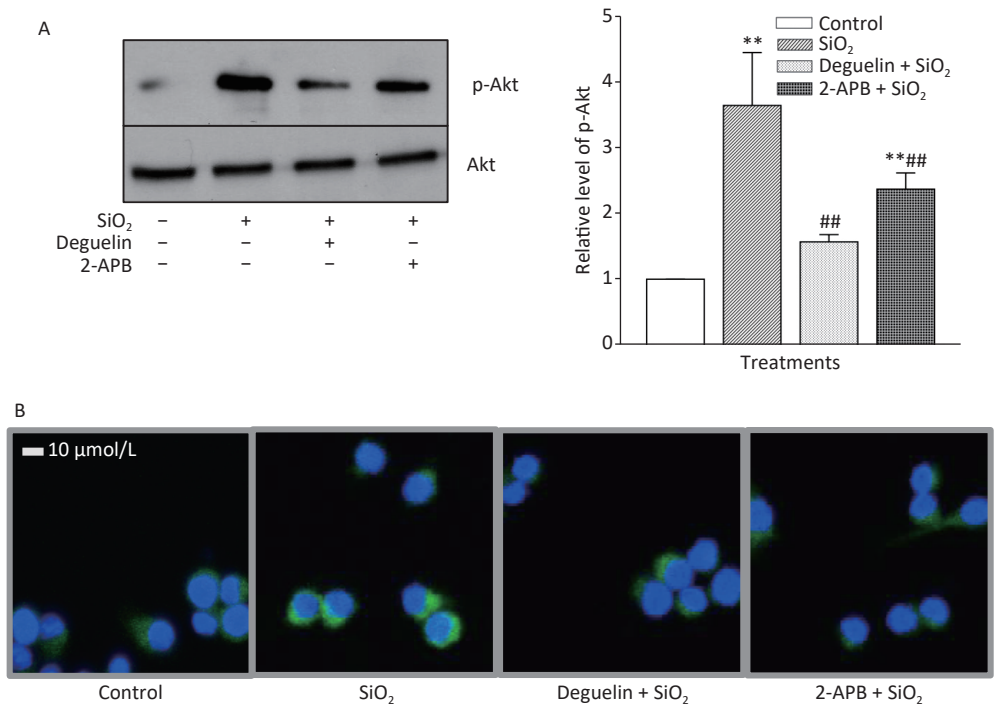
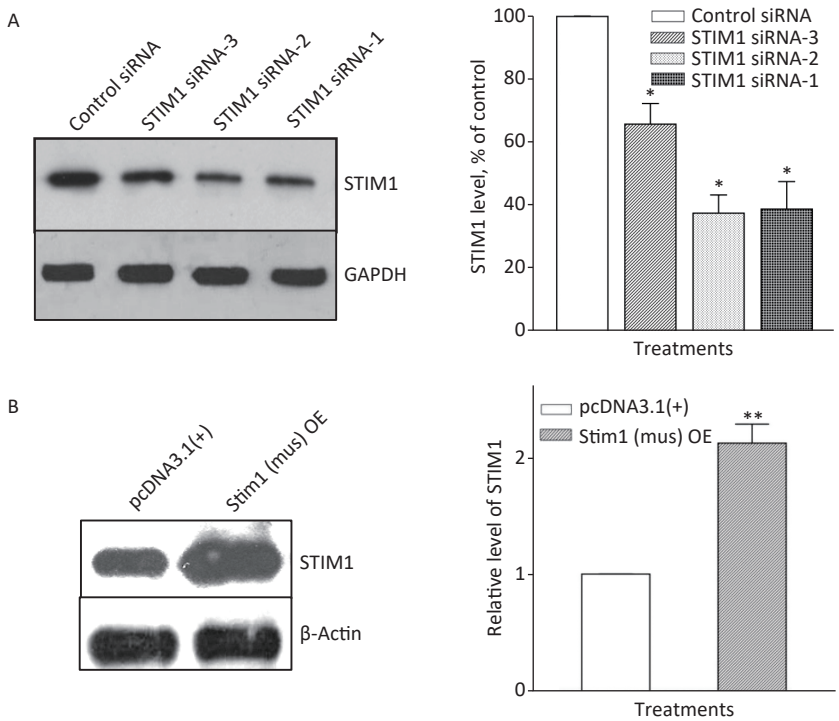
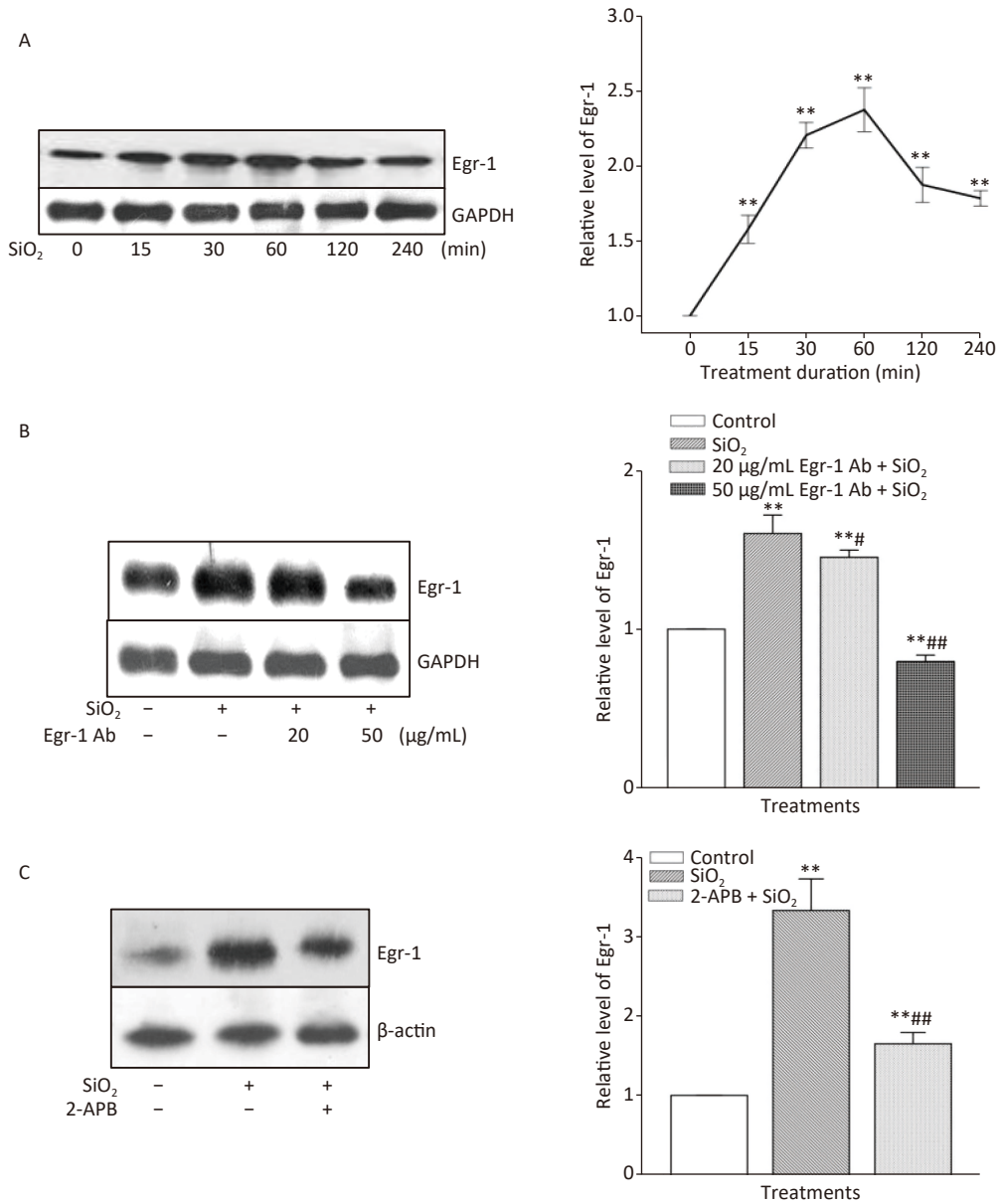


Supplementary Figure S1. Effects of Deguelin and 2-APB on SiO_2-activated phosphorylation of Akt in RAW264.7 cells, by Western blot (A) and immunofluorescent assay (B). RAW264.7 cells were pretreated with Deguelin (100 nmol/L), 2-APB (100 μmol/L) or DMSO (vehicle, 0.1%. v:v) for 60 min, followed by incubation with SiO_2 at the density of 7 μg/cm^2 for 60 min, serum-free DMEM serving as the control. Triplicate experiments were set up for each treatment. Cell lysate of each culture was prepared, and analyzed by SDS-PAGE, followed by Western blot assay using antibodies raised in rabbit against phosphorylated mouse Akt at Ser473 (p-Akt) and the total Akt. Data in the right part of panel A are means ± SD (n = 3); $^{**}P < 0.01$, compared with the control; $^{\#\#}P < 0.01$, compared with the treatment with SiO_2 alone.



Supplementary Figure S2. Knockdown and overexpression of STIM1 in RAW264.7 cells. RAW264.7 cells were interfered with STIM1 siRNA-1, -2, and -3 (a negative siRNA used as the control) (A), or transfected with STIM1 plasmids [Stim1 (mus) OE] or control plasmids [pcDNA3.1(+)] (B), and the level of STIM1 were determined by using Western blot assay (A & B). Data of the right parts of panel A & B are means ± SD (n = 3); $^{*}P < 0.05$, $^{**}P < 0.01$, compared with the control siRNA group or control plasmids group (A & B).



Supplementary Figure S3. Effect of SiO_2 on the expression of Egr-1 following various exposure durations and the impact of Egr-1 antibody and 2-APB. The time-course of Egr-1 elevation after stimulation of RAW264.7 cells by SiO_2 (7 μg/cm2) was determined by Western blot assay after an exposure period of 30, 60, 120, 240, and 360 min (A). The influence of pretreatment of RAW264.7 cells with Egr-1 antibody at the concentration of 20 and 50 μg/mL for 60 min on the level of Egr-1 (B). The effect of Deguelin (100 nmol/L) on SiO_2-stimulated expression of Egr-1 protein (C). Data on the right part of each panel are means ± SD (n = 3); $^{*}P < 0.05$, $^{**}P < 0.01$, compared with the control group (A, B, & C); $^{\#}P < 0.05$, $^{\#\#}P < 0.01$, compared with the treatment with SiO_2 alone.

Supplementary Table S1. The sequences of siRNAs for STIM1 (STIM1 siRNA) and a non-silencing control RNA (control siRNA)

siRNA	Sense (5'–3')	Antisense (5'–3')
STIM1 siRNA-1	GAC UUC UGA AGA GUC UAC CTT	GGU AGA CUC UUC AGA AGU CGC
STIM1 siRNA-2	UGC UGG UUU GCC UAU AUC CTT	GGA UAU AGG CAA ACC AGC AGC
STIM1 siRNA-3	GAG AUG AGA UCA ACC UUG CTT	GCA AGG UUG AUC UCA UCU CGC
control siRNA	UUC UCC GAA CGU GUC ACG UTT	ACG UGA CAC GUU CGG AGA ATT

Note. The siRNA sequences were designed and synthesized by Shanghai GenePharma Co., Ltd (Shanghai, China).