Supplemental Figure Legends:

Supplemental Figure 1: (a) Histone H3 acetylation at the proximal promoter of *Pdx1* in 9 month islets. ChIP analysis of cross-linked chromatin from islets of IUGR and control animals with and without Ex-4 treatment at 9 months of age, immunoprecipitated with antibody to acetylated H3. The relative amount of acetylated H3 bound at the *Pdx1* promoter was measured by QPCR and normalized to total input DNA for each experimental group. Data are represented as fold change relative to control vehicle values. N=6 animals, data are ± SEM. (a) * p=0.033, IV vs. IEx; †p=0.025, IV vs. CV; p> 0.05, IEx vs. CV and CV vs. CEx. **(b) Histone H3 acetylation at the proximal promoter of *Pdx1* in 12 month islets.** ChIP analysis of cross-linked chromatin from islets of IUGR and control animals with and without Ex-4 treatment at 12 months of age, immunoprecipitated with antibody to acetylated H3. The relative amount of acetylated H3 bound at the *Pdx1* promoter was measured by QPCR and normalized to total input DNA for each experimental group. Data are represented as fold change relative to control vehicle values. N=4 animals, data are ± SEM. (a) * p=0.003, IV vs. IEx; †p=0.039, IV vs. CV; ‡p=0.04, IEx vs. CV; p>0.05, CV vs. CEx. **(c) H3K4 trimethylation at the proximal promoter of *Pdx1* in 9 month islets.** ChIP analysis of cross-linked chromatin from islets of IUGR and control animals with and without Ex-4 treatment immunoprecipitated with antibody to H3k4me3 at 9 months of age of age. The relative amount of H3K4me3 bound at the *Pdx1* promoter was measured by QPCR and normalized to total input DNA for each experimental group. Data are represented as fold change relative to control vehicle values. N=6 animals, data are ± SEM. * p=0.038, IV vs. IEx; †p=0.009, IV vs. CV; p > 0.05, IEX vs. CV and CV vs. CEx. **(d) H3K4 trimethylation at the proximal promoter of *Pdx1* in 12 month islets.** ChIP analysis of cross-linked chromatin from islets of IUGR and control animals with and without Ex-4 treatment immunoprecipitated with antibody to H3k4me3 at 12 months of age of age. The relative amount of H3K4me3 bound at the *Pdx1* promoter was measured by QPCR and normalized to total input DNA for each experimental group. Data are represented as fold change relative to control vehicle values. N=4 animals, data are ± SEM. * p=0.036, IV vs. IEx; †p=0.023, IV vs. CV; p > 0.05, IEx vs. CV and CV vs. CEx. **(e) H3K9 dimethylation at the proximal promoter of *Pdx1* in 9 month islets.** ChIP analysis of cross-linked chromatin from islets of IUGR and control animals with and without Ex-4 treatment immunoprecipitated with antibody to H3K9me2 at 9 months of age of age. The relative amount of H3K9me2 bound at the *Pdx1* promoter was measured by QPCR and normalized to total input DNA for each experimental group. Data are represented as fold change relative to control vehicle values. N=6 animals, data are ± SEM. * p=0.033, IV vs. IEx; †p=0.035, IV vs. CV; p > 0.05, IEx vs. CV and CV vs. CEx. **(f) H3K9 dimethylation at the proximal promoter of *Pdx1* in 12 month islets.** ChIP analysis of cross-linked chromatin from islets of IUGR and control animals with and without Ex-4 treatment immunoprecipitated with antibody to H3K9me2 at 9 months of age of age. The relative amount of H3K9me2 bound at the *Pdx1* promoter was measured by QPCR and normalized to total input DNA for each experimental group. Data are represented as fold change relative to control vehicle values. N=6 animals, data are ± SEM. * p=0.035, IV vs. IEx; †p=0.037, IV vs. CV; p > 0.05, IEx vs. CV and CV vs. CEx.

Supplemental Figure 2: Antibody binding at the promoter of β-Actin. a) ChIP analysis of cross-linked chromatin from islets of IUGR and control animals with and without Ex-4 treatment at 1 week of age immunoprecipitated with antibody to USF1. The relative amount of USF1 bound at the β-Actin promoter was measured by QPCR and normalized to total input DNA. Data are represented as percent of control vehicle values. N= 3 experiments, data are ± SEM; (a) p>0.10 IV vs IEx; IV vs. CV; IEx vs. CV; CV vs. CEx. (b) ChIP analysis of cross-linked chromatin from adult islets of IUGR and control animals with and without Ex-4 treatment immunoprecipitated with antibody to AcH3. The relative amount of AcH3 bound at the β-Actin promoter was

measured by QPCR and normalized to total input DNA. Data are represented as percent of control vehicle values. N= 3 experiments, data are ± SEM; p >0.10, IV vs. IEx; IV vs. CV; IEx vs. CV; and CV vs. CEx. (c) ChIP analysis of cross-linked chromatin from adult islets of IUGR and control animals with and without Ex-4 treatment immunoprecipitated with antibody to H3K4me3. The relative amount of H3K4me3 bound at the β-Actin promoter was measured by QPCR and normalized to total input DNA. Data are represented as percent of control vehicle values. N=3 experiments, data are ± SEM; p >0.10, IV vs IEx; IV vs. CV; IEx vs. CV; and CV vs. CEx.

Supplemental Figure 3: Methylation of individual CpG dinucleotides within the promoter of *Pdx1*, displayed in following order: IV, IEx, CV, CEx. P<0.05 between IV and all other groups.