	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.26	GELGWS	HGG*	E	I	S	R	F	H	A	V	R	A	S	S	D	P	G	Y	26
R2.27	GELGWR	SPAC	LDL	G	L	V	PWRI	SSDPGY	26										
R2.28	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.29	GELGWS	CELVH	RS	ARAL	V	C	SSDPGY	26											
R2.30	GELGWS	MFEE	W	G	T	V	G	V	P	G	R	P	P	I	P	G	T	26	
R2.31	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.32	GELGWR	RFFCL	G	P	L	G	F	T	KVD	SSDPGY	26								
R2.33	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
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R2.41	GELGWS	IITNR	IAR	R	C	S	DLG	SSDPGY	26										
R2.42	GELGWS	HGG*	E	I	S	R	F	H	A	V	R	A	S	S	D	P	G	Y	26
R2.43	GELPAA	APGEV	Q	L	V	Q	S	G	A	E	V	K	K	P	E	R	F	26	
R2.44	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.45	GELGWR	ARQY	N	G	I	-	FHPVRS	SSDPGY	26										
R2.46	GELGWR	SPAC	LDL	G	L	V	PWRI	SSDPGY	26										
R2.47	GELGWR	SPAC	LDL	G	L	V	PWRI	SSDPGY	26										
R2.48	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.49	GELGWS	ARPGV	SMR	IEAH	G	G	SSDPGY	26											
R2.50	GELGWS	HGG*	E	I	S	R	F	H	A	V	R	A	S	S	D	P	G	Y	26

Supplementary Figure 2



Supplementary Figure 3

E7ΔNLS (E)

MIDGPAGQAEPDRAHYNIVTFCKKCDSTLRRCVQSTHVDIRTLEDLLMGTLGIVCPICSQKPLEHHHHHH

E7 full length (E_{FL})

MHGDTPTLHEYMLDLQPETTDLYCYEQLNDSSEEEDEIDGPAGQAEPDRAHYNIVTFCKKCDSTLRRCVQSTVDI
RTLEDLLMGTLGIVCPICSQKPLEHHHHHH

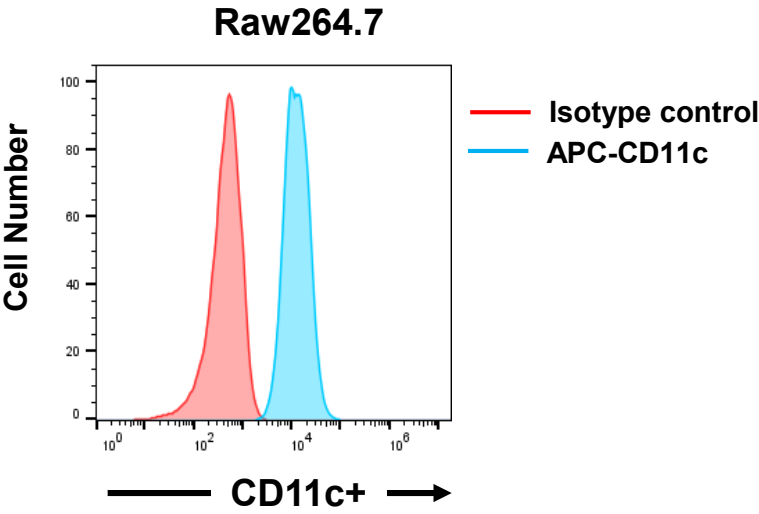
4xE7ΔNLS::FlaB (EF)

MIDGPAGQAEPDRAHYNIVTFCKKCDSTLRRCVQSTHVDIRTLEDLLMGTLGIVCPICSQKPEFIDGPAGQAEPDR
AHYNIVTFCKKCDSTLRRCVQSTHVDIRTLEDLLMGTLGIVCPICSQKPV^{VD}IDGPAGQAEPDRAHYNIVTFCKKCD
TLRLCVQSTHVDIRTLEDLLMGTLGIVCPICSQKPV^{VD}IDGPAGQAEPDRAHYNIVTFCKKCDSTLRRCVQSTHVDIR
TLEDLLMGTLGIVCPICSQKPKLMAVNVNTNVAAMTAQRYLNNANSAQQTSMERLSSGFKINSAKDDAAGLQISN
RLNVQSRGLDVAVRNANDGISIAQTAEGAMNETTNILQRMRDLSLQSANGSNSKSERVAIQEEVTALNDELNRIAE
TTSFGGNKLLNGTYGTKAMQIGADNGEAVMLSLKDMRSDNVMMGGVSYQAEEGKDKNWNVAAGDNDLTIALTD
SFGNEQEIEINAKAGDDIEELATYINGQTDLVKASVGE^{GG}KLQIFAGNNKVQGEIAFSGSLAGELGLGEGKNVTVD
IDVTTVQGAQESVAIVDAALKYVD^{SH}RAELGAFQNRFNHAISNLDNINENVNASKSRIKDTDFAKETTQLTKTQILS
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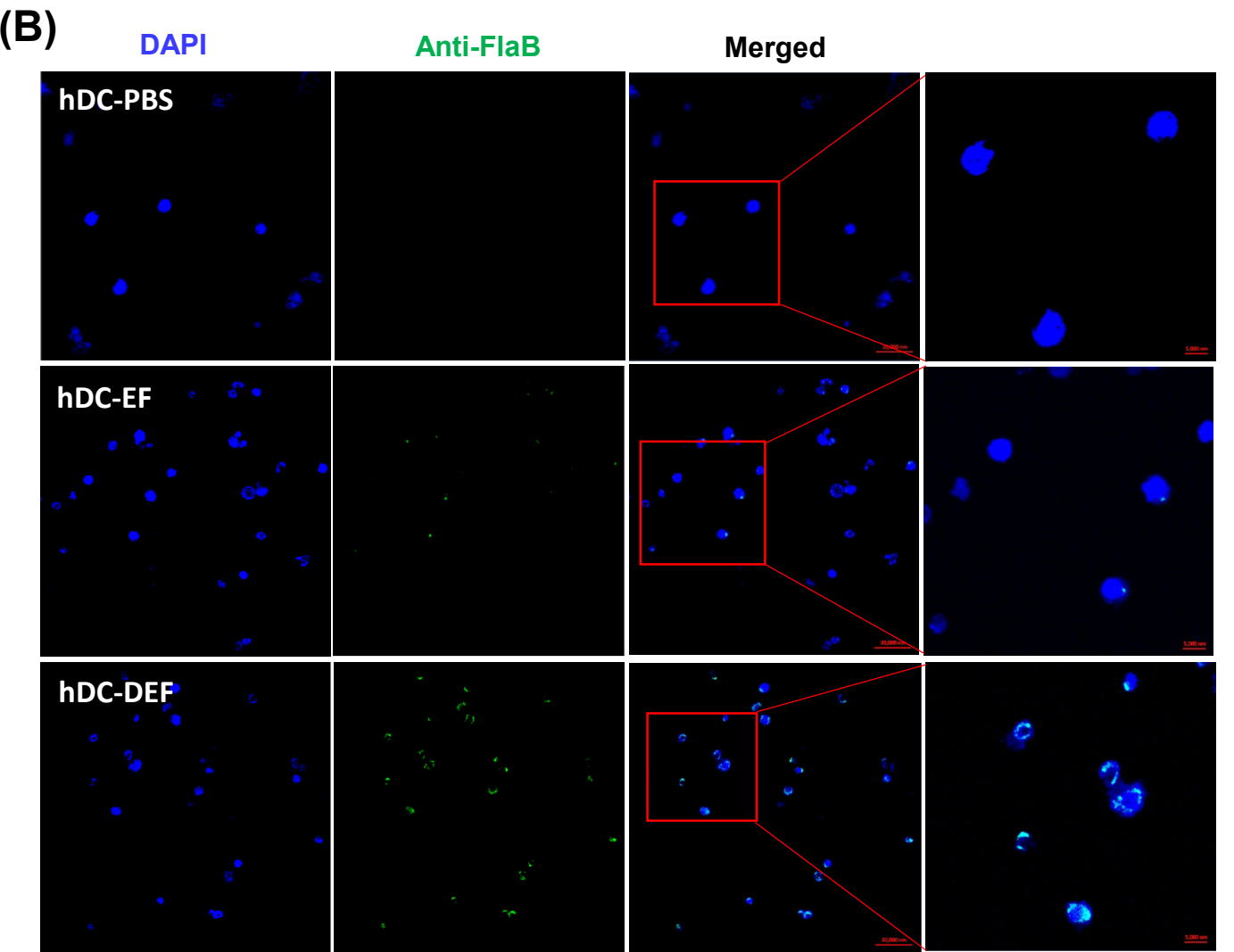
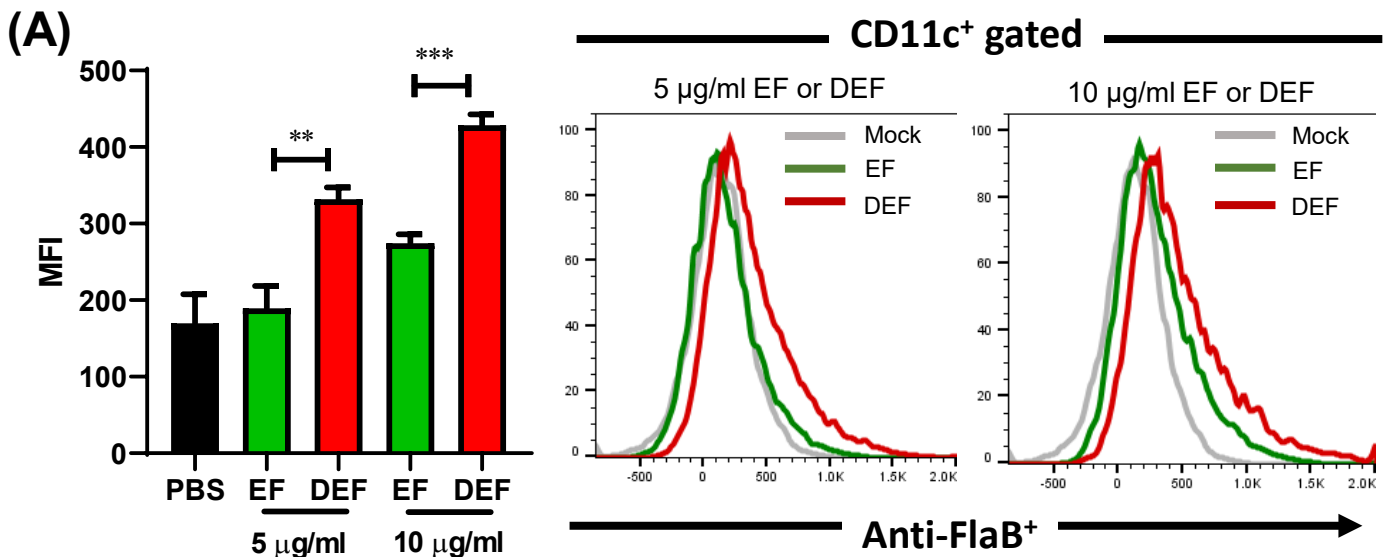
DCpep6-4xE7ΔNLS-FlaB (DEF)

MRFFCLG^{PL}GFTK^{VD}IDGPAGQAEPDRAHYNIVTFCKKCDSTLRRCVQSTHVDIRTLEDLLMGTLGIVCPICSQK
PEFIDGPAGQAEPDRAHYNIVTFCKKCDSTLRRCVQSTHVDIRTLEDLLMGTLGIVCPICSQKPV^{VD}IDGPAGQAEPDR
AHYNIVTFCKKCDSTLRRCVQSTHVDIRTLEDLLMGTLGIVCPICSQKPV^{VD}IDGPAGQAEPDRAHYNIVTFCKKCD
TLRLCVQSTHVDIRTLEDLLMGTLGIVCPICSQKPKLMAVNVNTNVAAMTAQRYLNNANSAQQTSMERLSSGFKIN
SAKDDAAGLQISNRLNVQSRGLDVAVRNANDGISIAQTAEGAMNETTNILQRMRDLSLQSANGSNSKSERVAIQE
EVTALNDELNRIAE^{TT}SFGGNKLLNGTYGTKAMQIGADNGEAVMLSLKDMRSDNVMMGGVSYQAEEGKDKNWN
VAAGDNDLTIALTDSFGNEQEIEINAKAGDDIEELATYINGQTDLVKASVGE^{GG}KLQIFAGNNKVQGEIAFSGSLAG
ELGLGEGKNVTVD^{TD}IDVTTVQGAQESVAIVDAALKYVD^{SH}RAELGAFQNRFNHAISNLDNINENVNASKSRIKDTDF
AKETTQLTKTQILSQASSILAQAQAPNSALSLLGLEHHHHHH

Supplementary Figure 4



Supplementary Figure 5

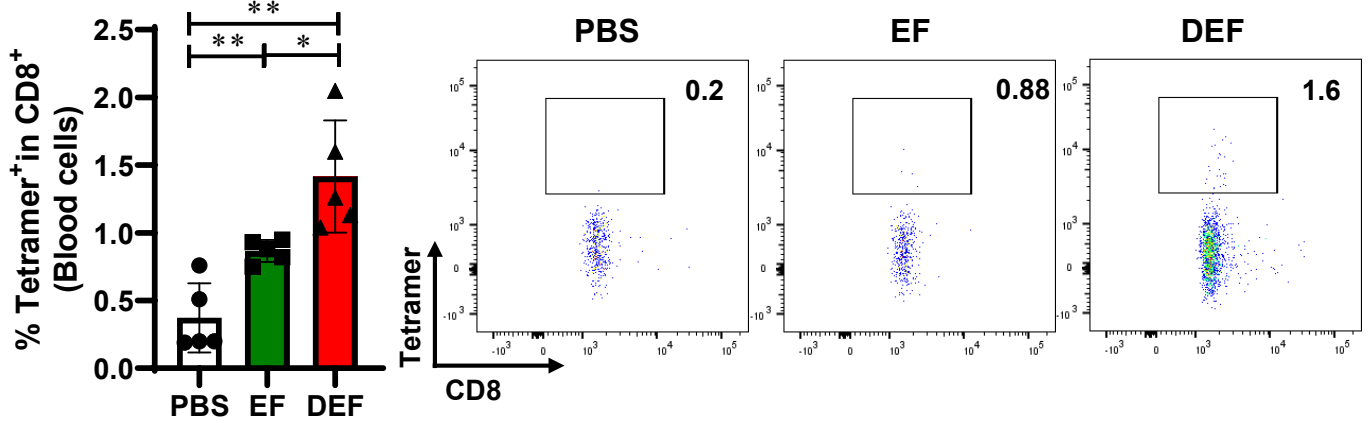


Supplementary Figure 6

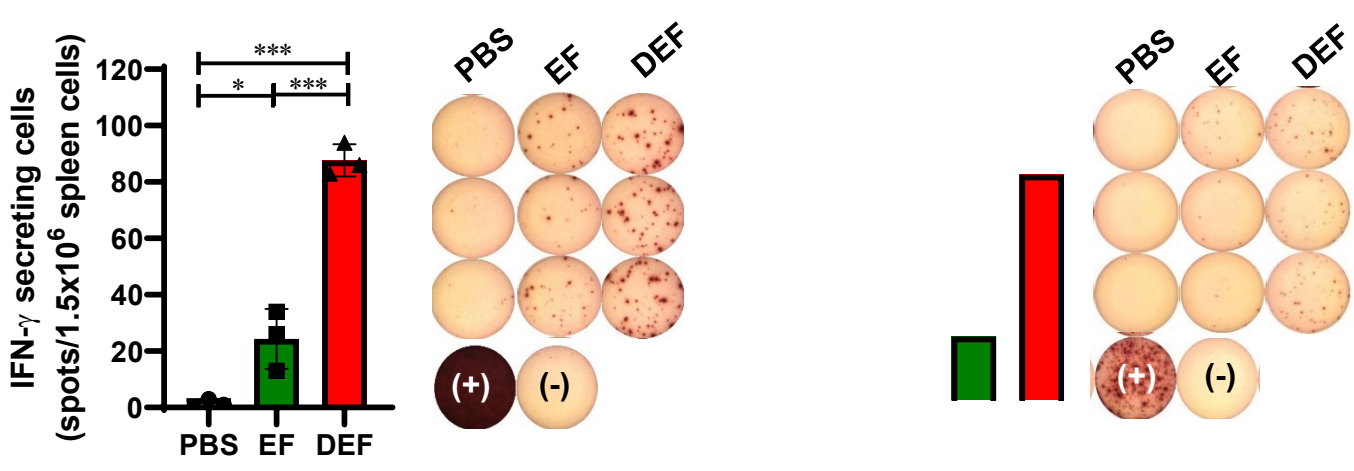
(A)



(B)



(C)



Supplementary Figure 7

