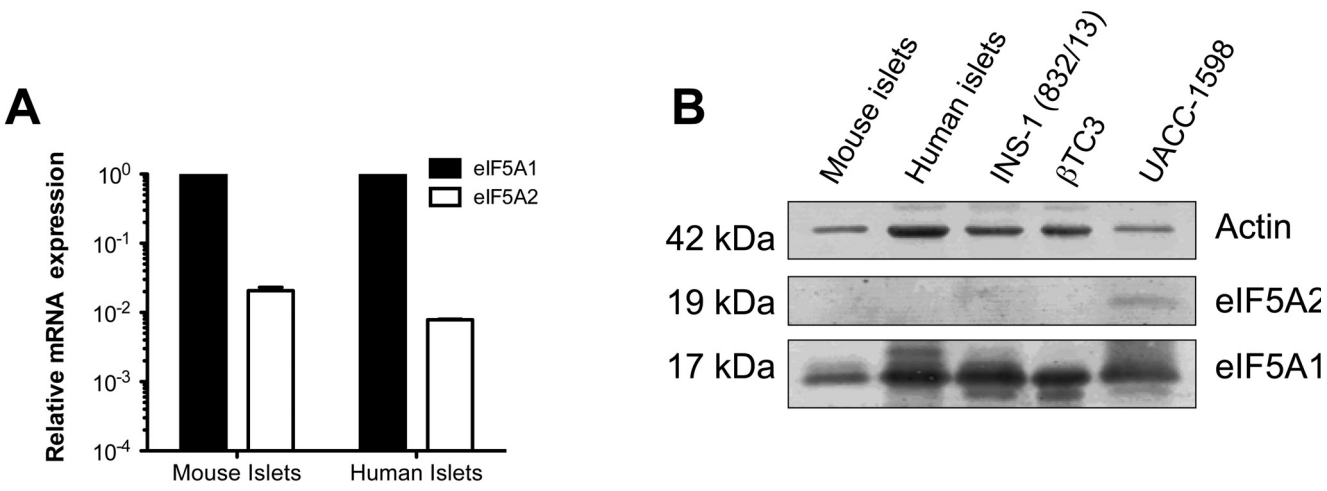
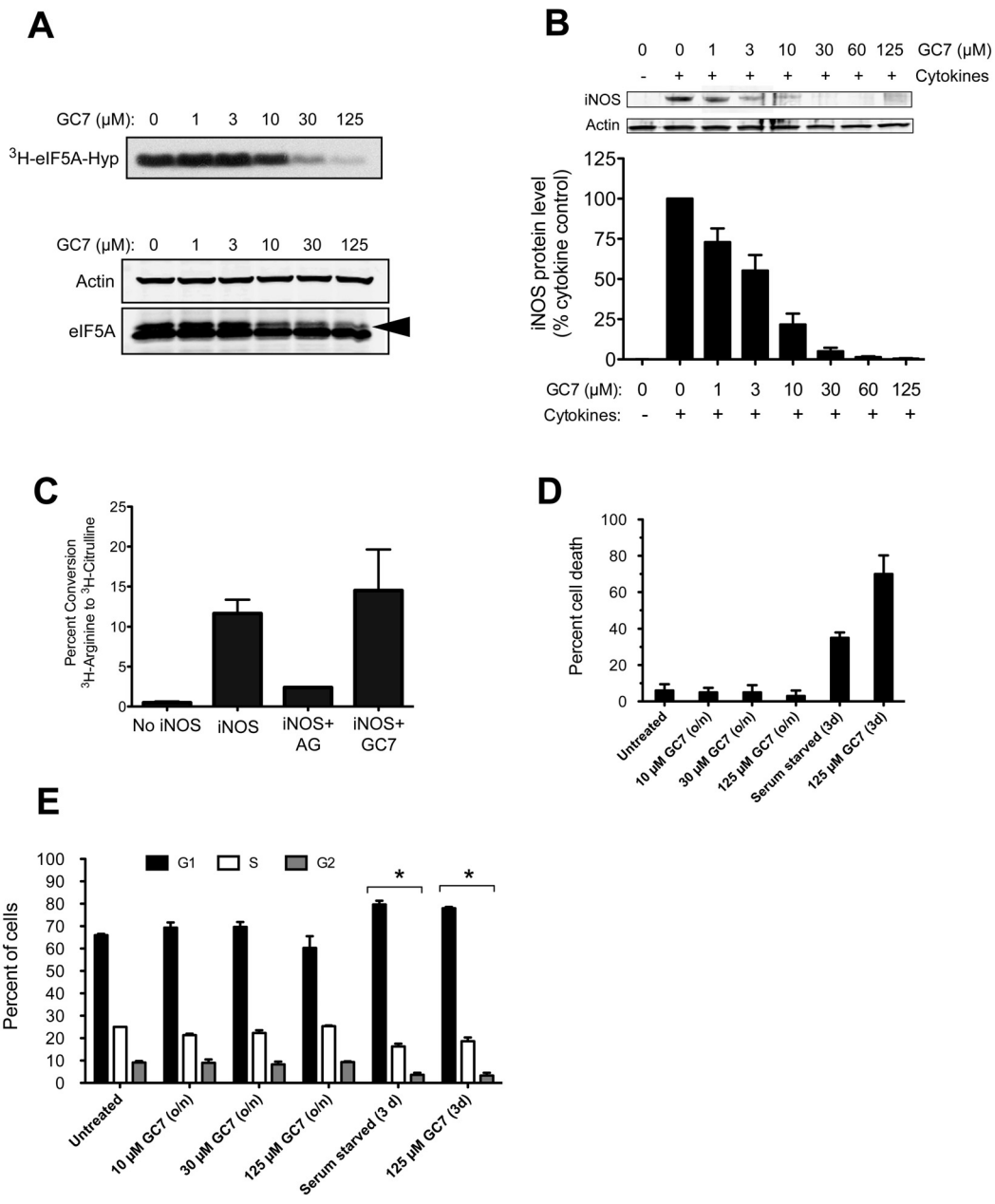
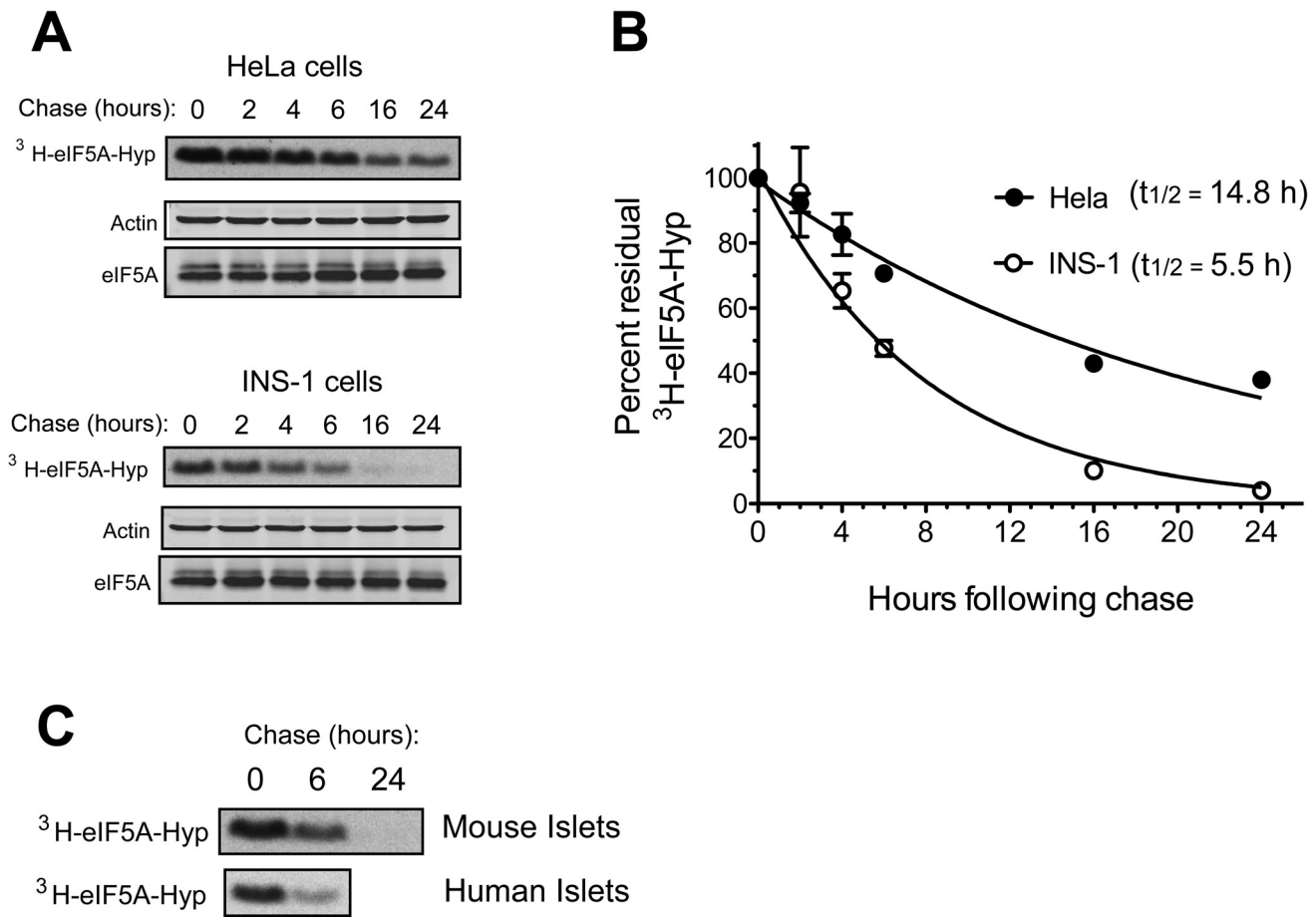


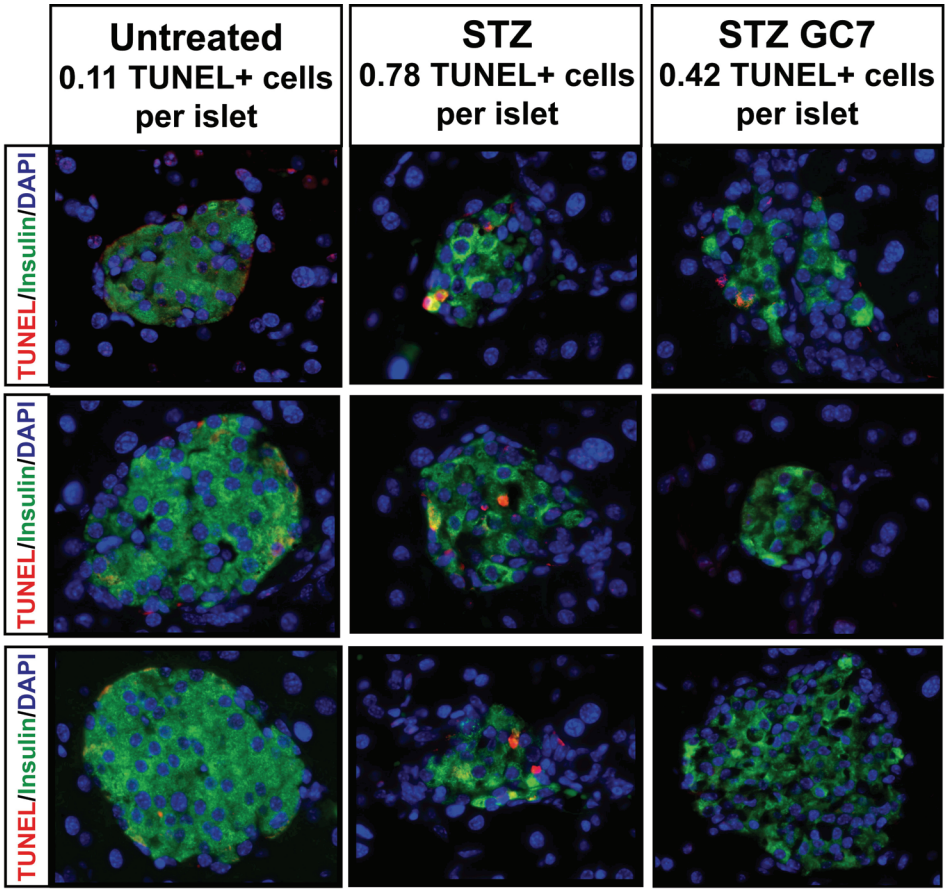
Supplemental Figure S1. Differential expression of eIF5A1 and eIF5A2 proteins in islets and islet-derived cell lines. *A,* results of quantitative RT-PCR for expression of the mRNAs encoding eIF5A1 and eIF5A2 in primary mouse and human islets (n=3). RT-PCR primers for *eIF5A1* and *eIF5A2* mRNAs exhibited equivalent PCR efficiencies, as determined by reactions using genomic DNA samples. *B,* results of immunoblot analysis for expression of actin, eIF5A2, and eIF5A1 proteins in extracts from the indicated cell types.



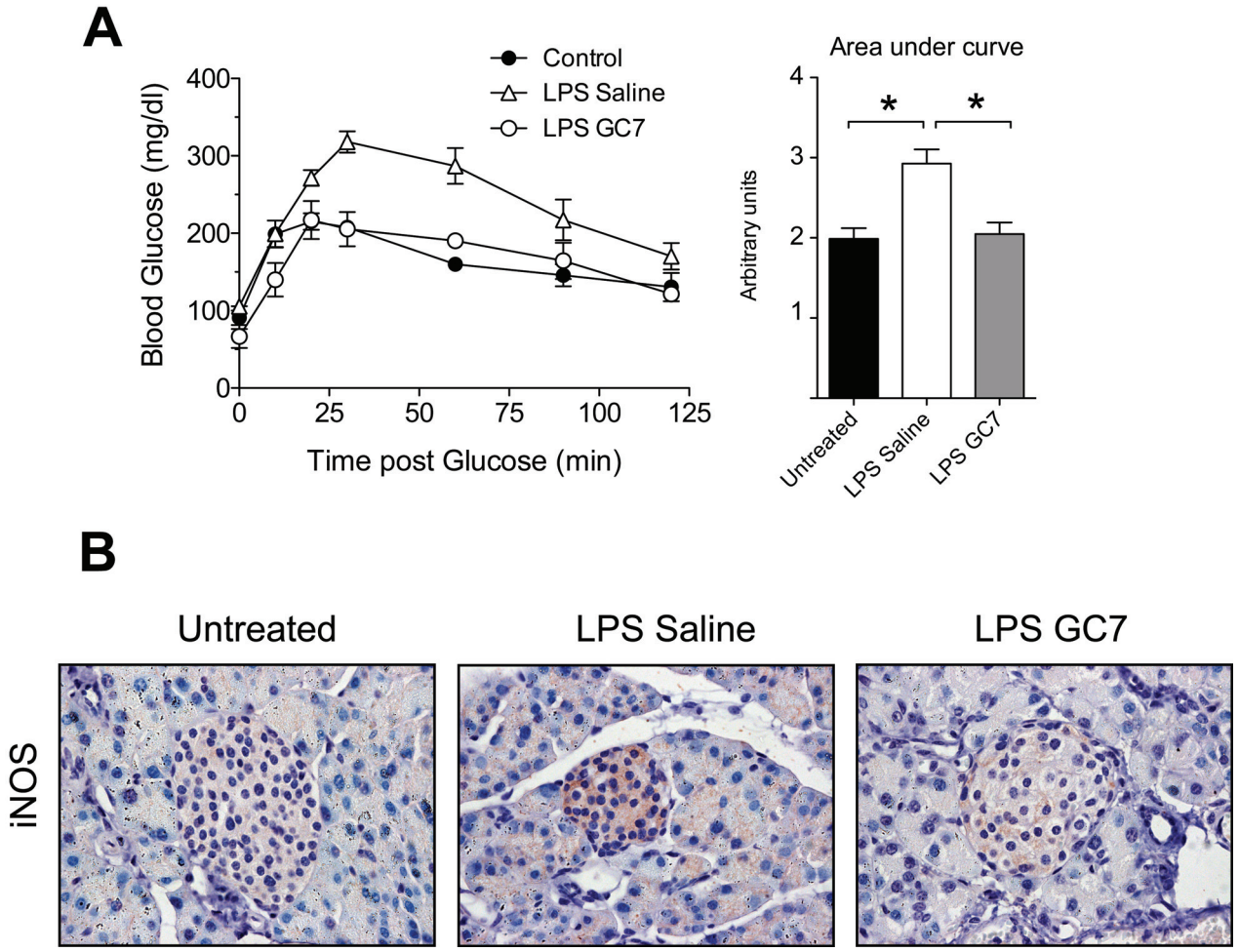
Supplemental Figure S2. Effects of GC7 on INS-1 β cell iNOS production, survival, and cell cycle. *A,* INS-1 cells treated with GC7 plus 1 mM aminoguanidine overnight were pulsed with ^{3}H-spermidine for 4 h and subjected to electrophoresis and fluorography for ^{3}H- eIF5A^{Hyp} (*upper panel*). *Lower panels* show representative immunoblots of actin and eIF5A from INS-1 cell extract following overnight treatment with GC7 and 1 mM aminoguanidine; "*" identifies an upper band of decreasing intensity. *B,* Immunoblot of iNOS and actin from INS-1 cells treated with GC7 and 1 mM aminoguanidine (*upper panels*), and quantitation of iNOS protein levels, corrected for actin levels, from 3 independent experiments (*lower bar graph*); *C,* in vitro iNOS assay (n=3). *D,* results from fluorescence cytometry of INS-1 cells stained for calcein-AM (live cells) and ethidium homodimer 1 (dead cells); data are shown as the percentage of dead cells relative to total cells counted (~30,000 cells/condition) (n=3). *E,* results of cell cycle analysis following fluorescence cytometry of INS-1 cells (n=3). "*" indicates that all the values shown are statistically different (P<0.05) than the corresponding values from untreated cells.



Supplemental Figure S3. Stability of eIF5A^{Hyp} in INS-1 β cells and mouse and human islets. *A,* HeLa and INS-1 cells were pulsed with ^{3}H-spermidine for 4 h, followed by periods of chase with 1 mM unlabeled spermidine, then extracts were subjected to electrophoresis on a 12% SDS-polyacrylamide gel and fluorography, and to immunoblot analysis for actin and eIF5A; *B,* line graph showing quantitation of ^{3}H-eIF5A^{Hyp} levels in the pulse chase experiments from *panel A* (n=3). Data were modeled to single-step decay kinetics to obtain the half-lives ($t_{1/2}$) indicated . *C*, mouse and human islets were pulsed with ^{3}H-spermidine, then chased with unlabeled spermidine for the times indicated, then extracts were subjected to electrophoresis and fluorography. Data are representative of two independent experiments.



Supplemental Figure S4. GC7-treated mice exhibit decreased islet cell death following STZ treatment. GC7 or control saline was administered to male *C57BL/6J* mice by subcutaneous implanted osmotic pumps, then mice underwent 5 consecutive injections of low dose streptozotocin as detailed in Figure 1A. Pancreata from animals in each group were isolated, fixed, and paraffin-embedded, then immunostained by TUNEL for dead cells (red) and insulin (green), and nuclei were visualized by DAPI staining (blue). Representative images of three different islets from each treatment group are shown; original magnification, x630. The average number of TUNEL+ cells/islet are indicated at the *top* of the figure for each group of animals; this number was calculated by counting a total of at least 70 islets per group from at least two mice per group.



Supplemental Figure S5. Inhibition of hypusination protects against LPS-induced glucose intolerance in immunodeficient *NOD/Scid-(IL-2Rγ-null)* mice. Male *NOD/Scid-(IL-2Rγ-null)* mice were untreated or administered a single dose of LPS concurrently with either saline or GC7. *A,* IPGTTs in mice at 3 days following LPS injection (n=4-9 mice per group); IPGTT is statistically different ($P<0.05$) for the LPS saline group. *B,* pancreata from representative animals from each group were immunostained for iNOS in *red*, and counterstained for hematoxylin in *blue*; original magnification, x630.