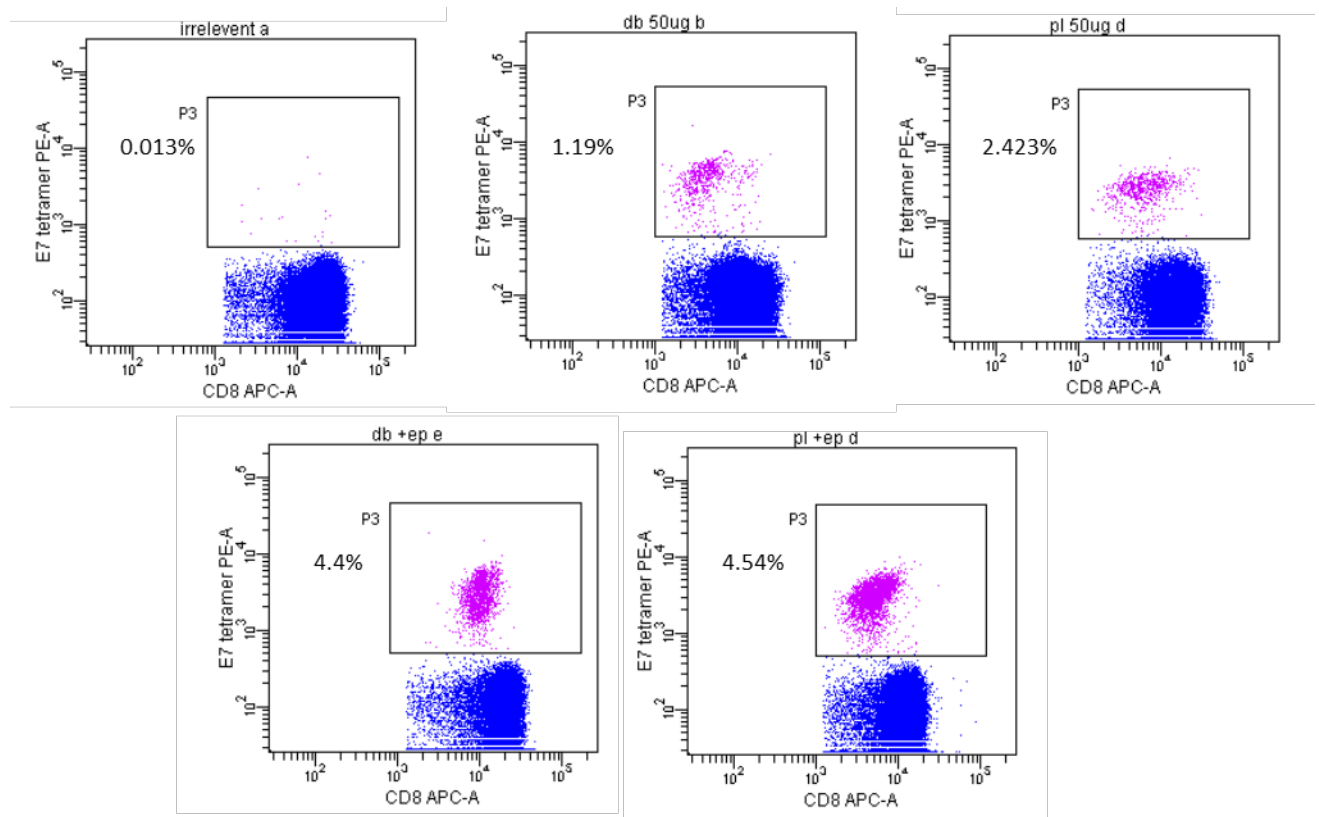


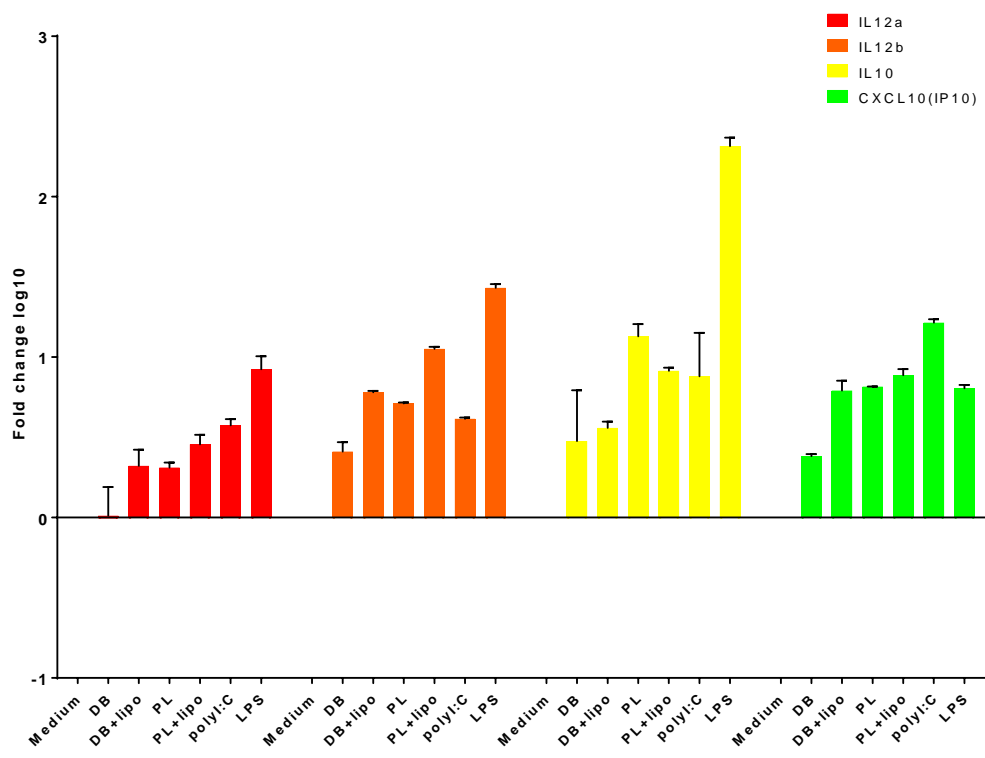
Supplementary table 1. Overlapping peptide pools for E6 and E7 antigens encoded by DB and PL. Mutations are in red; in bold are peptides corresponding to the linker sequence.

	Peptide no	aa seq
pool 1	1	MHGDTPTLHEYMLDL
	2	TPTLHEYMLDLQPET
	3	HEYMLDLQPETTDLY
	4	LDLQPETTDLY GYGQ
	5	PETTDLY GYGQLNDS
pool 2	6	DLY GYGQLNDSSEEE
	7	Y GQLNDSSEEE DEID
	8	NDSSEEEDEIDGPAG
	9	EEDEIDGPAGQAEP
	10	EIDGPAGQAEPDRAH
pool 3	11	PAGQAEPDRAHYNIV
	12	AEPDRAHYNIVTFCC
	13	RAHYNIVTFCCCKDS
	14	NIVTFCCCKDSTLRL
	15	FCCKCDSTLRRCVQS
pool 4	16	CDSTLRRCVQSTHVD
	17	LRLCVQSTHVDIRTL
	18	VQSTHVDIRTLEDLL
	19	HVDIRTLEDLLMGTL
	20	RTLEDLLMGTLGIVC
pool 5	21	DLLMGTLGIVCPICS
	22	GTLGIVCPICSQK PG
	23	IVCPICSQK PGGGSS
	24	ICSQK PGGGSSGGGS
	25	K PGGGSSGGSGMFQ
pool 6	26	GSSGGSGMFQDPQE
	27	GGSGMFQDPQERPRK
	28	MFQDPQERPRKLPQL
	29	PQERPRKLPQLCTEL
	30	PRKLPQLCTELQTTI
pool 7	31	PQLCTELQTTIHDII
	32	TELQTTIHDIIILECV
	33	TTIHDIIILECVYCKQ
	34	DIILECVYCKQQLLR
	35	ECVYCKQQLLRREVY
pool 8	36	CKQQLLRREVYDFAR
	37	LLRREVYDFARRDLC
	38	EVYDFARRDLCIVYR

	39	FARRDLCIVYRDGNP
	40	DLCIVYRDGNPYAVR
pool 9	41	VYRDGNPYAVRDKCL
	42	GNPYAVRDKCLKFY
	43	AVRDKCLKFYKISE
	44	KCLKFYKISEYRHY
	45	FYKISEYRHYCYSL
pool 10	46	ISEYRHYCYSLYGTT
	47	RHYCYSLYGTTLEQQ
	48	YSLYGTTLEQQYNKP
	49	GTTLEQQYNKPLCDL
	50	EQQYNKPLCDLLIRC
pool 11	51	NKPLCDLLIRCINRQ
	52	CDLLIRCINRQKPLC
	53	IRCINRQKPLCPEEK
	54	NRQKPLCPEEKQRHL
	55	PLCPEEKQRHLDKKQ
	56	EKQRHLDKKQRFHN
pool 12	57	RHLDKKQRFHNIRGR
	58	KKQRFHNIRGRWTGR
	59	FHNIRGRWTGRMSC
	60	RGRWTGRMSCCRSS
	61	TGRMSCCRSSRTRR
	62	MSCCRSSRTRRETQL



Supplementary figure 1. Representative tetramer staining for DB and PL groups with or without EP alongside of irrelevant DB control. Mice were injected i.m. with 50 μ g of the E6E7 DB or PL vaccines with or without electroporation and CD8+ responses were measured in blood samples taken after priming on d 14 using PE-labelled H2-Db-E7₄₉₋₅₇ tetramer. Values are tetramer positive cells as a percentage of total CD8+ cells.



Supplementary figure 2. BMDCs from WT mice were stimulated with 1 $\mu\text{g/ml}$ of DB or PL with 1 $\mu\text{g/ml}$ lipofectamine 2000 (lipo) or without. LPS and poly(I:C) were used as controls at a final concentration of 1 $\mu\text{g/ml}$. After 20 h following the treatments, cells were collected and mRNA was isolated. mRNA levels of inflammatory cytokines released by BMDCs were measured. The error bars are standard deviations.