

Supplementary information
Materials & Methods
Guinea pig cytokine primers

Primer sequences for each guinea pig cytokines were either obtained from previously published sequences (referenced in the body of the table), or they were newly designed (Table S1). The amplicon for each primer set was validated by sequencing the amplified product.

Table S1: Primers for RT-PCR amplification		
Cytokine	Sense primer	Antisense primer
TNF- α	[15]	
TGF- β	[15]	
IFN- γ	GGGACGCTCTTTGTAGGCATT	GAAGGAGACGATTTGGCTCTGA
IL-17	TGTGATCTGGGAGGCAGAAT	CAGGATCTCTTGCTGGATGG
IL-12	[16]	
IL-10	[14]	
IP-10	[17]	
RPLPO	AGCAGACAATGTGGGCTCCAAGCA	TGGCACCTTATTGGCCAGCAGCAT

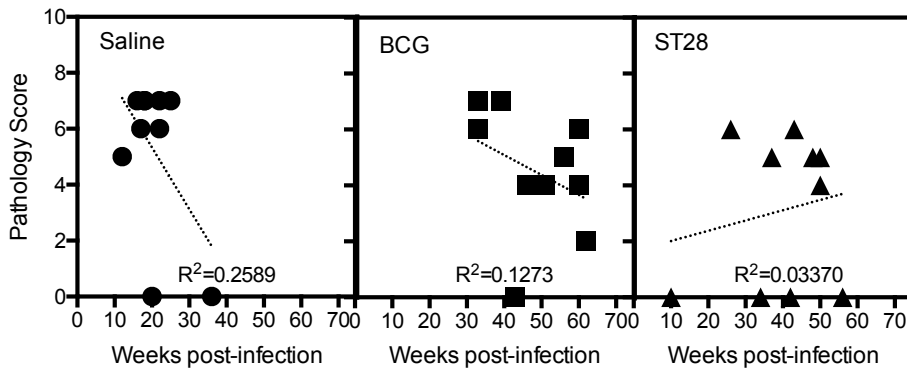
Standard curve for determining copy number for guinea pig cytokines

The copy number for each cytokine tested was determined by calculating the copy number for each sequence from a specific concentration and then preparing 10-fold serial dilutions of each. The sequences were determined for the primers used in the fold-induction assay and produced by IDT (Coralville, IO), (Table S2). The standard curve was determined using the CFX Connect™ Real-Time System, with CFX Manager™ Software (Version 3.1, BioRad), for 45 cycles at 95°C for 15 seconds, primer-specific annealing temperature for 30 seconds and 72°C for 45 seconds.

Table S2: cytokine sequences for development of standard curves for each guinea pig cytokine.		
Cytokine	Sequence amplified	Annealing temp
IFN- γ	ttgaagaattgccaagaggagagtgaagaaaaatatt	60
TNF- α	gtcagccgcttgccgtctctacccggaaaagg	60
IL-12p40	cagatgctcctggagagacggtggttctt	60
IL-10	acgtgctgttaaacaagtcattgctggaggatttaagggttacctgggtgcc aagcctgtcagagatgatccagtttatctagtggaggtgatgcccaaggc agaaaatcatgaccagacatcaaggaacatgtaagctccctgggggaa aagctgaagaccctcaggctgctggctgctgac	60
TGF- β	cggaagcgcacatcgaggccatccgctggt	60
IL-17	gccgttactcgggctgtgtcaatgcagcggggaaggaggaccacatgtg agctccgtcc	60
IP-10	ctgcatcgagactagtactcaacctgtaatacctcaagaaactg aaattattcctgcaagtcaatcttcccacgagttgagatcatgtaagtaaaa tctcatttaataatcacttccctgggtataataatataataatgtgataataat cataaaagctcagttgaagtgttatgatgacataaaactaatgtatagcaa aagaaaatagagtaaaaattaaatgtctggctttagaactatgtactctatc tgttttgctggcacaatattgtcttaaatattttactttgatttattccatagtgcca caatgaaaatgaa	60

Figure S1: Pathology scores in the spleen (A) and liver (B) of guinea pigs vaccinated with either BCG or ST218 and infected with a low dose aerosol of H37Rv in relation to the time at which they were euthanized. Guinea pigs were monitored and euthanized based on a pre-established scoring system that took into account weight loss, respiration and activity of the animal. Once the criteria were met, the guinea pigs were humanely euthanized and the lung, spleen and liver fixed in formalin. Tissues were processed and sections stained with H&E. A qualified veterinary pathologist assessed the pathology in each organ without prior knowledge of the vaccine used.

(A)



(B)

