

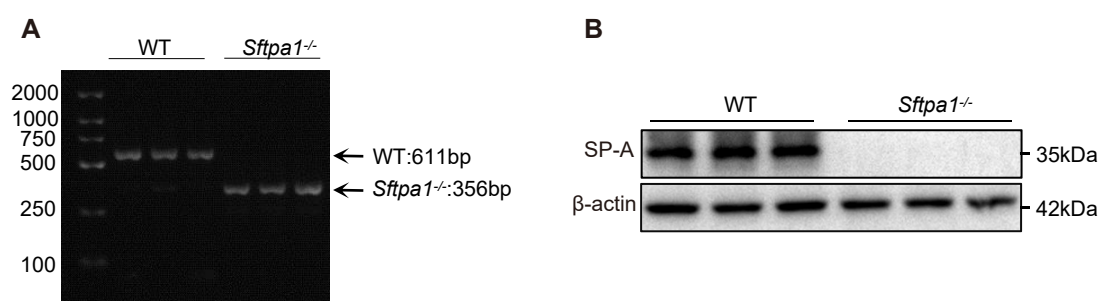


**Fig S1. SP-A gene knockout validation in mice. (A)** Genotypic analysis by agarose gel electrophoresis. **(B)** Western blot analysis of SP-A.

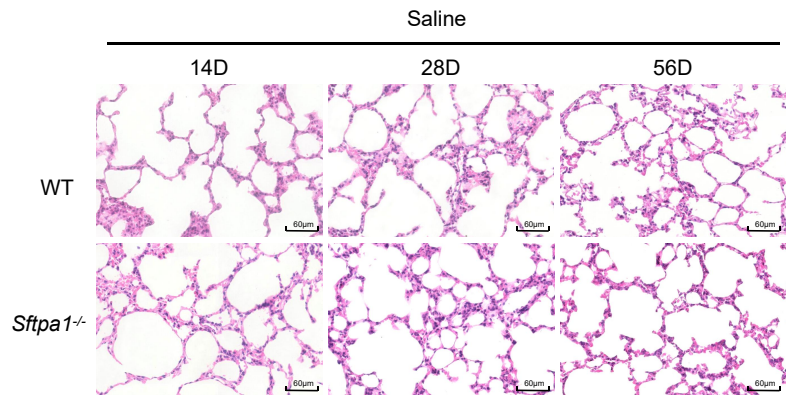


**Fig S2. Effects of SP-A deficiency in saline-treated mice.** WT and *Sftpa1*<sup>-/-</sup> mice were treated with saline for 14, 28, and 56 days. **(A)** Representative H&E staining of lung tissues.

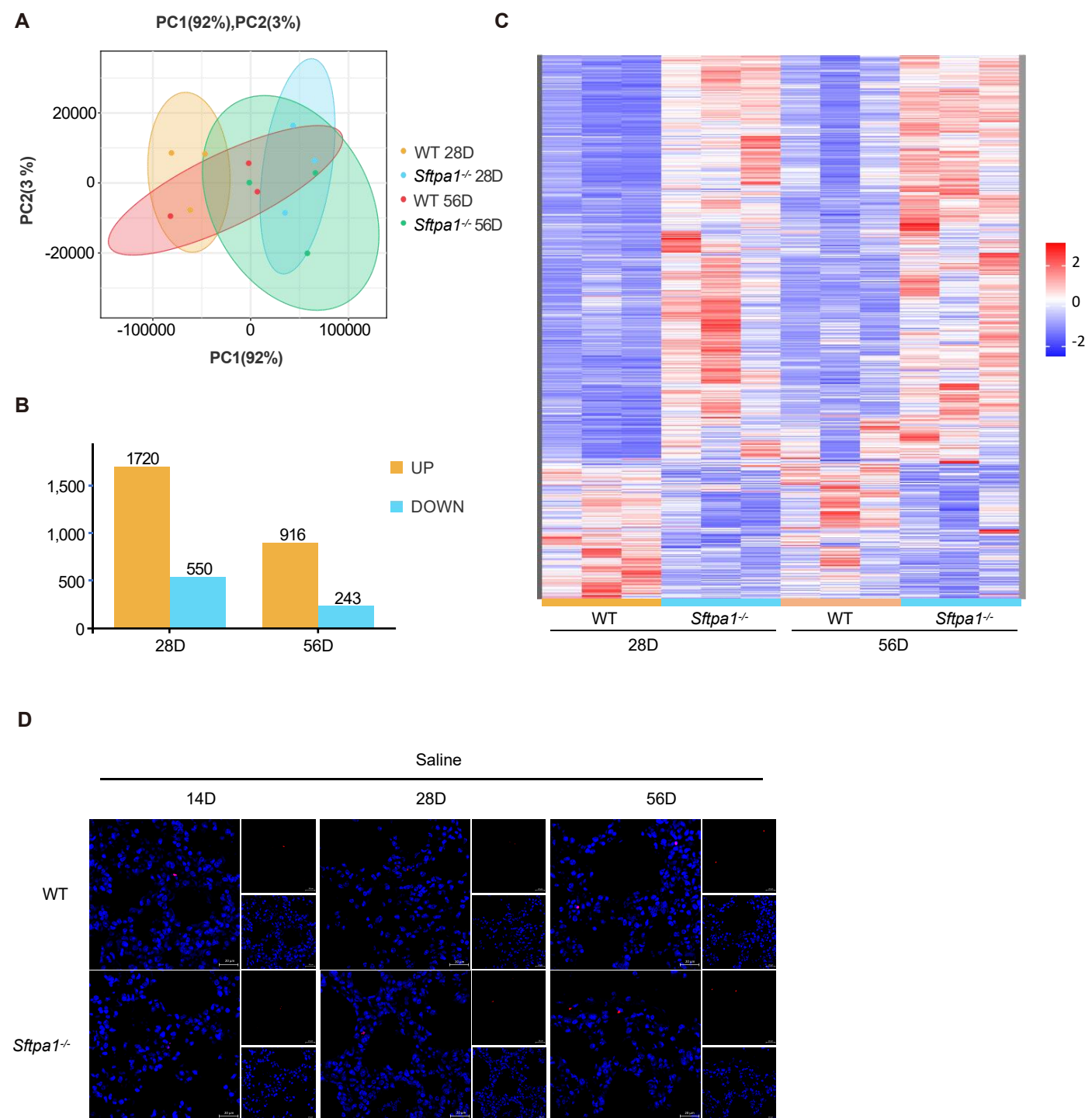


**Fig S3. SP-A deficiency alters lung gene expression after silica exposure.** WT and *Sftpa1*<sup>-/-</sup> mice were exposed to silica for 28 and 56 days. **(A)** PCA plots (n = 3). **(B)** Bar chart showing numbers of up-regulated and down-regulated genes (n = 3). **(C)** Heatmap of RNA-seq data (n = 3). **(D)** TUNEL staining with DAPI nuclear counterstaining.