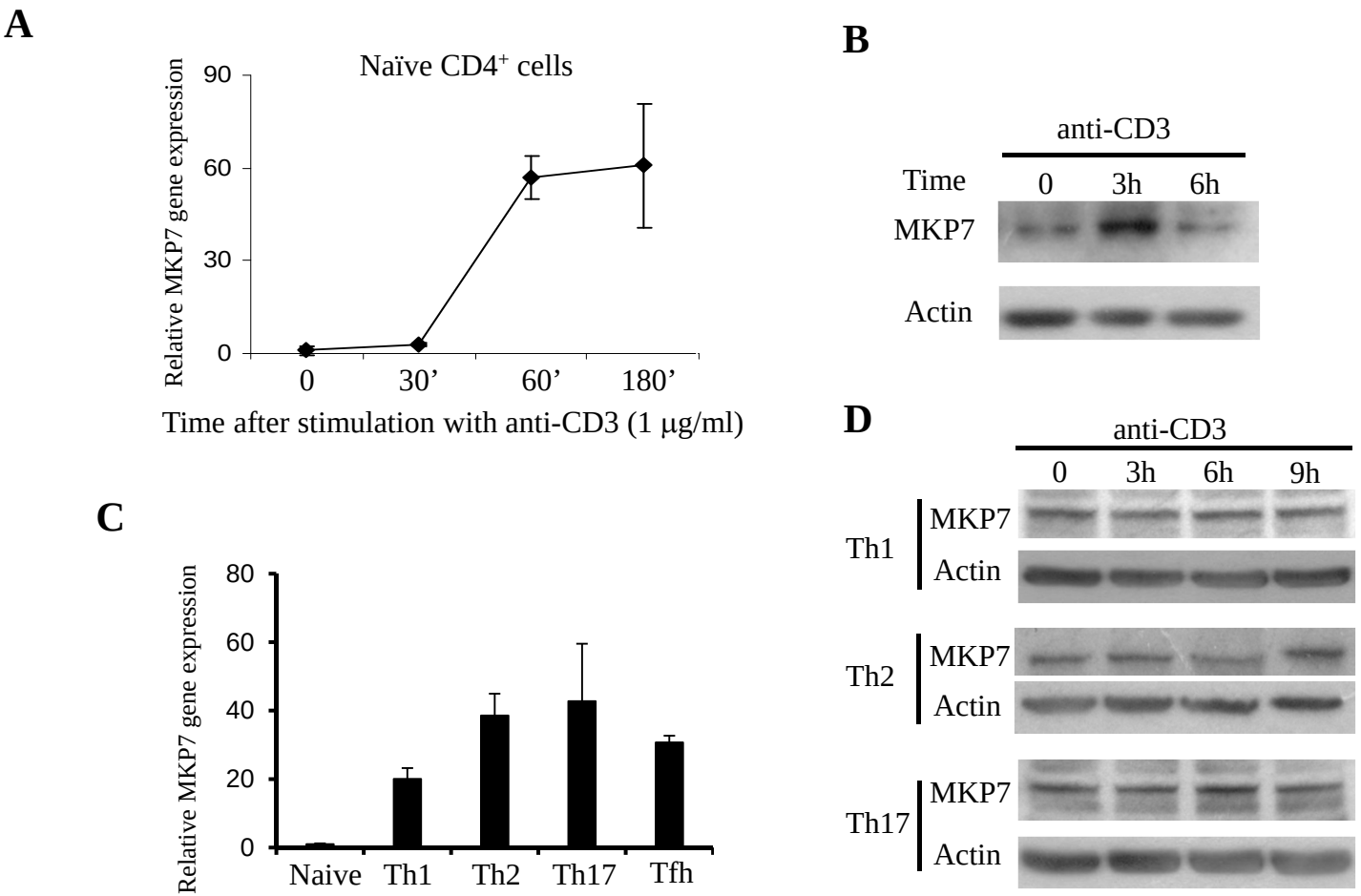
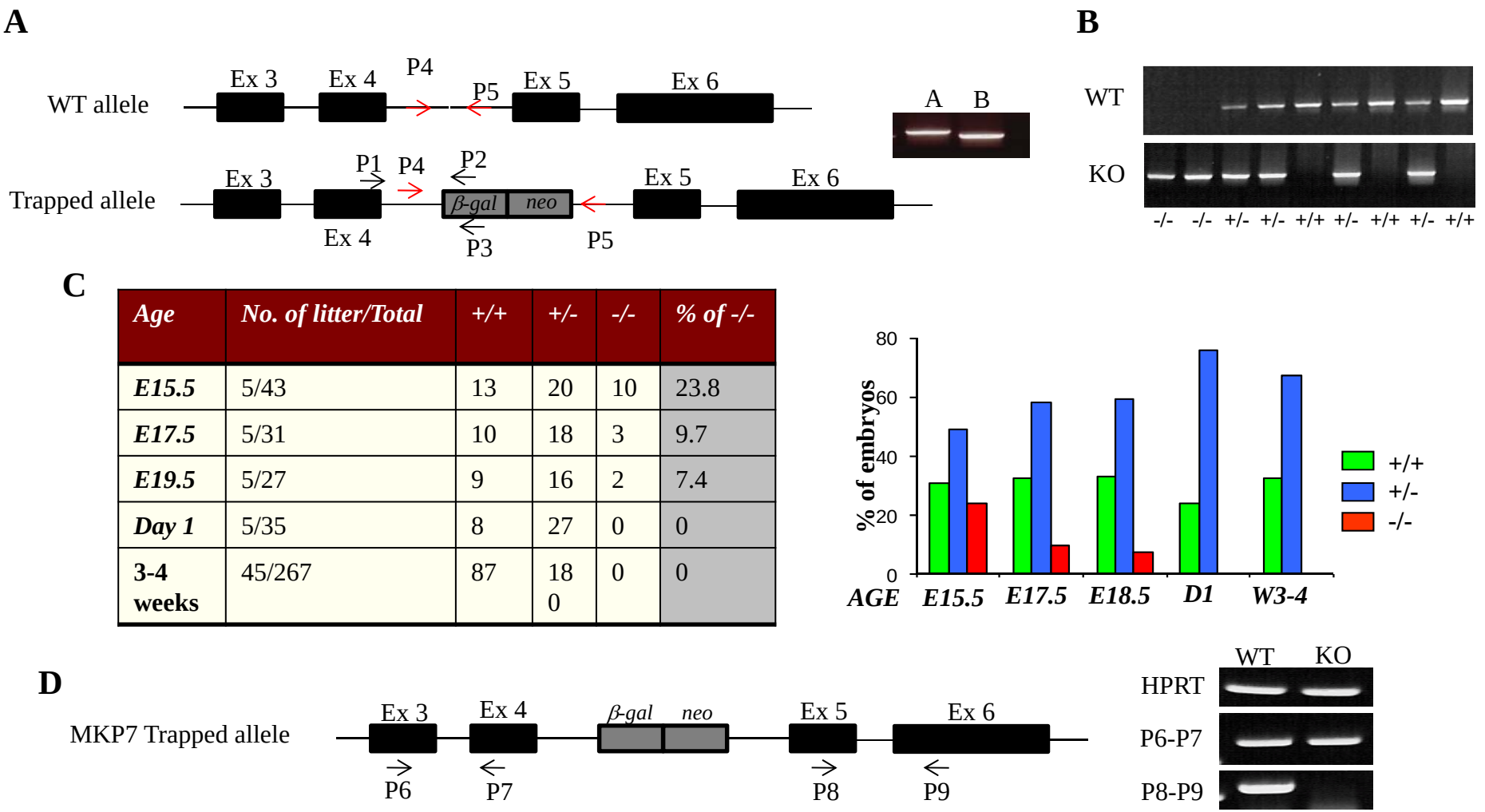
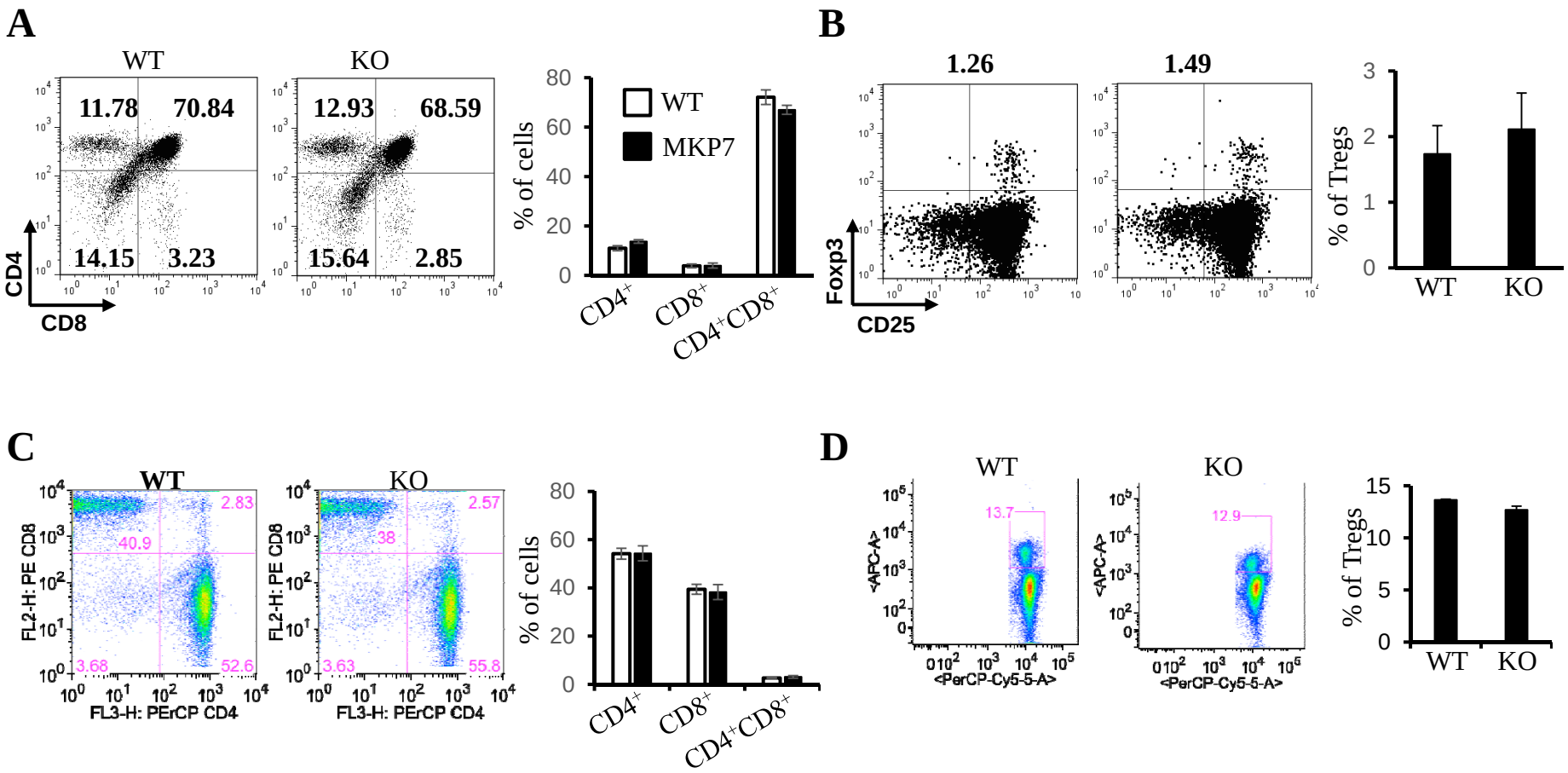


Supplemental Fig. 1. MKP7 expression in T cells. FACS-sorted naïve CD4+ T cells were activated with or without anti-CD3 antibody. (A) mRNA expression of MKP7 was determined by quantitative RT-PCR (qPCR). (B) MKP7 protein expression was analyzed by western blot analysis using an antibody against mouse MKP7. *In vitro* differentiated Th1, Th2 or Th17 cells were activated with anti-CD3 antibody. MKP7 expression was determined by qPCR (C) and western blot analysis (D). The data are representative of three independent experiments.

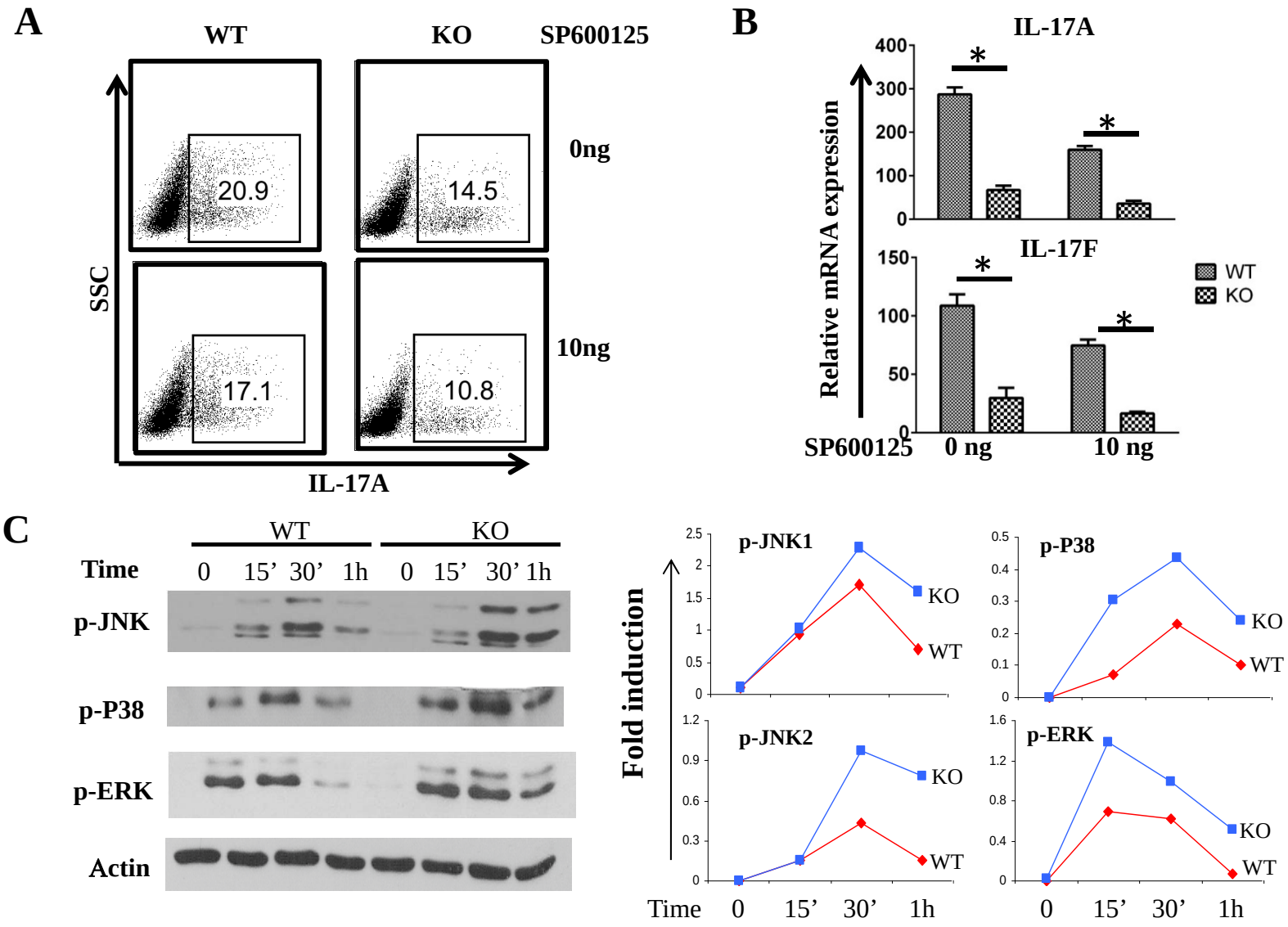


Age	*No. of litter/Total*	*+/+*	*+/-*	*-/-*	*% of -/-*
E15.5	5/43	13	20	10	23.8
E17.5	5/31	10	18	3	9.7
E19.5	5/27	9	16	2	7.4
Day 1	5/35	8	27	0	0
3-4 weeks	45/267	87	180	0	0

Supplemental Fig. 2. Embryonic lethality of MKP7 deficient mice. (A) Schematic representation of MKP7 gene trap and confirmation of trap insertion in MKP7 ES cell AE0704. The gene trap vector containing β-galactosidase (β-geo) and neomycin transferase (neo) genes was inserted into the 4th intron of the *Mkp7* gene. Total RNA was isolated from AE0704 cells to make cDNA. PCR reaction was performed with a MKP7 specific primer in exon 4 (P1) and two β-galactosidase specific primers (P2 and P3). A: P1-P3; B: P1-P2. (B) Genomic DNA was isolated from embryonic tissues from *Mkp7*+/- x *Mkp7*+/- breeders for genotyping using P3/P4 and P4/P5 primer pairs to identify WT and mutated alleles, respectively. (C) Genotype of embryos at different stage and pups at indicated ages from *Mkp7*+/- x *Mkp7*+/- breeders. *P*: primer; *E*: embryo; *D*: day; *W*: week; +/+: WT; +/-: heterozygous; -/-: KO. (D) Bone marrow cells from WT and MKP7 chimeras were culture in RPMI complete medium containing 20ng/ml GM-CSF (Peprotech). The expression of MKP7 in mature dendritic cells were analyzed by qPCR using primer pair (P6 and P7) in exon3 and 4 before the trap insertion, and primer pair (P8 and P9) in exon5 and 6 after the insertion.



Supplemental Fig. 3. Normal T cell development in MKP7 chimeras. (A) Thymocytes from WT and MKP7 chimeras were stained with antibodies against TCRβ, CD4 and CD8 to analyze various T cell subpopulations. (B) WT and MKP7 KO thymocytes were surface stained with antibodies against TCRβ, CD4 and CD25 followed by Foxp3 intracellular staining to analyze regulatory T cell population. The data are representative of three independent experiments with similar results. (C-D) Splenocytes from WT and MKP7 chimeras were stained with various antibodies as (A) and (B) for T cell (C) and regulatory T cell (D) analysis.



Supplemental Fig. 4. Inhibition of JNK does not rescue Th17 deficiency in MKP7 KO CD4⁺ T cells and Enhanced MAP kinase activation in MKP7 KO MEFs to UV irradiation. (WT and KO naïve CD4⁺ T cells were differentiated into Th17 cells in the presence of vehicle or 10ng/ml of SP600125. Differentiated cells were activated with PMA and ionomycin for intracellular cytokine staining (A) or were stimulated with anti-CD3 antibodies. IL-17 and IL-17F gene expression was determined by qPCR (B). (C) WT and KO Mouse embryonic fibroblasts (MEFs) established from embryos isolated at embryonic day 12.5-13.5 (E12.5-E13.5) were activated with UV to examine the activation of MAP kinases using Phospho (p)-JNK, p-P38 and p-ERK antibodies (Cell Signaling Technology). The data are representative of three independent experiments.