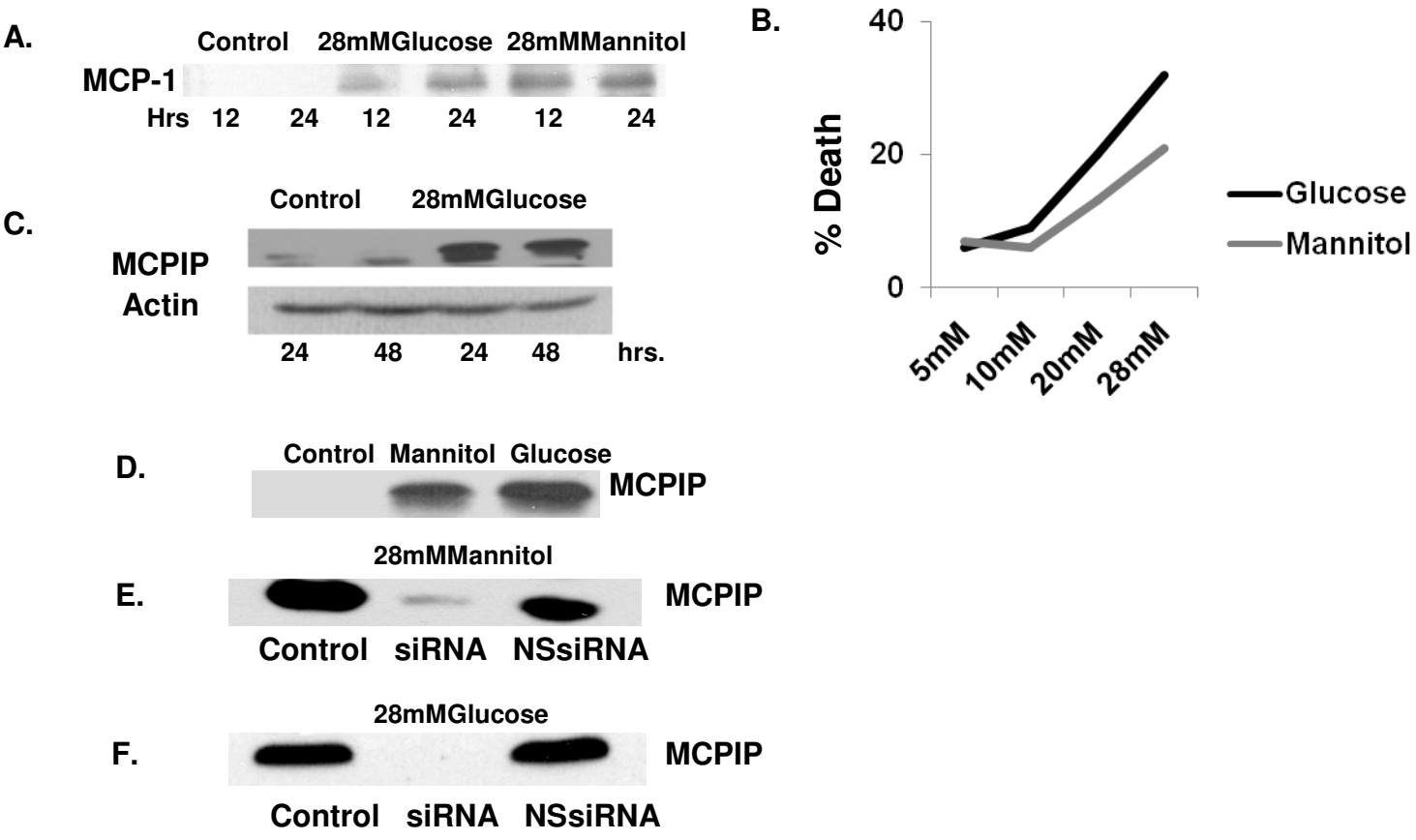
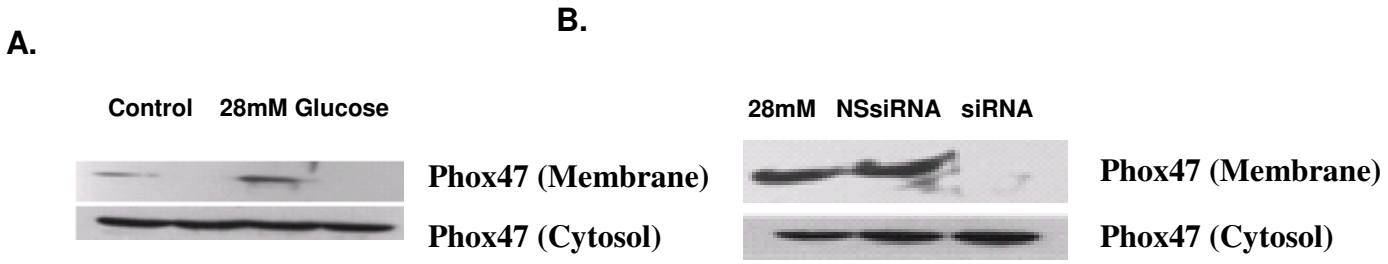
Supplemental 1:



Supplemental 1: H9c2 cardiomyoblasts were treated with/without 28mmol/L glucose. (A), At 12 and 24 hrs, cell lysate was collected and analyzed using immunoblot with MCP-1 antibody. Results were quantified against β-actin (*=$p<0.03$). (B), Cardiomyoblasts were treated with 5, 10, 20, and 28mmol/L glucose or mannitol and were evaluated for cell death using trypan blue. (C), Cardiomyoblasts were treated with or without 28mmol/L glucose. Cell lysate was collected at 24 and 48 hrs. and analyzed using immunoblot with MCPIP antibody. β-actin served as a control. (D), Cardiomyoblasts were treated with 28mmol/L glucose or mannitol. Cell lysate was collected at 48 hrs. and analyzed using immunoblot with MCPIP antibody. (E-F)

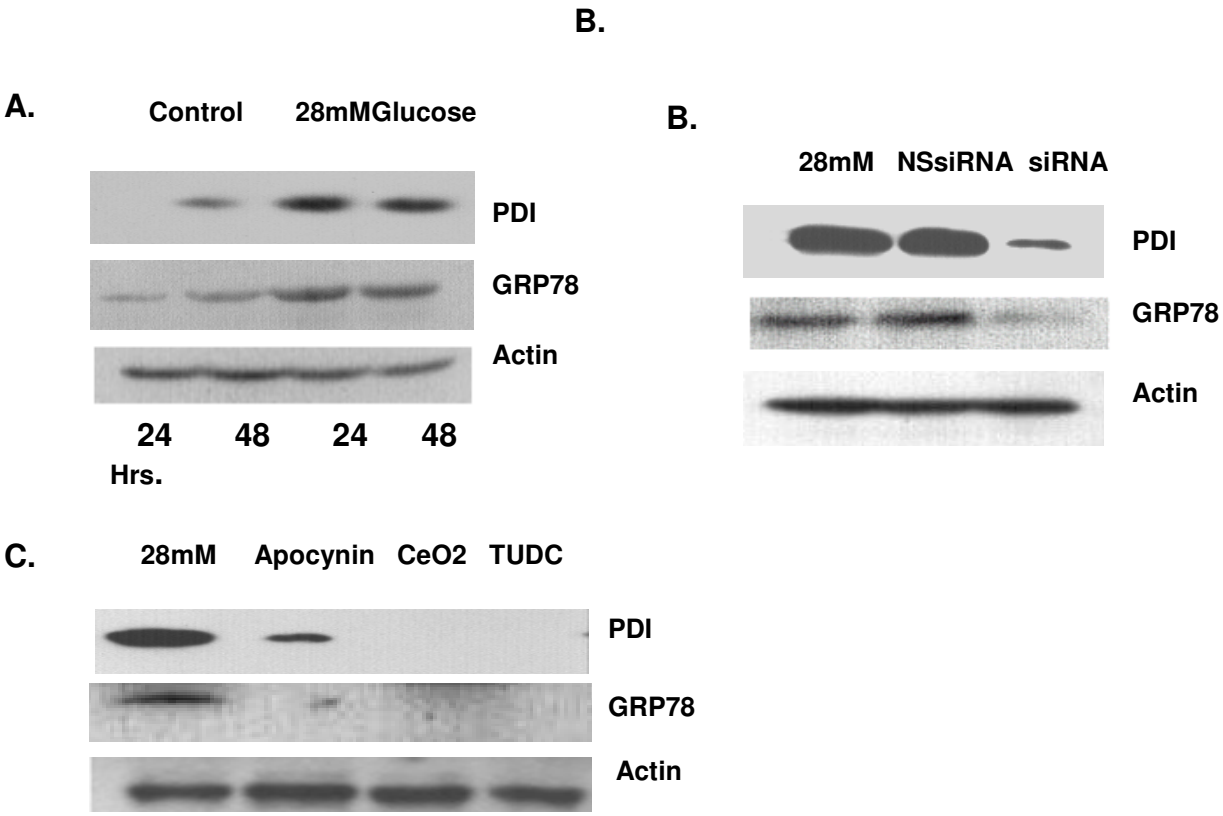
.Cardiomyoblasts were treated with 28mmol/L glucose or mannitol with/without siRNA specific for MCPIP or with non-specific siRNA. Cell lysate was collected and analyzed using immunoblot with MCPIP antibody at 24hrs.

Supplemental 2:



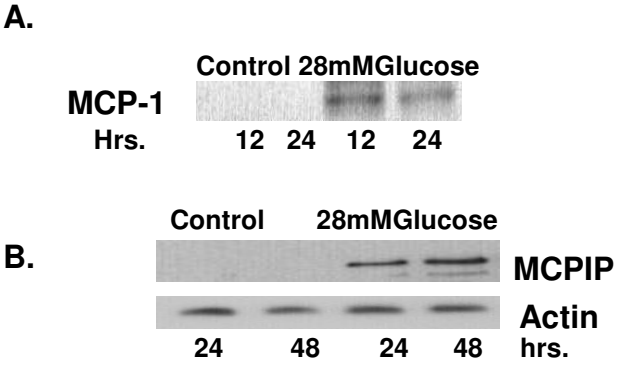
Supplemental 2: (A), Cardiomyoblasts were treated with/without 28mmol/L glucose. Cell lysate was collected and the membrane fractions were isolated. Both cytosol and membrane fractions were evaluated using immunoblot with phox47 antibody. (B), Cardiomyoblasts were treated with 28mmol/L glucose with/without siRNA specific for MCPIP or with non-specific siRNA. Cell lysate was collected and the membrane fractions were isolated. Cytosol and membrane fractions were evaluated using immunoblot with phox47 antibody.

Supplemental 3:



Supplemental 3: (A), H9c2 cardiomyoblasts were treated with/without 28mmol/L glucose. Cell lysate was collected and evaluated using immunoblot with antibody for PDI or GRP78. (B), Cardiomyoblasts were treated with 28mmol/L glucose with/without siRNA specific for MCPIP or with non-specific siRNA. Cell lysate was collected from the same samples and evaluated using immunoblot with antibody for PDI or GRP78. (C), Cardiomyoblasts treated with 28mmol/L glucose were treated with/without 20μM Apocynin, 300nM CeO_2 nanoparticles, or 50μM TUDC. At 24 hrs, cell lysate was collected and analyzed using immunoblot with PDI or GRP78 antibody.

Supplemental 4:



Supplemental 4: Isolated cardiomyocytes were treated with/without 28mmol/L glucose. (A), At 12, and 24 hrs. cell lysate was collected and analyzed using immunoblot with MCP-1 antibody. Results normalized to β-actin (*=$p<0.03$). (B), Cell lysate was collected at 24 and 48 hrs. and analyzed using immunoblot with MCPIP antibody. β-actin served as control.

Cell Culture

DMEM was modified by supplementing with 10% FBS, 1% penicillin and 1% streptomycin.

Cells were treated with or without 50μmol/L 3'methyladenine; 1μmol/L LY294002; 100μmol/L tauroursodeoxycholate (TUDC); 50μmol/L 4-phenylbutiric acid (4-PBA); 50μmol/L L-NAME; 100nmol/L CeO2, or 20μmol/L apocynin prior to treatment with 28mol/L glucose.

RT-PCR

Primers designed for RT-PCR were as follows: MCPIP F-5'-TGTGCCTATCACAGACCAGCACAT-3'; R-5'-TCGGATTCATAGGCCAGCTTC-ACA-3'; GRP78 F-5'-AGCCCACCGTAACAATCAAGGTCT-3'; R-5'-CGTGT-CAATGCGCTCTTTGAGCTT-3'; PDI F-5'-CAGAATGGAAACCGCACAAACCCA-3'; R-5'-GGCCACATCCACCATCA CAAACAA-3'

Immunoblot Analysis

Protein was extracted using cell lyses buffer (20% glycerol 0.1% TritonX 8% 0.5M EDTA and 1% 1M DTT). Polyclonal antibodies used for immunoblot analysis were as follows: anti-MCPIP (1:2000); anti-BECN1 (Santa Cruz; 1:500); anti-LC3 ; anti-GRP78 (1:2000) ; anti-PDI (1:2000) anti-phox47 (1:1000); and anti-iNOS (Upstate; 1:2000). Immunoblots were quantified as a ratio over β-actin expression.

Statistical Analysis:

The experimental data was analyzed by using SPSS statistical software (SPSS Inc.) under Windows XP. All values are presented as mean $\pm$ SEM. Results were compared between groups by ANOVA analysis followed by t tests. Differences were considered significant at a p value of <0.05.