

Figure S1. The dynamic distribution of Z_{HPV16 E7} affitoxin384 in normal nude mice. (A)

The fluorescence imaging was performed using an NIR imaging system at various time points post-injection of DyLight 755-labeled Z_{HPV16 E7} affitoxin384. (B) The tumor/muscle fluorescence ratios at various time points were calculated.

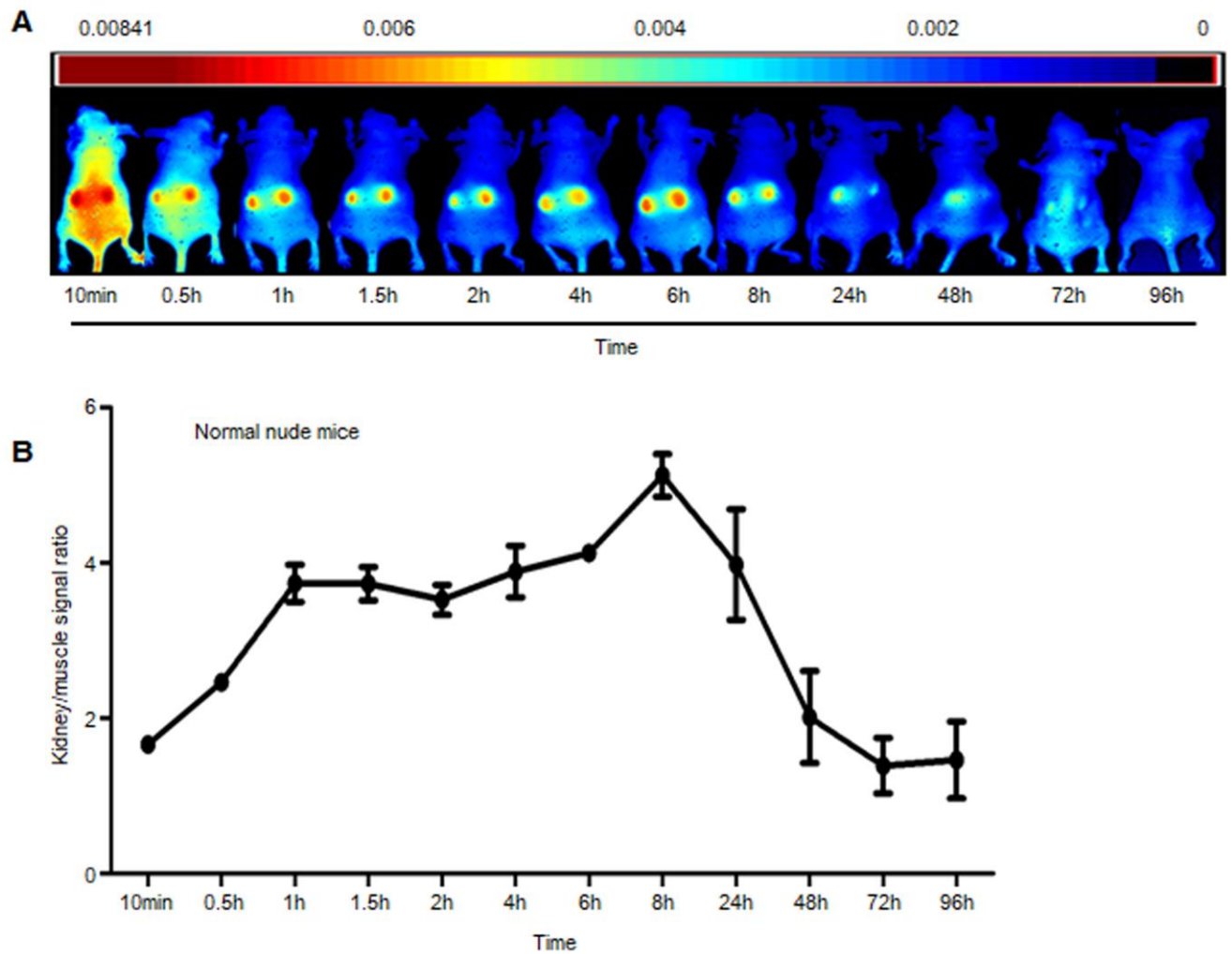


Figure S2. The standard concentration curve of Z_{HPV16 E7} affitoxin384.

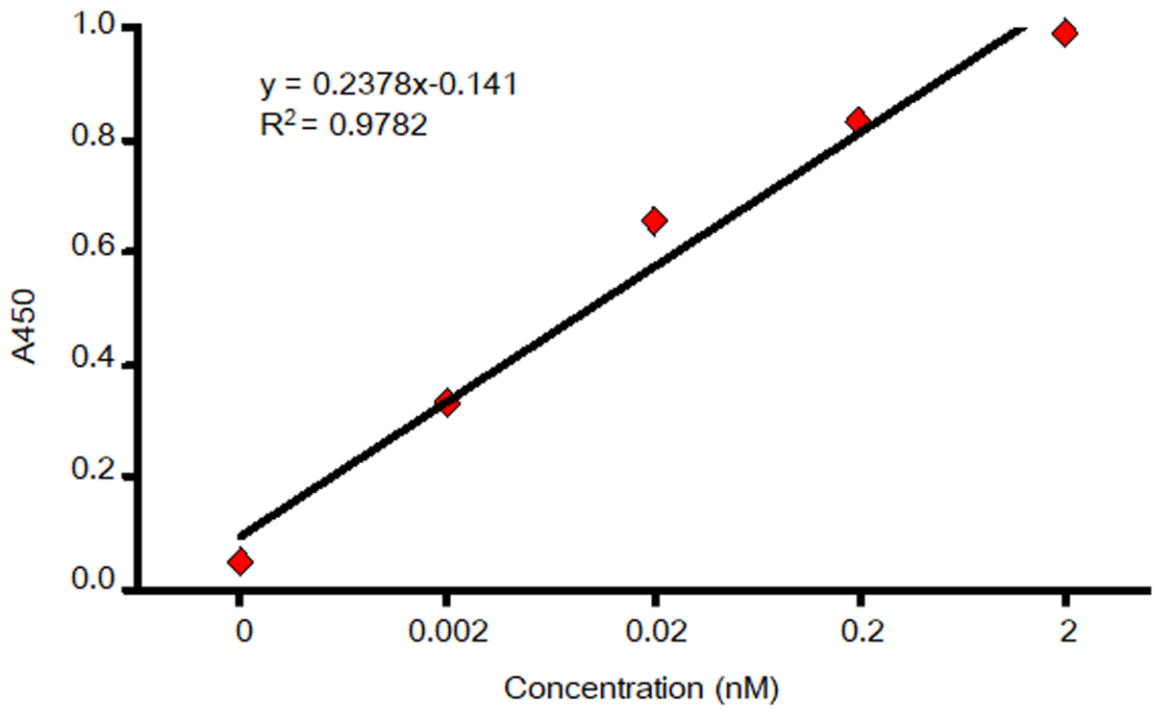


Figure S3. The concentrations of Z_{HPV16 E7} affitoxin384 in serum at different time point post injection.

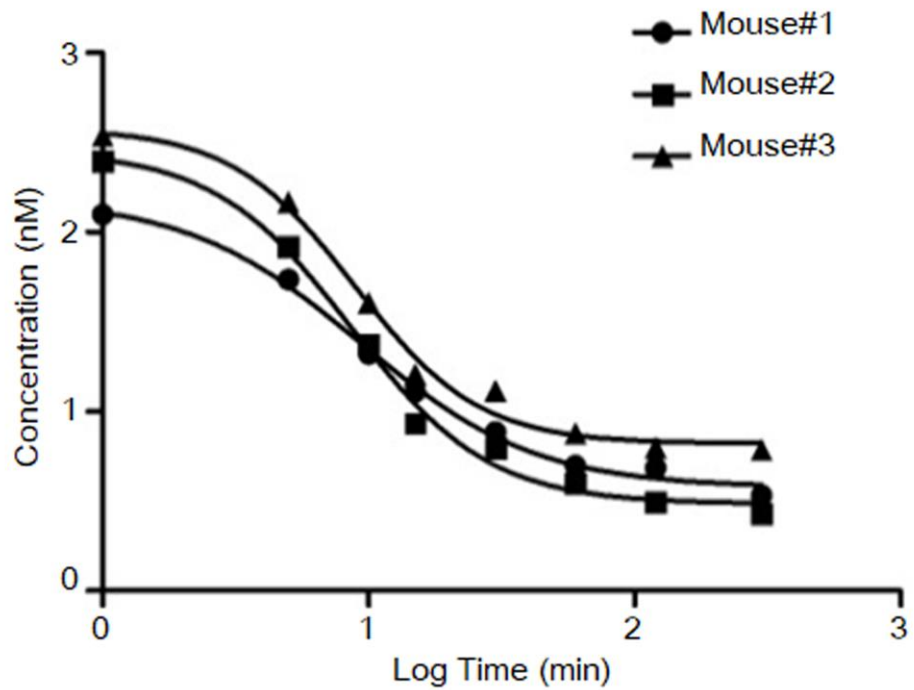


Figure S4. Detection of $Z_{HPV16 E7}$ affitoxin384 antibodies. Serums obtained from five groups of mice in the tumor therapy at day 0 and day 35 were analyzed by ELISA using the recombinant $Z_{HPV16 E7}$ affitoxin384 as an antigen. * $P < 0.05$, Day 35 versus Day 0.

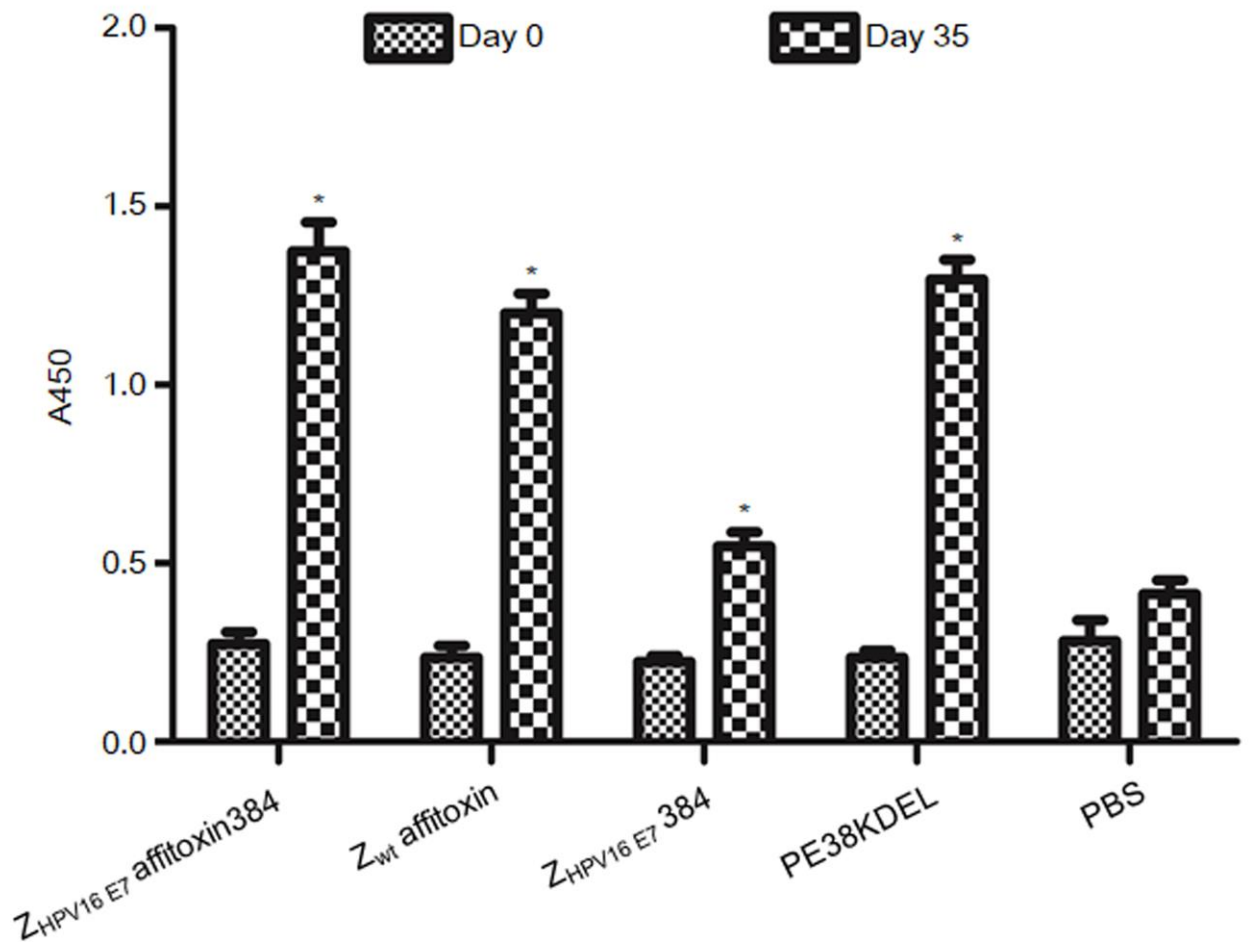


Table S1. The toxicity of $Z_{HPV16 E7}$ affitoxin384

Dose of $Z_{HPV16 E7}$ affitoxin384(nmol/kg)	500	400	300	200	100	50	20	10	5
Mortality1	5/5	1/5	0/5	1/5	0/5	0/5	0/5	0/5	0/5
Mortality2	5/5	2/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5
Mortality3	5/5	4/5	2/5	1/5	0/5	0/5	0/5	0/5	0/5

Table S2. Complete blood count performed for mice injected with different doses of Z_{HPV16 E7} affitoxin384

Lists	Doses of Z _{HPV16 E7} affitoxin384 (nmol/kg)	DPI 1	DPI 3	DPI 7	DPI 14
White blood cell count ($\times 10^9$ cells/L)	Control	1.87 \pm 0.95	2.23 \pm 0.78	2.17 \pm 0.86	1.38 \pm 0.77
	20	1.20 \pm 0.10	1.84 \pm 0.68	1.97 \pm 0.57	0.73 \pm 0.42
	100	1.97 \pm 0.95	1.80 \pm 0.30	1.63 \pm 1.31	1.90 \pm 1.40
	200	1.30 \pm 0.56	1.15 \pm 0.15	2.00 \pm 0.96	1.05 \pm 0.25
Red blood cell count ($\times 10^{12}$ cells/L)	Control	6.98 \pm 0.04	8.41 \pm 0.09	8.16 \pm 0.38	8.11 \pm 0.34
	20	7.33 \pm 0.02	7.92 \pm 0.96	7.32 \pm 0.24	8.00 \pm 0.45
	100	7.14 \pm 1.04	7.91 \pm 0.63	7.44 \pm 0.71	7.76 \pm 0.59
	200	7.61 \pm 0.63	7.12 \pm 0.18	7.51 \pm 0.96	8.24 \pm 0.50
Platelet count ($\times 10^9$ /L)	Control	859.67 \pm 157.04	895 \pm 49.81	1017.33 \pm 52.01	933.33 \pm 170.7
	20	616.00 \pm 101.00	1038.67 \pm 90.79	917.33 \pm 489.04	833.67 \pm 535.62
	100	555.67 \pm 240.82	1041.5 \pm 41.50	1113.33 \pm 619.54	1022.67 \pm 125.25
	200	708.00 \pm 84.87	976.00 \pm 173.00	1361.67 \pm 49.65*	1448.00 \pm 175.00*
Hemoglobin (g/L)	Control	114.33 \pm 0.60	141.00 \pm 4.32	138.67 \pm 6.94	138.00 \pm 6.98
	20	122.00 \pm 1.00	139.67 \pm 17.62	130.00 \pm 3.00	132.67 \pm 8.33
	100	124.00 \pm 15.59	132.50 \pm 10.50	124.67 \pm 10.69	129.00 \pm 6.24
	200	128.67 \pm 8.74	118.50 \pm 3.50	128.00 \pm 12.12	135.50 \pm 12.50
Hematocrit (%)	Control	37.33 \pm 0.40	44.90 \pm 0.73	44.77 \pm 0.76	45.07 \pm 0.54
	20	39.55 \pm 0.25	50.90 \pm 5.80	42.10 \pm 0.17	45.57 \pm 3.25
	100	38.67 \pm 6.29	49.10 \pm 1.90	41.33 \pm 3.67	42.43 \pm 2.63
	200	42.47 \pm 1.08	44.97 \pm 2.95	41.27 \pm 4.05	45.30 \pm 3.70
Mean Corpuscular hemoglobin (pg)	Control	16.40 \pm 0.17	16.77 \pm 0.66	16.97 \pm 0.61	17.03 \pm 0.53
	20	16.65 \pm 0.05	17.60 \pm 0.26	17.77 \pm 0.49	16.57 \pm 0.25
	100	17.40 \pm 0.52	16.36 \pm 1.52	16.83 \pm 0.25	16.63 \pm 0.67
	200	16.93 \pm 0.38	16.65 \pm 0.05	17.10 \pm 0.70	16.35 \pm 0.45
mean corpuscular hemoglobin concentration (g/L)	Control	306.33 \pm 2.89	313.67 \pm 6.60	309.33 \pm 12.50	306.00 \pm 11.86
	20	309.00 \pm 4.00	273.67 \pm 5.03	308.67 \pm 6.11	291.00 \pm 5.00
	100	322.33 \pm 12.74	270.00 \pm 11.00	302.33 \pm 9.29	303.67 \pm 5.51
	200	303.00 \pm 15.59	264.00 \pm 10.00	310.33 \pm 4.16	299.00 \pm 3.00
mean corpuscular volume (fL)	Control	53.53 \pm 0.92	53.40 \pm 1.40	54.93 \pm 2.69	55.60 \pm 1.93
	20	54.00 \pm 0.50	64.30 \pm 0.44**	57.60 \pm 2.11	56.97 \pm 0.87
	100	54.03 \pm 1.99	62.30 \pm 2.50**	55.63 \pm 1.52	54.80 \pm 1.21
	200	55.97 \pm 3.45	63.20 \pm 2.60**	55.13 \pm 2.62	54.90 \pm 1.10

All experiments were performed in triplicate and data are expressed as means \pm SD (n=3). * P <0.05, ** P <0.01 versus the control group.

Table S3. The liver and kidney function panel performed for mice injected with different doses of Z_{HPV16 E7} affitoxin384

Lists	Doses of Z _{HPV16 E7} affitoxin384 (nmol/kg)	DPI 1	DPI 3	DPI 7	DPI 14
Alanine aminotransferase (U/L)	Control	50.33±3.77	30.00±3.30	30.33±8.65	49.33±8.06
	20	44.00±4.08	36.50±0.50	45.33±16.78	36.33±8.34
	100	43.67±11.59	40.67±4.50	37.33±3.30	41.67±5.79
	200	41.33±7.85	48.67±0.94	32.67±6.02	36.67±6.24
Aspartate aminotransferase (U/L)	Control	89.80±13.93	49.00±2.05	58.33±21.64	69.33±12.66
	20	142.00±11.43**	65.00±4.32	64.33±11.01	65.00±12.33
	100	135.30±33.77**	91.33±16.36	58.33±6.60	57.33±6.18
	200	128.60±15.37**	113.33±55.86	51.33±1.25	56.33±7.04
Total protein (g/L)	Control	57.57±1.27	44.73±0.64	45.03±2.94	46.10±1.85
	20	58.00±4.75	48.40±1.69	50.63±8.68	50.13±3.16
	100	58.87±1.96	47.57±2.57	46.67±1.29	47.27±1.41
	200	53.73±3.90	54.37±7.31	48.27±0.73	51.53±5.57
Albumin (g/L)	Control	34.37±0.49	28.13±0.37	28.5±1.07	28.73±0.53
	20	34.37±3.02	30.13±1.15	30.07±3.78	30.87±2.10
	100	35.13±1.03	28.73±1.44	28.50±1.39	27.97±3.25
	200	32.20±1.85	32.07±4.09	29.60±1.23	32.10±4.39
Globulin (g/L)	Control	23.20±1.14	16.60±0.33	16.53±2.16	17.37±1.34
	20	23.63±1.74	18.27±0.61	20.57±4.97	19.27±1.33
	100	23.73±1.35	18.83±1.14	18.17±0.12	19.30±2.12
	200	21.53±2.18	22.30±3.30	18.67±0.82	19.43±1.21
Urea nitrogen (mM)	Control	10.53±1.45	12.03±1.08	13.97±1.58	11.87±0.38
	20	9.53±0.95	7.50±0.64**	10.83±1.58*	11.27±0.87
	100	8.37±1.27	7.80±0.93**	10.37±0.82*	9.33±0.79
	200	9.77±1.70	8.97±0.69**	10.27±0.73*	12.83±1.27
Creatinine (μM)	Control	5.33±1.53	8.67±0.83	11.33±0.47	9.67±1.70
	20	6.67±2.51	6.67±1.52	5.33±3.78	7.00±2.64
	100	6.67±2.51	7.67±0.58	5.33±2.08	10.67±1.15
	200	4.67±1.53	6.00±1.00	7.00±2.64	14.00±3.00

All experiments were performed in triplicate and data are expressed as means±SD (n=3). *P<0.05, **P<0.01 versus the control group.