TABLE S1. Information on rhesus macaques enrolled in this study

groups	ID	Gender	Plasma VL (lg copies/ml)	Weight (kg)	Age (year)
α PD-1+Vaccine	031496R	female	7.5	4.7	15
	80085	male	6.7	6.4	10
	120308	female	6.2	7.7	6
	80259	male	4.7	9.1	10
Vaccine-only	80094	female	7.0	5.8	10
	31137	male	6.4	10.3	15
	4149	male	6.1	10.1	14
	130402	female	4.4	7.7	5
Control	124019	male	5.1	9.8	8
	124073	male	6.4	10.9	8
	50068	female	6.2	6.4	15
	50031	male	6.5	9.0	15

TABLE S2. Antibodies used for flow cytometry in this study

Antigen	Clone	Fluorophore	Supplier	Staining	Reactivity
CD3	SP34-2	Pacific Blue	BD Biosciences	Surface	Human/NHP
CD3	SP34-2	PerCP	BD Biosciences	Surface	Human
CD4	L200	PE-CF594	BD Biosciences	Surface	Human
CD4	L200	FITC	BD Biosciences	Surface	Human
CD4	L200	APC	BD Biosciences	Surface	Human
CD8	RPA-T8	APC-Cy7	BD Biosciences	Surface	Human
CD28	CD28.2	FITC	BD Biosciences	Surface	Human/NHP
CD95	DX2	PE-Cy5	BD Biosciences	Surface	Human
IFN-γ	4S.B3	PE	BD Biosciences	Intracellular	Human
TNF-α	MAb11	PE-Cy7	BD Biosciences	Intracellular	Human
IL-2	MQ1-17H12	APC	BD Biosciences	Intracellular	Human/NHP
CD38	H1T2	FITC	BD Biosciences	Surface	Human
CD195(CCR5)	3A9	PE	BD Biosciences	Surface	Human
CD69	FN50	PE	BD Biosciences	Surface	Human
Ki-67	B56	PE	BD Biosciences	Intracellular	Human
CD25	CD25-4E3	APC	eBioscience	Surface	Human/NHP
CD279(PD-1)	eBioJ105(J105)	PE-eFluor610	eBioscience	Surface	Human
HLA-DR	G46-6	PE	BD Biosciences	Surface	Human
Blimp-1	6D3	PE	BD Biosciences	Intracellular	Hu/Mouse
CD127(IL-7R)	HIL-7R-M21	PE	BD Biosciences	Surface	Human
Foxp3	259D/C7	PE	BD Biosciences	Intracellular	Human

TABLE S3. Primers for qPCR in this study

Target gene	Primer sequence (5' to 3')
Plasma SIV RNA	Forward：AATACTGTCTGCGTCATCTGG
	Reverse：ATGGTGCTGTTGGTCTACTTG
Cell associated msRNA	msRNA-1F: GAAGAAGAACTCCGAAAAAGG
	msRNA-R: GCTGTTGCCACCGCC
	msRNA-2F: CTAATACATCTTCTGCATCAAAC
	HIV/SIV MS probe9066: ATATCCAACAGGACCCGGC
Cell associated usRNA	U1-5F: AAATACTTTCGGTCTTAGCTCCATT
	U1-3R: TAATTTCCTCCTCTGCCGCTAG
	U2-5F: CATTAGTGCCAACAGGCTCAGA
	U2-3R: GTTGGTCTACTTGTTTTTGGCATAG
Cell associated SIV DNA	Forward：AATACTGTCTGCGTCATCTGG
	Reverse：ATGGTGCTGTTGGTCTACTTG

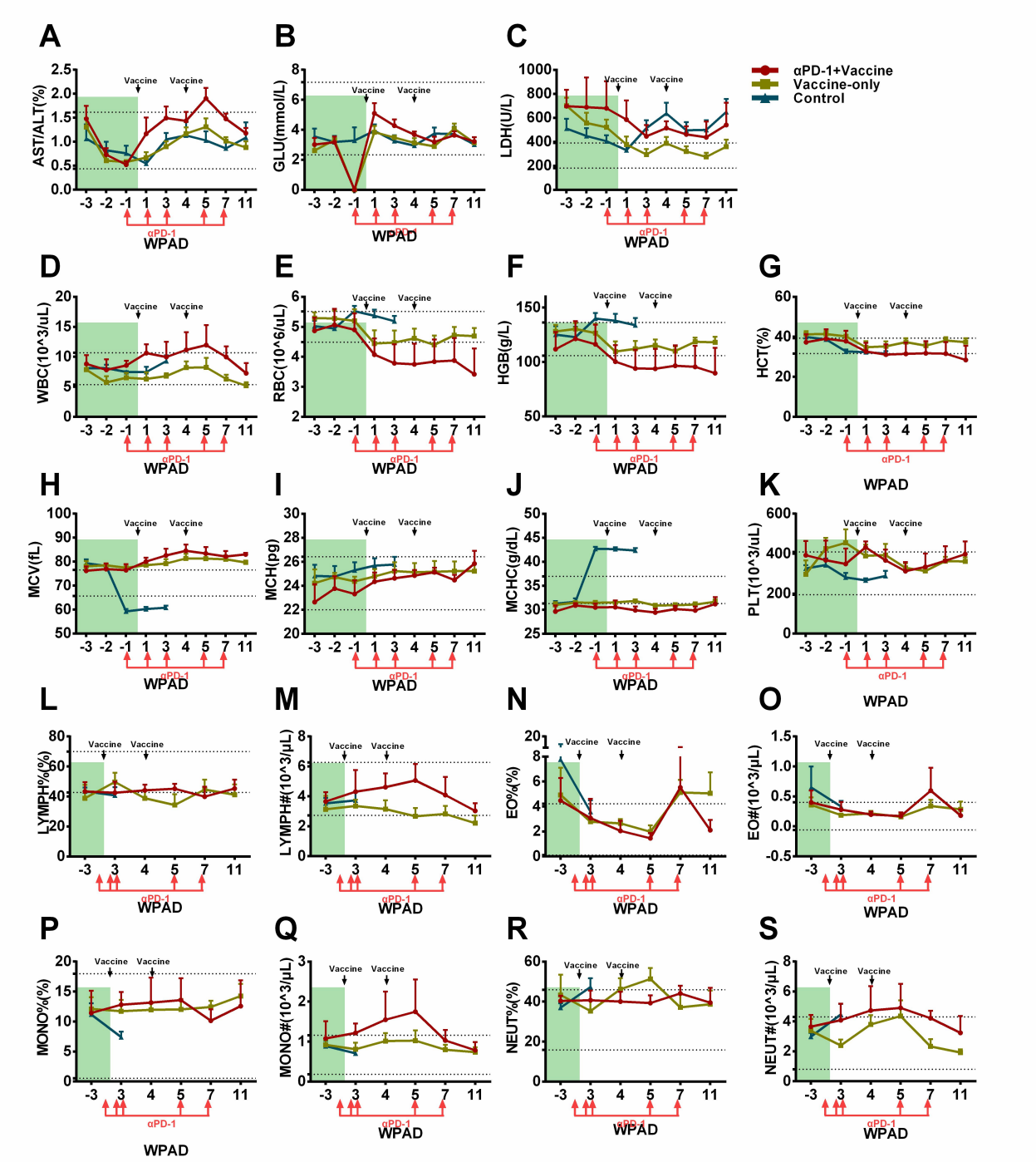

Figure S1. Serum biochemistry and hematology of Rhesus macaques during this study.

(A) Ratio of ALT to AST in plasma. **(B)** Glucose (GLU) content in the plasma. **(C)** The concentration of lactate dehydrogenase (LDH) in the plasma. **(D)** White blood cells (WBC) content in the blood. **(E)** Red blood cell (RBC) content in the blood. **(F)** Hemoglobin (HGB)

content in the blood. **(G)** Hematocrit (HCT) content in the blood. **(H)** Mean corpuscular volume (MCV) content in the blood. **(I)**Mean corpuscular hemoglobin (MCH) content in the blood. **(J)** Mean corpuscular hemoglobin concentration (MCHC) content in the blood. **(K)** Platelet (PLT) content in the blood. **(L)** Ratio of LYM to WBC in blood. **(M)** Lymphocyte (LYM) content in the blood. **(N)** Ratio of EOS to WBC in the blood. **(O)** Eosinophil (EOS) content in the blood. **(P)** Ratio of MONO to WBC in the blood. **(Q)** Monocyte (MONO) content in the blood. **(R)** Ratio of neutrophil (NEU) to WBC in the blood. **(S)** NEU content in the blood. All average data are presented as mean ± s.e.m. WPAD represents weeks post ART discontinuation.