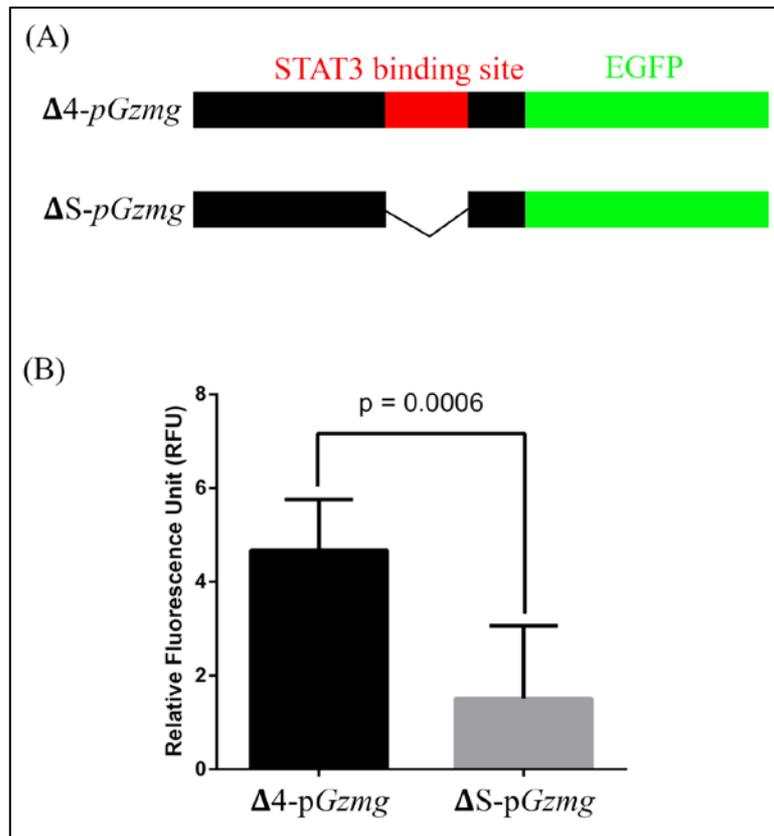


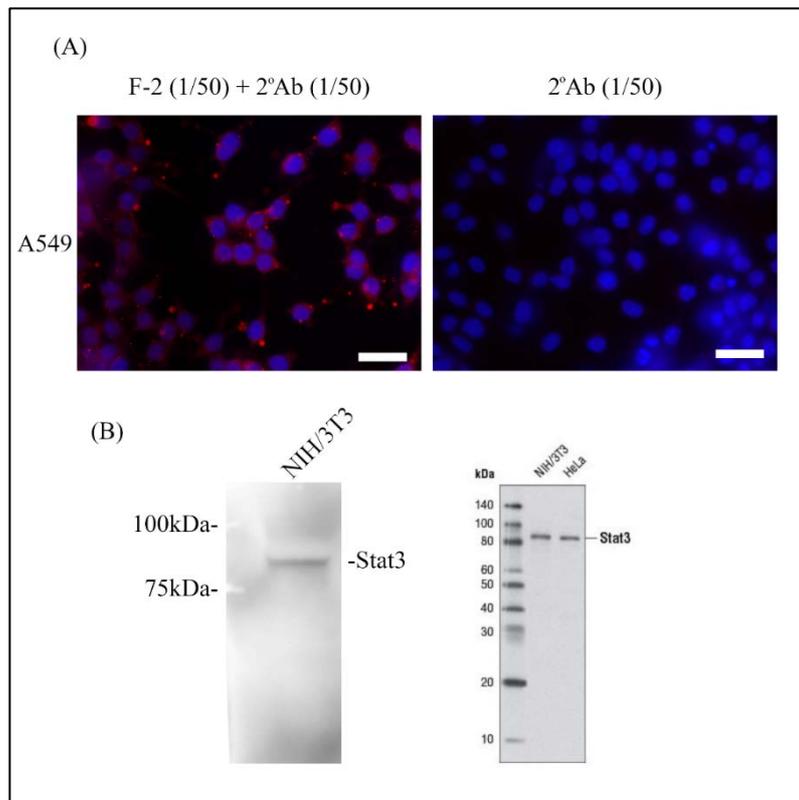
Supplementary Table S1. The designed primer information for PCR amplification of the *granzyme g* promoter deletion constructs in this study

Primer sets ¹	Oligonucleotide sequence (5'-to-3')	T _m (°C)
Gzmg promoter FL_F	CGACATGTGAATTTACAACCAGAGTCAT	58
Gzmg promoter FL_R	TACTCGAGGAGGGCAGAGCAGACAC	60
Gzmg promoter Δ1_F	ACATGTAAGAATGGGCTACATGACTAAT	60
Gzmg promoter Δ2_F	ACATGTGCAATACTGTAGGAAATACCAC	60
Gzmg promoter Δ3_F	ACATGTCAGAGATAAATGACAATACCCA	60
Gzmg promoter Δ4_F	ACATGTTACTGTGGAAC TTTGAGAGTG	60
ΔStat3mut_F	TACTTGTGTGCAGCCACTGTCTCAGACCTC CTCAACCACAACC	84.9
ΔStat3mut_R	GGTTGTGGTTGAGGAGGTCTGAGACAGTG GCTGCACACAAGTA	84.9

¹F: forward primer; R: reverse primer



Supplementary Figure S1. The transcription activity of *Gzmg* promoter assay between $\Delta 4$ -pGzmg and ΔS -pGzmg in the mouse zygote stage embryos. (A) The ΔS -pGzmg plasmid was constructed by a STAT3 binding site deletion from $\Delta 4$ -pGzmg using the site-direct mutagenesis. (B) Quantitative data of the *Gzmg* promoter assay obtained by the dual fluorescence system. The graph shows the means \pm SD of at least four replicates for each group of embryos. The *p* value ($p = 0.0006$) indicates a significant difference as determined by Student's t-test ($p < 0.001$).



Supplementary Figure S2. Specificity test of F-2 monoclonal antibody in the recognition of STAT3 protein. **(A)** Immunofluorescence staining data showed a specific STAT3 signal in the cell cytoplasm and nucleus of A549 cell was recognized by the F-2 antibody compared with a donkey anti-mouse 2oAb (Alexa546; 1/50 dilution) alone group. Nucleus DNA was stained with DAPI to define nuclear localization. Scale bar = 20 μ m. **(B)** Western blot analysis of F-2 monoclonal antibody specificity for STAT3 protein identification using NIH/3T3 mouse embryonic fibroblast cells. (Left panel) The specific signal of STAT3 recognized by F-2 antibody (1/250 dilution) in Western blot analysis of NIH/3T3 cells. (Right panel) The Stat3 Western blot image is from commercial data sheet for F-2 antibody quality control.