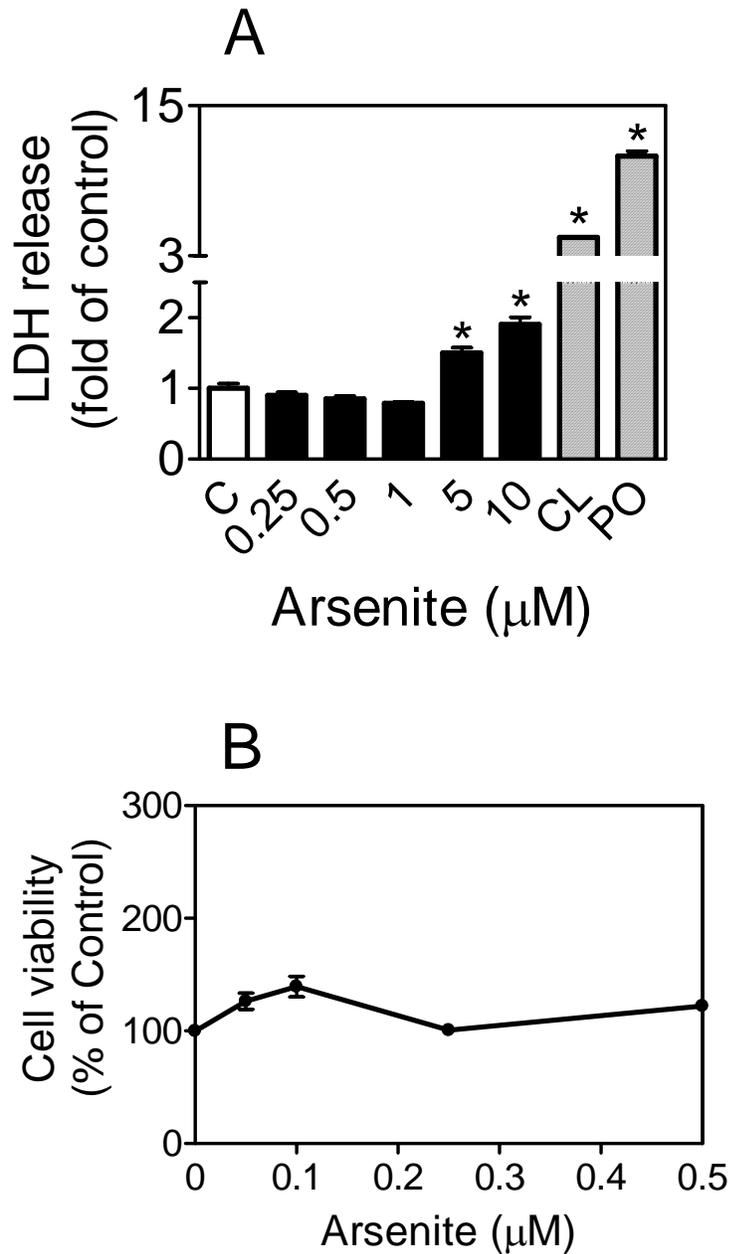
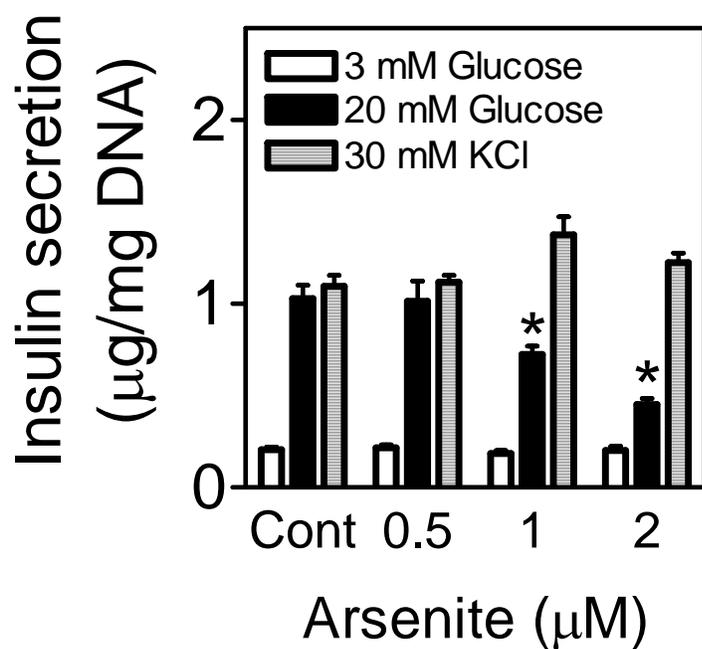


# Supplemental Material, Figure 1



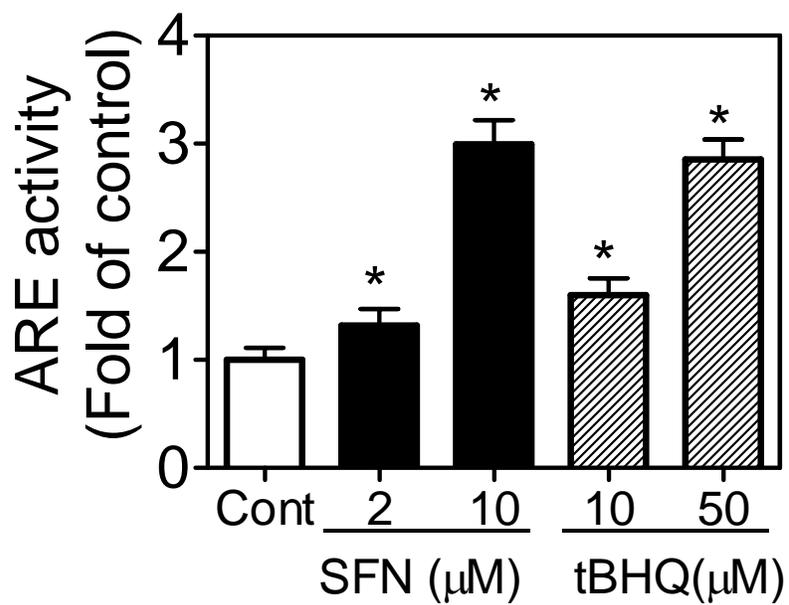
**No significant cytotoxicity in INS-1(832/13) cells treated with up to 0.5  $\mu\text{M}$  of arsenite for 96 hrs.** (A) Cytotoxicity was determined by LDH release using CytoTox 96® Non-Radioactive Cytotoxicity Assay kit (Promega). CL, cell lysates; PO, positive control. (B) MTT assay. Data are expressed as means  $\pm$  SE. \*,  $p < 0.05$  vs. Cont.

## Supplemental Material, Figure 2



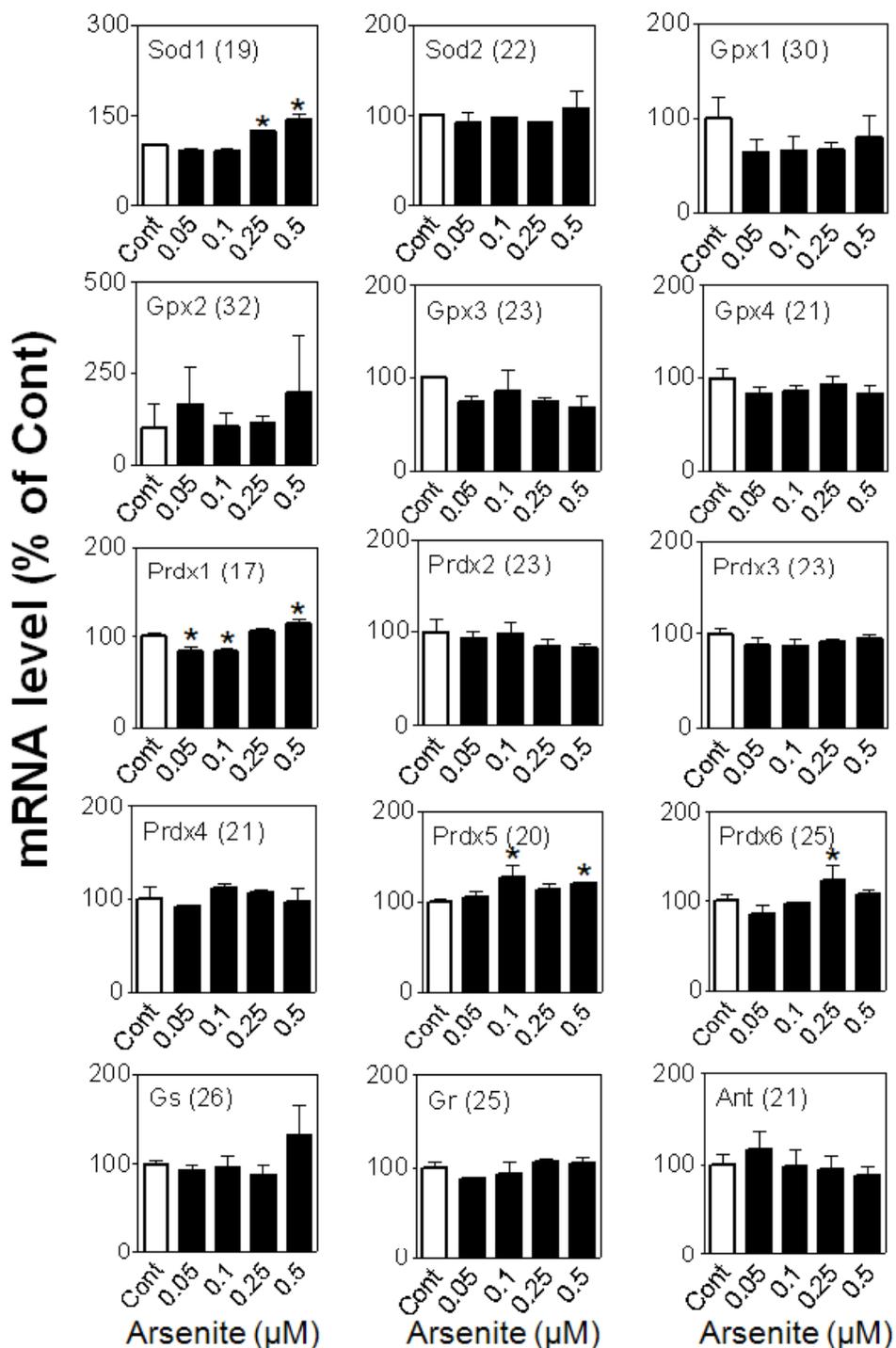
**Decreased GSIS in INS-1(832/13) cells treated with arsenite for 24 hrs.** Cont, Control. \*,  $p < 0.05$  vs. 20mM glucose of Cont.

## Supplemental Material, Figure 3



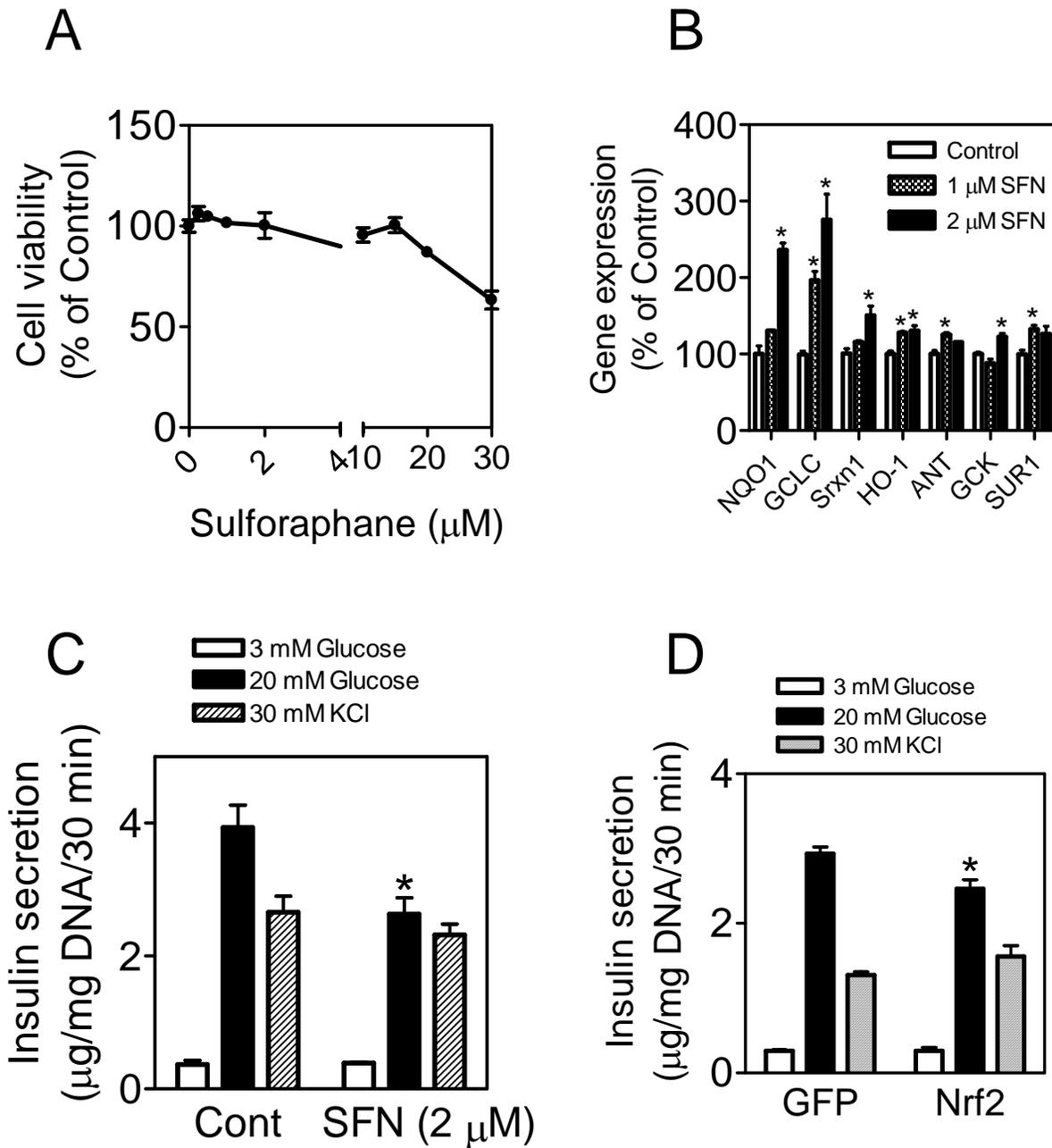
**ARE-luciferase reporter stably expressed in INS-1 (832/13) cells is highly responsive to Nrf2 activators.** The activity of ARE-luciferase reporter was measured in the cells that were treated by sulforaphane (SFN) and tert-butylhydroquinone (tBHQ) for 9 hrs. \*,  $p < 0.05$  vs. Cont.

## Supplemental Material, Figure 4



**Gene expression of INS-1(832/13) cells treated with arsenite for 96 hrs.** mRNA levels were determined using real-time RT-PCR. The number in brackets following each gene name is the Ct value of that gene in control cells. n = 2-5 independent experiments. \*,  $p < 0.05$  vs. Cont. Sod, superoxide dismutase; Gpx, glutathione peroxidase; Prdx, peroxiredoxin; Gs, glutathione synthetase; Gr, glutathione reductase; Ant, adenine nucleotide translocator.

Supplemental Material, Figure 5



**Enhanced Nrf2 activity is associated with decreased GSIS in INS-1(832/13) cells.** (A-C) Sulforaphane (SFN) induces Nrf2-target gene expression and inhibits GSIS. Cells were treated with SFN for 48 hrs. (A) Cell viability was determined by MTT assay. (B) mRNA levels were determined using real-time RT-PCR. \*,  $p < 0.05$  vs. Cont. (C) Insulin secretion triggered by glucose or KCl. The levels of secreted insulin were normalized by DNA content. \*,  $p < 0.05$  vs. Cont with 20 mM glucose. (D) Overexpression of mouse Nrf2 in INS-1 (832/13) cells inhibits GSIS. \*,  $p < 0.05$  vs. GFP with 20 mM glucose.