

Table S1. Characteristics of the patients who participated the clinical trial

Sample ID	Age	Dose (mg)	Cervical lesion size	V1 (Histology)	V1 (HPV)	V7 (Histology)	V7 (HPV)	V7 histopathologic regression	V7 HPV clearance	V8 (Histology)	V8 (HPV)	V8 histopathologic regression	V8 HPV Clearance	Included in V7 (20weeks after 1st injection) analysis	Included in V8 (36weeks after 1st injection) analysis	HPV nucleotide sequencing	HLA-A	HLA-DRB1
1-S01	35	1	<50%	CIN3	16 and												*24:02 *01:01	*07:01 *15:02
1-S02	30	4	>50%	CIN3	16	CIN3	16	No	No					Yes			*11:01 *26:01	*04:03 *09:01
1-S03	31	1	<50%	CIN3	16	CIN1	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*02:01 *02:07	*04:05 *08:03
1-S04	30	4	<50%	CIN3	18 and	CIN1	18 and	Yes	No	CIN1	18	Yes	No	Yes	Yes		*02:06 *03:03	*03:01 *11:01
1-S05	28	1	>50%	CIN3	16	CIN1	16	Yes	No	CIN2	16 and	No	No	Yes	Yes	Yes	*24:02 *33:03	*08:03 *09:01
1-S06	34	1	>50%	CIN3	16	CIN3	16	No	No	CIN1	16	Yes	No	Yes	Yes	Yes	*02:07 *24:02	*11:01 *14:05
1-S07	29	4	<50%	CIN3	16	CIN3	16	No	No	CIN1	16	Yes	No	Yes	Yes	Yes	*02:07 *31:01	*09:01 *14:54
1-S09	23	4	>50%	CIN3	16	CIN1	16	Yes	No	CIN3	16	No	No	Yes	Yes	Yes	*02:01 *11:01	*12:01 *15:01
1-S10	30	4	<50%	CIN3	16 and	CIN3	and	No	Yes	NIL	and	Yes	Yes	Yes	Yes	Yes	*24:02	*09:01 *15:01
1-S11	36	1	<50%	CIN3	16	CIN1	Neg	Yes	Yes	CIN1	Neg	Yes	Yes	Yes	Yes	Yes	*02:06 *31:01	*04:03 *09:01
1-S12	31	4	<50%	CIN3	16	CIN3	16	No	No	CIN1	16	Yes	No	Yes	Yes	Yes	*24:02 *33:03	*15:01 *15:02
1-S13	36	1	>50%	CIN3	16	CIN3	16	No	No	CIN3	16	No	No	Yes	Yes	Yes	*11:01 *24:02	*11:01 *14:54
1-S14	30	1	>50%	CIN3	16	NIL	and	Yes	Yes	NIL	and	Yes	Yes	Yes	Yes	Yes	*11:01 *24:02	*14:05 *15:02
1-S15	27	4	<50%	CIN3	16												*24:02 *26:02	*09:01 *15:02
1-S16	41	1	>50%	CIN3	16 and	CIN2	16 and	No	No	CIN2	16 and	No	No	Yes	Yes	Yes	*02:01 *31:01	*04:03 *14:05
1-S18	28	4	<50%	CIN3	16	CIN3	16	No	No	CIN1	16	Yes	No	Yes	Yes	Yes	*24:02 *30:01	*08:03 *11:01
1-S19	45	4	<50%	CIN3	16	CIN1	16	Yes	No	CIN1	16	Yes	No	Yes	Yes	Yes	*02:01 *33:03	*08:02 *09:01
1-S20	27	1	>50%	CIN3	16 LR	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*02:01 *02:03	*14:54 *15:02
1-S22	41	4	<50%	CIN3	16	CIN1	16	Yes	No	CIN1	16	Yes	No	Yes	Yes	Yes	*02:07	*08:03
1-S24	23	1	>50%	CIN3	16 and	CIN1	and	Yes	Yes	CIN2	Neg	No	Yes	Yes	Yes	Yes	*02:01	*04:05 *09:01
1-S25	33	1	>50%	CIN3	16 and	CIN3	16 and	No	No					Yes			*01:01 *02:01	*08:03 *10:01
1-S26	34	4	<50%	CIN3	16	CIN2	16	No	No	CIN2	16	No	No	Yes	Yes		*02:01 *24:02	*08:03
1-S27	25	4	>50%	CIN3	16 and	CIN1	and	Yes	Yes	NIL	Neg LR	Yes	Yes	Yes	Yes	Yes	*02:01 *33:03	*08:02 *09:01
1-S28	26	1	>50%	CIN3	16 and	CIN2	16 and	No	No	CIN1	Neg	Yes	Yes	Yes	Yes	Yes	*02:06 *03:02	*03:01 *15:01
2-S01	27	1	>50%	CIN3	16	NIL	16	Yes	No					Yes			*02:01 *24:02	*09:01 *15:01
2-S02	46	4	>50%	CIN3	16 and	CIN2	16	No	No								*26:01 *30:04	*04:04 *15:01
2-S03	35	1	<50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*02:01 *26:01	*08:03 *09:01
2-S04	38	1	<50%	CIN3	18 and	CIN3	18 and	No	No	CIN3	HR	No	Yes	Yes	Yes	Yes	*24:02 *30:01	*04:07 *08:03
2-S05	33	4	<50%	CIN3	18	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*24:02 *30:01	*04:05 *11:01
2-S06	29	1	<50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*24:02 *33:03	*13:01 *15:01
2-S07	35	4	<50%	CIN3	16												*02:01 *11:01	*04:03 *13:02
2-S08	33	4	>50%	CIN3	16 and	CIN3	and LR	No	Yes					Yes			*03:01 *11:01	*08:02 *11:01
2-S09	49	4	<50%	CIN3	16 and	CIN1	and	Yes	Yes	NIL	HR	Yes	Yes	Yes	Yes	Yes	*11:01 *31:01	*04:05 *11:01
2-S10	41	1	>50%	CIN3	16	CIN3	16	No	No	CIN3	Neg	No	No	Yes	Yes	Yes	*02:06 *11:01	*04:05 *15:01
2-S11	35	4	<50%	CIN3	16	CIN3	16	No	No					Yes			*02:01 *30:01	*07:01 *09:01
2-S12	33	1	<50%	CIN3	16 and	CIN3	16 and	No	No	CIN3	18 and	No	No	Yes	Yes	Yes	*03:01 *03:02	*04:01 *10:01
2-S13	34	4	<50%	CIN3	16	CIN3	16	No	No	CIN3	Neg	No	No	Yes	Yes	Yes	*02:07 *26:01	*07:01 *08:03
2-S15	35	4	<50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*24:02 *33:03	*04:05 *07:01
2-S16	35	1	>50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*02:01 *24:02	*15:01 *15:02
2-S17	32	1	>50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*11:01 *30:01	*07:01 *15:01
2-S19	26	4	<50%	CIN3	16	NIL	Neg	Yes	Yes					Yes			*02:07 *24:02	*04:05 *08:03
2-S20	29	4	<50%	CIN3	16	CIN3	16	No	No	CIN3	16	No	No	Yes	Yes	Yes	*24:02 *26:01	*01:01 *14:54
2-S21	31	1	<50%	CIN3	16	NIL	16	Yes	No	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*02:06 *11:01	*04:03 *15:01
2-S22	28	1	<50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*02:06 *11:01	*04:03 *08:02
2-S23	26	4	>50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*26:01 *33:03	*03:01 *11:01
2-S24	31	1	<50%	CIN3	16 and	CIN3	16	No	No	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*11:01 *24:02	*14:54 *15:01
2-S25	30	1	>50%	CIN3	16, 18, LR	CIN3	16, LR	No	No					Yes			*02:06 *11:01	*04:03 *15:01
2-S26	33	4	<50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*11:01 *24:02	*04:07 *11:01
3-S03	41	1	<50%	CIN3	16	NIL	16	Yes	No	CIN1	Neg	Yes	Yes	Yes	Yes	Yes	*02:01 *02:07	*09:01 *14:54
3-S04	35	1	>50%	CIN3	16	NIL	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*02:01	*12:02 *15:01
3-S05	30	4	<50%	CIN3	16												*02:01 *11:01	*07:01 *08:03
3-S06	31	4	>50%	CIN3	16	CIN3	16	No	No					Yes			*11:01	*09:01 *16:02
3-S07	28	4	>50%	CIN3	16 and	CIN3	and	No	Yes	CIN3	Neg	No	No	Yes	Yes	Yes	*02:01 *30:01	*01:01 *07:01
3-S09	28	4	>50%	CIN3	18 and	CIN3	18 and	No	No	CIN3	Neg	No	No	Yes	Yes	Yes	*11:01 *24:02	*09:01 *12:02
3-S10	30	1	<50%	CIN3	16	CIN1	Neg	Yes	Yes	CIN1	Neg	Yes	Yes	Yes	Yes	Yes	*03:01 *11:01	*13:01 *15:01
3-S11	24	4	<50%	CIN3	16	CIN1	Neg	Yes	Yes					Yes			*02:07 *24:02	*04:01 *14:05
3-S12	28	1	>50%	CIN3	16	CIN1	Neg	Yes	Yes					Yes			*24:02 *33:03	*03:01 *15:02
3-S13	30	4	>50%	CIN3	16	CIN3	16 and	No	No	CIN3	Neg	No	No	Yes	Yes	Yes	*24:02 *33:03	*07:01 *11:01
3-S15	27	1	>50%	CIN3	16	CIN1	Neg	Yes	Yes					Yes			*24:02 *30:01	*07:01 *09:01
3-S16	37	1	>50%	CIN3	16	CIN3	16	No	No	CIN3	16	No	No	Yes	Yes	Yes	*01:01 *24:02	*04:06 *10:01
3-S18	35	1	<50%	CIN3	16	CIN1	Neg	Yes	Yes	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*01:01 *24:02	*01:01 *15:02
4-S02	40	1	<50%	CIN3	16	CIN1	and LR	Yes	Yes	CIN1	Neg LR	Yes	Yes	Yes	Yes	Yes	*26:01 *31:01	*09:01
4-S03	32	4	<50%	CIN3	16	CIN1	16	Yes	No	NIL	Neg	Yes	Yes	Yes	Yes	Yes	*26:01 *26:03	*11:01 *15:01
4-S06	33	4	>50%	CIN3	16	CIN3	16 and	No	No	CIN3	Neg	No	No	Yes	Yes	Yes	*24:02	*04:05 *15:02
4-S07	34	1	>50%	CIN3	16	CIN3	16	No	No					Yes			*24:02 *33:03	*07:01 *15:02
4-S08	27	4	>50%	CIN3	16	CIN3	16	No	No	CIN3	Neg	No	No	Yes	Yes	Yes	*24:02 *26:01	*01:01 *14:05
4-S09	22	4	>50%	CIN3	16 and	CIN3	and	No	Yes	CIN1	and	Yes	Yes	Yes	Yes	Yes	*03:01 *02:06	*04:01 *13:02
4-S10	34	1	<50%	CIN3	16 and									Yes			*24:20 *33:03	*13:02 *15:01
4-S11	37	1	>50%	CIN3	16									Yes			*03:01 *24:02	*07:01 *15:01
4-S12	30	4	>50%	CIN3	16									Yes			*24:02 *33:03	*07:01 *15:02
4-S13	32	4	<50%	CIN3	16	CIN3	16	No	No	NIL	16	Yes	No	Yes	Yes	Yes	*03:01 *24:02	*07:01 *08:03
4-S14	36	1	>50%	CIN3	18 and	CIN2	and	No	Yes	CIN1	HR	Yes	Yes	Yes	Yes	Yes	*24:02	*04:05 *14:03

* CIS: carcinoma in situ; CIN: cervical intraepithelial neoplasia; NIL: no intraepithelial neoplasia; LR: Low risk genotype 6/11; and: High Risk common HPV types (26, 31, 33, 35, 39, 45, 51, 52, 53, 56, 58, 59, 66, 68, 73, 82)

Table S4. Association between “average sum of IFN- γ ELISPOT responses/ baseline IFN- γ ELISPOT responses (fold-change)” and HPV variations (Cutoff p-value <0.05)

HPV variation	D25E (T178G)		V83L (G350T)		N29S (A647G)	
	(-) (n=20)	(+) (n=22)	(-) (n=18)	(+) (n=24)	(-) (n=19)	(+) (n=23)
Average fold-change	72	28	62	39	75	23
t-test	p-value = 0.005		p-value=0.236		p-value= 0.003	